DEFENSE WHITE PAPER

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MESSAGE FROM THE PRESIDENT OF THE REPUBLIC

It is with delight that my Government presents to the people of Brazil the National Defense White Paper, a transparency milestone in defense issues, which will allow our citizens to become acquainted with the deeds of the State in this area, as well as the Defense challenges of the country over the forthcoming decades.

Civilian engagement is crucial to building a sovereign and democratic Brazil. The White Paper broadens the options of society as a whole to stay abreast of military affairs while conveying the potential and needs of our Defense to the public debate.

The publication of this White Paper represents one step further in the consolidation process of civilian leadership and in making Defense matters public knowledge. It adds to the creation of the Defense Ministry and, more recently, to the establishment of the Armed Forces Joint Staff, its subordinate institution, as another significant symbol of institutional progress in the Defense field. The National Defense White Paper is one more outcome of the democratic development of Brazil.

The rise of Brazil's international status in the XXI century is already a reality. A fully developed country with increasing external presence will require a proper dissuasive military capacity. Committed to building a more peaceful and prosperous global order, Brazil cannot neglect Defense.

Brazil proved, in the last decade, that growth and social inclusion should mutually reinforce each other. We must protect our abundant treasures that, in addition to industry, agriculture, minerals or pre-salt, are composed of millions of Brazilians who have the power to transform us into a great nation.

For all these reasons, Defense will be increasingly present in the national agenda. The National Defense White Paper is an invitation for reflection and dialogue, its reading will show, above all, that Defense and Democracy form a virtuous cycle in the new Brazil that we are building. By enabling a comprehensive and thorough monitoring of our Defense Policy by society, this initiative contributes to the maturing of public reflection on the vital role of Defense in Brazil today and in the future.

Dilma Rousseff

MESSAGE FROM THE MINISTER OF DEFENSE

Complimentary Law 97 of 1999, amended by Complimentary Law 136 of 2010, establishes, in its 9th Article, third paragraph, the obligation of the Executive Branch to submit to Congress, in the first half of the regular legislative session of 2012, the first version of the National Defense White Paper.

The National Defense White Paper adds to the National Defense Strategy and to the National Defense Policy as an enlightening document about defense related activities in Brazil.

The expectation is that the White Paper will encourage the debate about defense topics within Congress, the federal bureaucracy, academia and the Brazilian society at large. It will also serve as a mechanism of accountability to society about the compatibility between the existing Defense structure and the goals set by the Government.

The Armed Forces have the capacity to project military power beyond our borders. Such possibility, in itself, may generate insecurity in neighboring nations. The wide disclosure of the National Defense White Paper, and the clear way its chapters seek to express the defense objectives of the Brazilian state, represent mutual trust-building measures. By sharing national perceptions and interests concerning the defense field, Brazil seeks to ensure understanding of the motivations and aims of the military instrument.

History records several cases of conflict resulting from miscommunication and misconceptions of others' intentions. Hence, it is important that states adopt initiatives such as this to communicate their intentions effectively, provide transparency to defense policies and mitigate the risk of unwanted conflicts.

The National Defense White Paper has been produced with the purpose of strengthening cooperation with South American countries. On this regard, it can be an instrument to foster the establishment of a peaceful and secure community in the region of South America, enabling the choice for peaceful solutions and the consequent elimination of war. Beyond this effort, we seek to demonstrate to countries outside the region that our defense has, essentially, a dissuasive spirit and it is structured to prevent threats against Brazil. We have striven to substantiate the view that defense is not delegable and we must be prepared to fight against any aggression.

At present, topics related to National Defense should engage Brazilian society as a whole. Since the development of the National Defense Strategy, relating public policies must be defined jointly. By incorporating in its essence the idea that decisions concerning peace and war are not detached from popular sovereignty, the White Paper will allow a democratic approach to defense issues. The Defense Policy meets the interests of both society and state. The endeavor of creating and reviewing legal documents concerning national defense, including the Defense White Paper, shall contribute to tightening this bond even further.

The White Paper represents a useful means for civilian leaders to deepen their understanding of the present and future of National Defense. At this time, when changes in the global strategic scenario are so fast and deep, the dialogue among different sectors gains greater relevance.

The task of preparing the White Paper has not been developed within the offices of the Defense Ministry. We sought society's participation in the reflection and debate of the themes herein. The implementation of thematic workshops, seminars and roundtables held with civilian and military representatives, Brazilians and foreigners took the discussion on defense matters to the five regions of the country. Such contributions were most valuable; hence I would like to express our most sincere appreciation to those who have engaged in these discussions.

In addition to bringing internal and external transparency to the criteria of how our Armed Forces are used, the preparation of this document is relevant for the deepening of society's pool of knowledge on the military field.

I hope this initiative serves also as an invitation to engagement on National Defense related discussions. Only with close monitoring by society and with its essential contribution, will the National Defense Policy rise to the ever stronger, fairer and more democratic country we wish to build.

Celso Amorim

CHAPTER 1

THE BRAZILIAN STATE AND NATIONAL DEFENSE

> "As a multi-ethnic country, of great cultural diversity and global interests, Brazil seeks the interaction of cultures and respects plurality of ideologies and of political systems."
>
> President Dilma Rousseff
> Brasilia, April 20, 2011

Brazil is a continental size country. It has the world's longest Atlantic coast and, with almost 191 million inhabitants[1], the planet's fifth largest population[2]. It is a great producer of renewable and non-renewable energy, from animal and vegetal protein. It owns large potable water reserves, huge biodiversity and vast mineral resources. The recent discoveries of pre-salt layer oilfields have raised the country to a new level in oil and natural gas reserves and production.

Rated as the world's sixth largest world economy by the International Monetary Fund (IMF)[3], Brazil has increasingly reached expressive levels of development, while striving to eradicate poverty and reduce social inequality. Brazilian democracy is consolidated, free elections are a current procedure, there is growing public interest in the preparation and demand for public policies, and there is a commitment to fighting corruption and respecting human rights.

Over the last years, Brazilian foreign policy has projected values and interests within the framework of global governance. Brazil has developed its own foreign agenda with greater autonomy to define priorities for its progress as a nation.

This heritage requires defense. Brazil considers itself a friend of peace and is considered as such internationally, but it cannot do without its dissuasive military capacity and preparation for defense against foreign threats. It is not possible to assert that cooperation shall always prevail over conflict in the international arena. This chapter shall introduce some elements of the Brazilian state, which have immediate implications for National Defense.

[1] IBGE — 2010 Census.
[2] United Nations Population Fund — Report on World Population Situation 2011.
[3] World Economic Outlook. 2012.

Basic Principles of State

Brazil is a Federative Republic with a presidential system. The separation of powers — Executive, Legislative and Judicial — is, within the Brazilian legal system, a fundamental and necessary principle for the promotion of the common good. For this reason, the separation is based on the balance among the three Branches and their reciprocal and conscious collaboration and control.

The Brazilian Federation is formed by the indissoluble union of states, the Federal District and the municipalities. Such federative entities have political autonomy, allowing them to make their own laws, to elect their political leaders and to manage their own resources, according to the separation of powers provided for in the Federal Constitution.

As a democratic state observant of the rule of law, the country stands on constitutional principles, which are: sovereignty, citizenship, human dignity, labor rights, free enterprise, and political pluralism.

Democratic values permeate all constitutional guarantees of the Brazilian state. Among such guarantees, human dignity serves as the basis for the Nation's own existence, and is, simultaneously, the permanent purpose of all its activities. The state's objectives, outlined in the 3rd Article of the Federal Constitution, reinforce the country's political choice for the construction of a free, fair and just society, the promotion of national development, the eradication of poverty and social exclusion, the reduction of social and regional inequality and the promotion of the common good, without discrimination.

In the international arena, Brazil acts in accordance to the principles established in the 4th Article of the Federal Constitution: national independence, preservation of human rights, self-determination of nations, non-intervention, equality among the states, defense of peace, peaceful settlement of conflicts, repudiation of terrorism and racism, cooperation among nations for the progress of mankind, and granting of political asylum.

Brazilian foreign policy considers international dialogue and cooperation as essential instruments to overcome obstacles and to build confidence among states. With regards to other countries, Brazil gives priority to its immediate neighbors in South America, the South Atlantic region and Africa's western coast.

Territory

Located in South America, the Brazilian territory consists of approximately 8.5 million square kilometers of land and 4.5 million square kilometers of sea area.

Brazil has frontiers with 9 other South-American countries and one of France's oversea territories, which represent an extension of almost 17 thousand kilometers, approximately 12 thousand of which refer to the Legal Amazon border. The Brazilian seacoast stretches for nearly 7.4 thousand kilometers. Important navigation routes, vital for the national economy, cross Brazilian waters along the Atlantic Ocean. Located in this region, are the Brazilian pre-salt petroleum reserves, which are of great economic, political and strategic importance.

Maritime Area

Is constituted by both inland waters and maritime areas, where Brazil exerts some degree of jurisdiction over activities; persons, installations, ships and natural resources (alive or otherwise). The term applies to waters in the seabed and below the sea floor. It refers to waters that are subject to Brazilian control and inspection, within the limits set by international and national law. Such maritime spaces are comprised of a 200 nautical miles strip (one mile equivalent to approximately 1.85 km).

Map of South America and Africa

Source: IBGE.

The national territory represents more than the landmass where the state exercises its authority. The territory is also subject to deep affection and sentiments of belonging.

The definition of borders, through treaties and arbitration, was vital for the strengthening of diplomatic relations between Brazil and other South America countries. It contributed to the principle of peaceful solution of disputes among states.

The vast area occupied by the national territory, cut by the Equator and the Tropic of Capricorn, comprises a wide variety of climates, landscapes and vegetation. Five great regions, with their own characteristics, form the national territory: North, Northeast, Midwest, Southeast and South.

Brazil's Political Map

Source: IBGE.

Aquifers Guarani and Alter do Chão (Amazon)

The Guarani Aquifer is one of the world's largest underground fresh water reservoirs, 70% of it is located in Brazilian territory (840 thousand km^2). With an estimated capacity of 45 thousand km^3 of underground water, it is an important source of fresh water and for the development of economic activities. The Alter do Chão Aquifer, located under the world's largest hydrographic basin (river Amazonas), extends under Brazilian ground with an estimate potential volume of 86 thousand km^3.

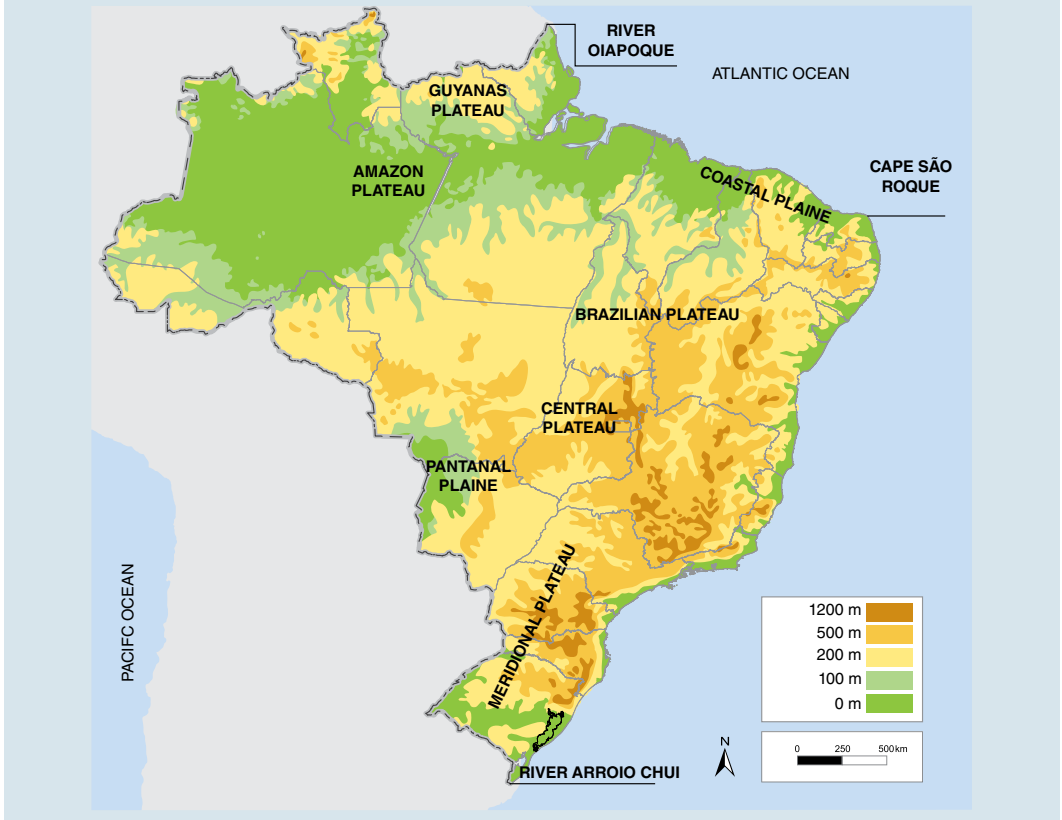
The Northern region makes up more than half of the national territory and its main features, among others, are its low population density and the length of its frontier. The Northeast is the third most densely populated geographical region, largely concentrated along the coastline, where main urban centers are located. The Midwest, the second largest region, also presents low population density. It has a border line of nearly 2 thousand kilometers long. The Southeast is the most densely populated, urbanized and developed region of the country and includes the largest population centers. The South region is the smallest in land area. It shares borders with nations of the River Plate. It also has a high level of urbanization and demographic density.

The Amazon is one of the areas of highest interest to the Ministry of Defense. The Pan-Amazon, which is constituted by the entire Amazon forest in South America, consists of approximately 40% of the South American continental area and holds 20% of the world's fresh water reserves. The largest area of the Pan-Amazon belongs to Brazil — around 70%. Brazil defends its unconditional sovereignty over the Brazilian Amazon, which comprises over 4 million square kilometers, shelters all kind of mineral reserves and the planet's largest biodiversity. Brazil's cooperation with other countries holding territory in the Pan-Amazon is essential for the preservation of this natural treasure.

The "borderland"[4] concept was adopted by Brazil, through the 1988 Federal Constitution and by law. Although this concept was initially linked to the area of National Defense, the concern with the consolidation and the gradual Brazilian presence in this borderland reflects the priority given by the state to sustainable development, national integration and cooperation with bordering countries in matters related to security and the fight against transnational contraband.

[4] Federal Constitution Art. 20 § 2: "The strip up to one hundred and fifty kilometers width, alongside the terrestrial boundaries, designated as boundary zone, considered essential to the defense of the national territory and its occupation and utilization, shall be regulated by law."

Brazil's Physical Map



Source: IBGE.

The Brazilian waterway network remains a decisive factor for national integration. The country has 12 large hydrographic basins. The four main basins are: to the north, the Amazon; in the center, the Araguaia-Tocantins and São Francisco; and, to the south, the sub-basins Parana, Paraguay and Uruguay, which form the Prata basin. There is a great potential for articulated actions that may facilitate intermodal transportation such as inland occupation and national integration, which directly affects South American Integration.

The Brazilian oceanic coast has two clear segments: the segment extending from Cape São Roque[5], in the Northeast, to the river Chui, in the South; and the segment from Cape São Roque to the river Oiapoque, in the North. The first segment links the country both physically and economically to the South Atlantic. In this region are located the most populated territory strip and the main national ports — Santos, Rio de Janeiro, Paranaguá,

[5] Cape of São Roque is located in the municipality of Maxaranguape, 51 km from Natal, capital of the Brazilian State of Rio Grande do Norte.

Recife (Suape), Salvador and Vitoria — through which flow the largest part of foreign trade. This maritime segment is essential for political and economic ties with South Cone nations. An eastbound course leads to Western African countries, and there the Cape route stands out as a considerable strategic communication path from Asia and Africa to the North Hemisphere. The segment leading from Cape São Roque and the Oiapoque River projects Brazil to the northern part of Africa, to Western Europe, the Panama Canal, the Caribbean as well as Central and North Americas.

Considering the abovementioned maritime segments and projections, it may be affirmed that Brazil's strong link to the sea is substantial, from both political and economic perspectives. This has induced the country to exert a natural influence over the South Atlantic. The strong dependence on maritime traffic for foreign trade constitutes a relevant challenge to defense.

The South Atlantic region over which Brazil has territorial rights and other exploration and control prerogatives is the country's jurisdictional waters. These waters have recently been named the Blue Amazon, and are roughly equal, in geographic area, to the Brazilian Green Amazon. Oil reserves in deep water and ultra-deep water, so important for the country's development, can be found under this region. Hence, the need to intensify monitoring and control of maritime traffic and of incidents in areas that are subject to Brazilian authority.

Population

Brazilian society is composed of a population with diverse geographic and ethnic origins. Since the colonial period, relations among American Indians, Europeans and African individuals have produced a mixed population. In the end of the 19th century and the beginning of the 20th, Brazil received new migration flows from several origins. During the 20th century, intense internal migration took place, following a growing urban and industrialization process.

Such internal migration is associated with socioeconomic factors and policies of territorial occupation. Economic booms established areas particularly attractive for migrants in different regions. Subsequently, the industrialization process transformed the Southeast region into the main destination for migration. However, according to the 2010 census, the intensity of migration towards the great cities of the Southeast has decreased due, mainly, to the decentralization of industrial activity. Presently, one may observe the rise of business and job clusters in several regions. Thus, a new migration flow has resulted.

Parallel to such migration flows, the state set incentives for the occupation of less populated areas, with the objective of promoting national integration. The so-called "March to the West", for instance, was a movement created by the first Administration of President Getulio Vargas (1930-1945) to foster the occupation of the Midwest. The subsequent transference of the country's capital in the 1960's to this region became a milestone in territorial occupation. The occupation of the Brazilian Northern region was propelled by a rubber extraction industry in the end of the 19th century. Miscegenation — of Portuguese, Indian and African heritages — and the harmonious interaction of several cultures have been responsible for Brazil's particular and original identity.

The Brazilian official language, Portuguese, is one of the main pillars of national identity and a means for the expansion of culture and traditions. Music, arts literature and sport also contribute to the building of national identity. Such elements embrace local characteristics, sayings and local knowledge, thus contributing to the development of a specific and diversified culture.

Brasilia

The main offices of the Federal Executive Branch (the Planalto Palace); of the Federal Legislative Branch (the National Congress), and of the Judicial Branch (the Federal Supreme Court) are located in Brasilia, the capital of Brazil.

The Planalto Palace

In 1957, the construction of the city took place in Brazil's Central Plateau, in order to achieve a policy set by the 1891 Constitution, which sought national integration and the development of the interior. The new capital was inaugurated on the 21st of April, 1960. It was based on an urban plan by Lucio Costa and architectural projects by Oscar Niemeyer. Due to its architectural value, the United Nations Educational, Scientific and Cultural Organization (UNESCO) declared it a world heritage site.

NATIONAL SYMBOLS

Pursuant to Art. 13 of the Federal Constitution, the four official emblems of the Federative Republic of Brazil are: the national flag, the national anthem, the Republic's coat of arms and the national seal. Emblems are graphic and musical manifestations of important historical value, designed to transmit the sentiments of national union and sovereignty.

National Flag

After the Republic was proclaimed on November 15, 1889, a new flag was created to represent the country's achievements and historic moment. Inspired by the imperial flag, the new flag was designed by Jean Baptiste Debret (a French painter), Teixeira Mendes, Miguel Lemosand and Decio Vilares. It was approved by Decree Nº 4 of the Republic's provisional government. The new flag kept the tradition of the yellow diamond on a green field, but introduced the blue sphere spotted with stars and a white slanting strip, descending from left to right, with the motto "Order and Progress". The stars, including the Southern Cross constellation, represent each one of the Brazilian states. Pursuant to Law Nº 8,421, of May 11, 1992, should a state be created or removed, the group of stars must be updated.

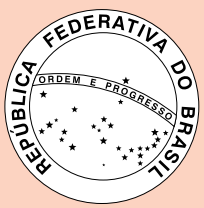
National Anthem

The Brazilian national anthem lyrics were written by Joaquim Osório Duque Estrada (1870-1927), a poet and journalist; and the music composed by Francisco Manuel da Silva (1795-1865), a conductor and professor. The anthem is regulated by Law Nº 5,700 of September 1st, 1971.

The Republic Coat of Arms

Engineer Artur Zauer, by order of President Deodoro da Fonseca, designed the Brazilian Coat of Arms. It is a sky blue shield, supported on a five-pointed star, with an upraised sword. Around it, there is a wreath made by a fructified coffee branch and a tobacco branch set over a golden radiance. The use of the coat of arms is mandatory for the Executive, Legislative and Judicial Branches, and it figures in all public buildings.

National Seal



The national seal of Brazil is based on the sphere of the national flag. Inside it there is a circle reading Federative Republic of Brazil. It is used to certify government acts, diplomas and certificates issued by official or certified schools.

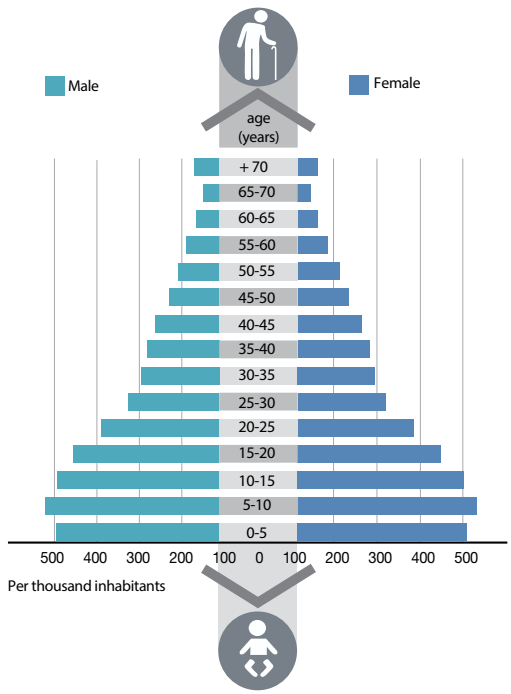
Population Growth

The first official census carried out in the country, in 1872, registered approximately 10 million inhabitants. In the 2010 census, according to the Brazilian National Geographic and Statistics Institute (IBGE), almost 191 million people were counted.

The Brazilian population has practically multiplied ten times during the 20th century, demonstrating intense growth, which has transformed the country into the world's fifth most populated.

During the greater part of the second half of the 20th century, a time when population growth was most intense, Brazil's demographic pyramid was characterized by a base enlargement and significant narrowing at the top, indicating a large economically dependent young population.

Brazil's Age Pyramid 1970

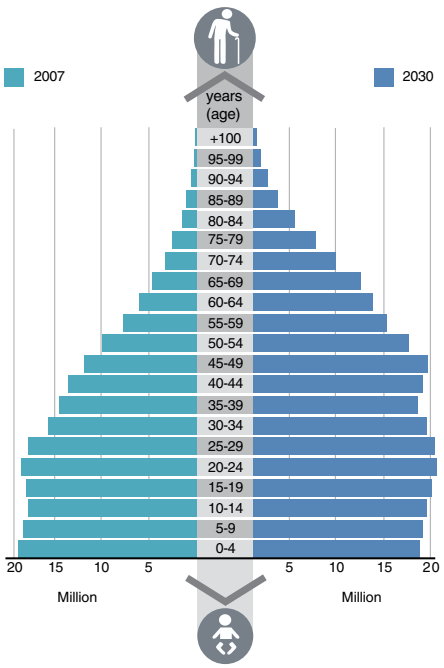


Source: IBGE. Demographic Census 1970.

The current configuration of the pyramid indicates the decrease of an economically dependent population, which, in practical terms, means that Brazil now lives the so-called "demographic bonus" or "window of opportunity". It is a demographic transition

period where fecundity is at lower levels; the population does not show expressive aging, and, simultaneously, presents an increase in the economically active segment of society. Therefore, Brazil is now in a privileged situation to benefit from the opportunities produced by change in the international environment.

Brazil's Age Pyramid 2007 and 2030



Source: IBGE and United Nations.

Education is the basic pillar for the construction of a more fair, developed and fraternal society, where citizenship may be fully practiced.

In accordance with guidelines provided in Article 205 of the Federal Constitution[6], the country has invested significantly in educational projects that allow the Brazilian citizen to take a more critical stance facing the challenges of the 21st century.

The situation of Brazil's education has shown significant improvement in the last decades: there was a major fall in the illiteracy rate, and a steady increase in high school education and school attendance[7].

In this new century, a new social, political and economic environment has shown that proficiency in education is fundamental for the development of the country.

[6] Art. 205 of the Federal Constitution states that: "Education, which is the right of all and duty of the state and of the family shall be promoted and fostered with the cooperation of society, with a view to the full development of the person, his preparation for the exercise of citizenship and his qualification for work."

[7] IBGE — Synthesis of Social Indicators 2002 and, Ministry of Education, School Census 2010.

National Defense

One of the state's role is to provide the defense and security that are necessary to ensure that society may reach its goals. It is the state's duty to ensure that the nation does not face the risk of foreign aggression, or that it is exposed to political pressures or unbearable economic sanctions, and is free to care for its own development and progress.

Brazil exercises complete and exclusive sovereignty[8] over its land mass, its waters and overlying airspace, with no foreign interference whatsoever accepted in its decision making process. The Brazilian state works to increase confidence and understanding among the states in order to contribute to the prevention of conflicts that may intensify threats to National Security.

Air Force monitoring borders

National Defense, as defined in the National Defense Policy is the "set of state measures and actions, especially within the military field, to ensure the defense of the territory, sovereignty and national interests, mainly against foreign threats, potential or manifest".

[8] Sovereignty is the first fundamental principle stated in Art. 1 of the Brazilian Federal Constitution. Sovereignty is inalienable, indivisible, and imprescriptible. It must be exercised by general will and be preserved on behalf of the future generations and the country's prosperity. It is a supreme order, not to be prevailed.

The Army in defense of the Amazon

The Defense Policy established the following objectives:

I. guarantee sovereignty, national treasures and territorial integrity;

II. defend national interests, including Brazilian citizens assets and resources abroad;

III. contribute to national cohesion;

IV. contribute to regional stability;

V. contribute to international peace and security;

VI. intensify Brazil's projection in the community of nations and increase its participation in international decisions;

VII. maintain Armed Forces that are modern, joint, well trained, balanced, increasingly professional and adequately deployed throughout the national territory;

VIII. raise awareness among the Brazilian people about the importance of defense matters for the country;

IX. develop an Defense Industrial Base, to ensure autonomy in vital technologies;

X. structure the Armed Forces around capabilities, providing them with personnel and material in accordance with strategic and operational planning; and

XI. develop the potential for defense logistics and national mobilization.

The National Defense Strategy (END), first published in 2008 and revised in 2012, outlined measures to ensure that the National Defense objectives could be accomplished. The guidelines provided in the Strategy aim to develop the capabilities of the Armed Forces, in order to ensure national security, during peace and crisis. A purpose of the Strategy is to support the Armed Forces' equipment needs, by favoring national expertise of state-of-the-art technologies and more technological independence.

The Navy on patrol of territorial waters

A proper Defense structure ensures greater stability for the country and, thus, a favorable environment for the Brazilian state to reach its national objectives, established in the 3rd Article of the Federal Constitution: build a free, just and supportive society; guarantee national development; eradicate poverty and social exclusion and reduce social and regional inequalities; promote the common good, without prejudice of origin, race, sex, color, age and any other form of discrimination.

To achieve strategic defense objectives, the Brazilian state set long term goals in the Brazil 2022 Plan[9], produced by the Secretariat for Strategic Affairs:

Goal 1 — Enhance the Armed Forces' capacity for command and joint action, by increasing military personnel in 20% and progressively setting a defense budget that will allow for well-equipped and maintained forces that are capable of fulfilling their constitutional role.

Goal 2 — Oversee and protect the entire Brazilian airspace with aerospace resources that are compatible with National Defense needs.

Goal 3 — Participate in peace operations and humanitarian actions which are of interest to the country, in compliance with United Nations Organization (UN) mandate and that are compatible with the geopolitical stature of the country.

Goal 4 — Increase naval power to fully meet the tasks of controlling maritime areas, denying use of the sea and projecting power over land.

Goal 5 — Oversee and protect the Brazilian territory, properly deploying the Land Force, with special emphasis on the country's Amazon and Midwest regions.

Goal 6 — Develop the National Defense System's personnel and ensure their technological autonomy.

[9] Brazil Plan 2022 is available in www.sae.gov.br.

CHAPTER 2

SÃO PAULO AIRDROME SHIP

THE 21st CENTURY STRATEGIC ENVIRONMENT

> "If Brazil opens up to the world, the world turns to Brazil. This dynamic carries hope, but also brings new and formidable responsibilities, which the Armed Forces will know how to fulfill"
>
> President Dilma Rousseff
> Brasilia, April 5, 2011

The contemporary international system is marked by the exhaustion of the order which characterized the immediate period after the Cold War. This system has distinguished itself through a rapid process of reorganization of political relations between states. The advent of a multipolar order, marked by the coexistence of traditional and emerging powers, brings new opportunities and new challenges to nations in the area of defense. Although dialogue, cooperation, emphasis on multilateralism and respect for international law remain important and desirable qualities for the international environment, the rearrangement of the system on a multipolar basis is not, by itself, sufficient to guarantee that, in the current situation of transition, peaceful relations between states will prevail.

In this context, Brazil sees, in its defense policy and in its calling for dialogue, essential components for its affirmative and cooperative insertion into the international environment.

In face of uncertain future scenarios, the cost of inaction by Brazil in the construction of a new international order can be much larger than the immediate burden, i.e. investment in training, preparation and development of resources that are necessary for the exercise of sovereignty. The consolidation of representative multilateral governance structures of the new world order is of interest to the country and requires a strict coordination between foreign and defense policies. The second must provide the first with safeguards, support and logistics, which are essential for the fulfillment of Brazil's role in the international arena.

The defense policy determines the state's capacity to offer protection to the Brazilian people and to ensure the absence of foreign interference in its territory and its jurisdictional waters, including the airspace above, the seabed and the subsoil.

National sovereignty, economic competitiveness and full development demand a defense capacity that is compatible with the country's potential and aspiration.

In spite of fast growing changes in recent decades, the international order remains predominantly determined by relationships among states. For this reason, Brazil's defense against external potential threats remains the Armed Forces' essential mission.

New themes — or new approaches to traditional themes — became influential in the international environment in this century. The protection of sovereignty (an issue connected with the global challenge of drugs and related crimes); the protection of biodiversity, biopiracy, cyber defense; tensions derived from the increasing lack of resources, natural disasters, international crime, terrorism; and actions by unlawful armed groups all exemplify the growing interdisciplinary nature of security and defense issues. Considering this, Brazil acknowledges — in accordance with provisions in the Federal Constitution — the need for coordinated policies among different government agencies.

Further challenges to the country include its ability to face so-called "future conflicts", namely information warfare as well as small scale conflicts marked by uncertain origins and decentralized command and control structures that operate through social networks on the Internet.

It is important to strengthen the country's international relations. Sincere and open dialogue will contribute to foreign policy and to its interaction with defense policy, by building consensuses that foster ample and collective debate.

The Brazilian society's increased interest in defense issues, in the last few years, is a healthy tendency. The participation of several sectors of society in the national debate on defense enables a better assessment of such issues.

An international scene marked by uncertainties has as much a direct influence on Brazilian foreign policy as on its defense policy. The phenomenon of globalization brought about the escalation of threats of different natures, like drug trafficking, weapons trafficking and maritime piracy, which tests the state's ability. The aggravation of the international financial crisis also reveals possible damage to social, energy and environmental conditions, with evident effects on world peace and security.

Brazil works for the construction of a participative and inclusive world community. The country commits itself to the promotion of "multipolar cooperation", a term which summarizes the multipolar power structure consolidating worldwide. In this strategic environment, international action must excel in the consolidation of governance mechanisms that better represent this new international reality. Such mechanisms must ensure world peace and security for the good of mankind. The new power structure of the 21st century should not favor conflicting or excluding positions, inherited from the international orders that prevailed during the 20th century.

This political choice, however, cannot neglect the complexity of threats from the Post-Cold War period and uncertainties in the medium and long-term horizon. The country has been preparing for such realities since the National Defense Policy reformulation, in 2005, and the publication of the National Defense Strategy, in 2008, both revised in 2012.

In South America, there has been a clear trend towards cooperation. This trend has been constantly strengthened since the establishment of the South American Nations Union (UNASUL) and, especially, its Council of Defense (CDS). A "Security Community"[10], is blooming in South America, due to common historical experiences shared by neighbor countries, similar development challenges and democratic government systems, which enable mutual understanding and foster a peaceful accommodation of the different national interests.

In sum, the Brazilian National Defense policy unites cooperative and dissuasive components. International crises may occur against the country's will, and this demands an adequate level of readiness and modernization of the Armed Forces. In a global level, Brazil must have a capacity for defense that corresponds to its economic, political and strategic stature, in order to have its resources preserved, its voice heard, its position respected and its peaceful tradition safeguarded.

Strategic Environment

In the current composition of international centers of power, elements of unipolarity, such as the dominant military force in North America, coexist with elements of bipolarity, such as the economic interdependence between the United States of America and China, and of multipolarity, such as the financial G-20, the commercial G-20, the BRICS group, the IBAS Forum and the BASIC group[11], among others. New and traditional global governance structures are coexisting. In this context new political

[10] Concept presented by Karl W. Deutsch, at the end of the 50's decade, in his classic work *Political Community and the North Atlantic Area — International Organization in the Light of Historical Experience*. According to Deutsch, a security community would rise from the relationships among states within the same region, as war would become an unthinkable solution to disputes among its members.

[11] Financial G-20 — Group composed of: Canada, France, Germany, Italy, Japan, Russia, United Kingdom and United States of America, which form the G-8, and also Argentina, Australia, Brazil, China, European Union, India, Indonesia, Mexico, Saudi Arabia, South Africa, South Korea, Turkey.
Commercial G-20 — Group composed of 23 countries from 3 continents: Argentina, Bolivia, Brazil, Chile, China, Cuba, Egypt, Ecuador, Guatemala, India, Indonesia, Mexico, Nigeria, Pakistan, Peru, Paraguay, Philippines, South Africa, Thailand, Tanzania, Uruguay, Venezuela and Zimbabwe;
BRICS — Group formed by Brazil, Russia, India, China and South Africa;
IBAS — Group formed by India, Brazil and South Africa;
BASIC — Group composed by Brazil, India, China and South Africa;
Further detail on the creation and objectives of these groups may be found in the Glossary.

forums have gained similar importance to those that were consolidated in the 20th Century in accordance with a bipolar and exclusionary logic. In the context of the strategic environment of this century, some scenarios may be noted:

a) unipolarity: one nation dominant over the international system. Although unipolar reassertion cannot be dismissed, it is unlikely that any single force may be able to solely administer global phenomena, considering the structural crisis in the developed world and the growing presence of new actors;

b) bipolarity or tripolarity: in this scenario, the competition and coordination between two or few powers will determine the actions of all other actors in the system. From a strategic viewpoint, it seems unlikely that this scenario, which occurred in the 20th century, will again determine the international system for the next decades; and

c) multipolarity: represents the power structure which will probably mark the strategic environment in the next decades. The multipolar structure refers to the coexistence of several centers of power in the international system, each influencing the other's actions. The balance of power checks the influence of nations with hegemonic intentions.

In multipolarity, conflict and cooperation dynamics naturally coexist in relations among states. The multipolar structure, however, will be shaped by the prevailing dynamic.

If conflict predominates over cooperation, multilateral coordination mechanisms would weaken. This is a scenario to be avoided. Should the reverse occur, however multilateral forums would be favored.

In this new world order, Brazil must contribute with actions and opinions in favor of a multipolar and cooperative environment, in accordance with its historical defense of international law.

International System

Brazil strives so that forums for multilateral consensus-building, especially those of the United Nations, become more representative of the new reality of the 21st century. The efficacy and legitimacy of decisions and policies adopted in these bodies will be greater, the more the UN express the interests of its member countries. The country's claim, particularly regarding a comprehensive reform of the United Nations Security Council, refers to this inclusive project, which has motivated Brazilian foreign policy for decades.

Since the 90s, the "securitization" of United Nations issues has become an important trend. This trend, mostly promoted by the permanent members of the Security Council, consists in bringing before the referred Council issues which actually should be dealt with in other UN bodies or in its specialized agencies. "Securitization" needs to be considered with caution. In specialized agencies – such as the International Atomic Energy Agency (IAEA), the Organization for the Prohibition of Chemical Weapons (OPQW) and the Convention for the Prohibition of Biological Weapons (CPBW) – the submission of a case to the Security Council should be limited to extreme situations.

Regarding the UN Security Council, significant advances, reflecting a trend toward the strengthening of multilateralism, have not been observed, unlike what has been evidenced in other areas, such as the economic and financial dimensions. To assure the Council's legitimacy and representativeness in issues related to international peace and security, its reform is urgent.

The increasing force of multilateralism is also the result of the higher prominence of issues which require negotiated solutions among countries and also impact the security of nations, such as climate change, sustainable development and social inclusion. The notion that security and development are integrated has its roots in the ideals of the United Nations Charter.

Brazil has actively participated in diplomatic efforts to find peaceful solutions to conflicts and to decrease tensions in the American continent and elsewhere. The most evident expression of Brazil's growing importance in peace and security initiatives has is its role in peacekeeping operations. Such operations are the main tools available for the international community to deal with threat of conflict and to prevent post-conflict countries from returning to armed violence. Together with UN agencies, funds and programs, peacekeeping missions are an important expression of the Organization, since they represent the main legal and legitimate form of military action of the international community to guarantee collective security.

The three pillars of peacekeeping operations are: (i) the use of force only for self-defense or for defense of a mandate granted by the UN Security Council; (ii) impartiality; and (iii) consent of the main parties involved.

As suggested in its name, UN peace missions are tools used by the Organization to preserve peace while it is threatened or to restore peace after a conflict. It is never an intervention in a military conflict favoring one side or another.

Brazil understands that there are clear limits: peacekeeping missions should not seek to replace belligerent parties. The United Nations should help parties build conditions for peace and should do so in a strictly impartial way, in order to ensure legitimacy and greater political gains. UN peace missions offer parties a political and security environment, as well as the time they need to lay the foundations for an enduring peace.

Currently, peacekeeping missions face important challenges. It is fundamental to guarantee the sustainability and success of their actions and to provide the necessary military resources and means for the fulfillment of their mandate. They must incorporate the commitment to sustain efforts, i.e. they must support the creation of political, institutional and socioeconomic bases for an enduring peace. A particularly important challenge is the protection of civilians in situations of conflict, a concept which must be improved to ensure that the use of force does not exceed United Nations Security Council mandates.

In September 2011, during her opening speech at the UN General Assembly, President Dilma Rousseff coined the expression "responsibility while protecting", which essentially refers to the following doctrine for the use of military force under UN aegis: "do not create more instability than that which is to be prevented or limited".

Brazil believes that peacekeeping operations must rely on four elements: security, strengthening of institutions, national reconciliation and development. Balance among these elements is a Brazilian priority in theoretical debates (which result in UN guidelines on the issue) and in practical terms when Brazilian forces are deployed in such missions.

The actions undertaken by Brazil in peacekeeping missions have, whenever possible, emphasized the reconstruction of countries based on socially and economically sustainable foundations. Thus Brazil has sought, especially in the case of Haiti, to promote innovative programs for technical cooperation in areas such as food security, agriculture, professional education, health security and infrastructure. Brazil also intends to increase the participation of civilian professionals in these missions, in order to meet the growing demands for qualified personnel in public security, border control, the fight against drug trafficking, voting systems, penal systems and public administration among others.

Regional Systems

South American integration remains a strategic objective for Brazilian foreign policy. The country acknowledges the deepening of political, social and economic relationships among South American countries as a fundamental element for social and economic development and for the preservation of peace in the region. Likewise, the consolidation of South American trade and the strengthening of governments' ability to act in the international forums depend on the continuation of friendly relations among nations in the region.

The South American region is little affected by conflicts among states. A peaceful regional environment has contributed, in the last decade, to economic growth in the continent. Brazil's conciliatory position, for over 140 years, has contributed to the region's stability. This legacy must be valued and preserved. Brazil's stability and prosperity reinforce its security and produce positive effects on all South American nations.

A country's security is affected by the degree of instability in the region where it is located. Regional stability, therefore, is a national objective. Brazil considers it desirable that consensus, political harmony and convergence of action among South American countries prevails. This would make the region stronger and more coherent. This set of factors motivates the country to stress cooperation with neighboring states, including in the military area, with the aim of building an undivided block that may present itself united at a global level to deal with defense matters. Such a block should have the capacity to dissuade foreign interferences and reinforced power to negotiate in international forums.

Therefore, the Union of South American Nations (UNASUL) is of great relevance. The UNASUL is a proven instrument for: the peaceful resolution of regional disputes, the protection of democracy in South America, the strengthening of dialogue among member-states and the progressive development of an industrial defense base in South America.

In the institutional framework of the UNASUL, the establishment of the South American Defense Council (CDS) is of especial importance. Formally established on December 16, 2008, by decision of the heads of state of the member-countries, the CDS has the following objectives:

- the consolidation of South America as a zone of peace and a basis for democratic stability and full development, and world peace;

- the construction of a South American identity in the realm of defense, which considers sub-regional and national aspects (the River Plata, the Andes, the Amazon, the Atlantic, the Caribbean and the Pacific) and that strengthens Latin American and the Caribbean unity; and
- the generation of consensus in order to strengthen regional cooperation in defense matters.

The CDS should therefore promote joint analysis of political and strategic issues, giving opportunity for a wider debate on global and hemispheric realities, from the South American viewpoint.

It is important to note that the South American Defense Council is formed by other forums at regional and sub-regional level, such as the Meeting of the Armed Forces Chiefs of Staff and Heads of General Staffs; the Inter-American Defense Board; the Committee on Hemispheric Security; the Meeting of Ministers of Defense of the Americas; the Conference of American Armies; the Inter-American Naval Conference; and the System of Cooperation Among the American Air Forces.

South Atlantic

As the country with the largest Atlantic coast in the world, Brazil has, for the aforementioned reasons, special interest in South Atlantic peace and security. The Atlantic Ocean holds some relevant strategic areas, such as the "Atlantic Throat", the area between the Brazilian Northeast Coast and Western Africa which is vital for world trade. The southern passages, which link the Atlantic to the Pacific, constitute an alternative route to the Panama Canal, mainly for large ships. The Cape of Good Hope's route, connecting the South Atlantic to the Indian Ocean, is an alternative to the Suez Canal and also offers better maritime access to Antarctica. It is also worth noting the importance of the vast oil basin reserve in the Brazilian continental platform and the oil import routes from countries around the equator in the Atlantic.

The strategic maritime areas of greater priority and importance to Brazil are represented by the Brazilian Jurisdictional Waters (AJB), which include the territorial waters (MT), the contiguous zone (ZC), the economic exclusive zone (ZEE) and the continental platform (PC), as well as the region delimited by the 16th parallel north, the west coast of Africa, Antarctica, the East coast of South America and the East coasts of the Lesser Antilles.

Brazil also dedicates, together with its Western Africa neighbors, special attention to the building of a cooperative environment in the South Atlantic, under the aegis of the Peace

and Cooperation Zone for the South Atlantic (ZOPACAS). Created in 1986 by the United Nations, today ZOPACAS has 24 members — Angola, Argentina, Benin, Brazil, Cape Verde, Cameroon, Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Liberia, Namibia, Nigeria, Democratic Republic of Congo, São Tomé and Príncipe, Senegal, Sierra Leone, South Africa, Togo and Uruguay. In diplomatic terms, the reinforcement of ZOPACAS is important for the Country's defense.

The South Atlantic has an historical identity and its own strategic characteristics. Resolution Nº 41/11 of the United Nations General Assembly calls for militarily significant states of other regions to not introduce nuclear or other weapons of mass destruction in the South Atlantic. The military presence of these states in the Atlantic Ocean should be reduced and, in future, eliminated. States located in other regions should not project on the South Atlantic any conflicts and rivalries that are alien to it.

By renewing its involvement in such multilateral precepts, Brazil wishes to contribute, in a responsible way and in collaboration with its partners in ZOPACAS, to the South Atlantic region's potential socioeconomic development.

Defense Related Treaties

Brazil has a solid tradition of peaceful solution of conflicts and a commitment to international law. Brazil's first democratic constitution (1891) prohibited wars of conquest and, since joining the Global forum, in the Second Hague Peace Conference (1907), Brazil has advocated legal equality among states, while refusing to enter into discriminatory treaties and agreements.

The country's territorial disputes were solved through diplomatic means and international arbitrage, which have consolidated its borders with ten neighbors. In this way, Brazil anticipated the principles which motivated the creation of the League of Nations (1919) and the United Nations Organization (1945).

Art. 2 of the United Nations Charter affirms that "The Organization is based on the principle of the sovereign equality of all its Members".

Disarmament and Non-Proliferation Treaties

Based on constitutional principles, which govern its international relations, Brazil seeks proactive participation in international negotiations concerning disarmament, non-proliferation and weapons control. Due to clear security needs — dictated by its political, strategic and defense environment — Brazil understands that realistic and credible measures to reduce or eliminate weapons as well as transparent inspection processes may be adopted multilaterally to contribute to an environment of mutual confidence among sovereign states.

Brazil, in its capacity as a member of the Geneva Disarmament Conference, defends the strengthening of said Conference as the only multilateral group in the field of disarmament. In this forum, the country has given highest priority to the elimination of nuclear weapons through the adoption of a series of complementary measures, in the bilateral, regional and multilateral spheres, which may result in the adoption of a nuclear disarmament convention. Among other measures, Brazil supports the initiation of treaty negotiations on the prohibition of fissile material production for explosive purposes, including pre-existent stocks. In this way, a significant step could be made in the direction of nuclear disarmament.

Since the beginning of the 1990s, Brazil has participated, with personnel, in the landmines deactivation campaigns organized by the Program for Comprehensive Action against Antipersonnel Mines in the Americas and Africa with significant results in terms of deactivated landmines and swept areas. Brazil has also acted in favor of discussions pertaining to the prevention of an arms race in outer space, while upholding the adoption of a relevant legal international instrument on the matter.

Concerning conventional armament, Brazil is a party to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons which may be deemed to be Excessively Injurious or to have Indiscriminate Effects, better known as the Convention on Certain Conventional Weapons. Brazil reaffirms its commitment to the following humanitarian principles:

- prohibition of the use of weapons that release fragments within the human body that are not detectable by X-rays;
- prohibition or restriction of the use of antipersonnel landmines, traps and other similar devices;
- prohibition of laser weapons that can cause blindness; and
- acceptance of responsibilities and obligations regarding explosive remnants of war.

Brazil is also a signatory of the Biological and Toxin Weapons Convention, which forbids the development, production and storage of such weapons. It is also party to the Chemical Weapons Convention, which similarly forbids the development, production, acquisition, storage, holding, transference and use of chemical weapons.

The Nuclear Non-Proliferation Treaty

Brazil understands that security, peace and development cannot be disassociated from the issue of disarmament and non-proliferation of weapons of mass destruction. This field is strongly stratified, as illustrated by the differentiation established in the Nuclear Non-Proliferation Treaty (NPT)[12] among states that have and states that do not have nuclear weapons. The possession of weapons of mass destruction (mainly nuclear) and their launching vehicles (long range missiles), as well as the participation in alliances, which contemplate the possibility — even as a last resort — of employing such weapons, remain a crucial factor in international relations, with direct implications for defense and security.

The existence of countries with nuclear weapons capacity — not only *de jure*, but also *de facto*[13], — is a menace to the NPT regime. Some states known to have possession of nuclear weapons are not parties to the Treaty. The signs of accommodation regarding the *de facto* status of these countries, emitted especially by some *de jure*, nuclear armed states, represent an element of instability in the system.

Such factors add to the chronic unsteady compliance of obligations related to the NPT's three pillars (non-proliferation, disarmament and right to use nuclear energy for peaceful purposes), with overwhelming emphasis on the first.

The steps for nuclear disarmament provided in Article VI of the NPT were not implemented. The arsenal of *de jure* nuclear-armed states was not eliminated. Non-compliance with Article VI perpetuates the imbalance of the NPT.

[12] The NPT was signed on July 1st, 1968 and became effective internationally on March 5th, 1970. Brazil adhered to the Treaty on September 18, 1998, through Decree № 2.864 of December 7, 1998. Legislative Decree № 65 of July 2nd, 1998, which approved the NPT text with the aim of adhering the Brazilian Government, highlighted in its Article 2 that "Brazil's adhesion to the present treaty is bound to the understanding that, in accordance with Article VI, effective measures will be carried out to stop, in the near future, the nuclear arms race and to eliminate all atomic weapons".

[13] The Latin expressions *de jure* and *de facto* are applied as opposing ideas, and mean respectively: "legally" and "in fact".

The VI NPT Review Conference[14] held in 2000, was marked by the commitment of the five nuclear powers acknowledged by the treaty to completely eliminate their atomic arsenals. In this meeting, the nuclear states agreed to the Thirteen Practical Steps for Nuclear Disarmament, which are systematic and progressive efforts for implementing Article VI of the NPT.

The Thirteen Steps to Nuclear Disarmament — VI NPT Review Conference

1. Sign the Comprehensive Nuclear-Test-Ban Treaty.
2. Stop testing nuclear weapons.
3. Negotiate a Fissile Material Cutoff Treaty.
4. Establish a body within the Conference on Disarmament to deal with nuclear disarmament.
5. Agree nuclear disarmament must be irreversible.
6. Abolish nuclear weapons.
7. Uphold existing treaties, including the Strategic Arms Treaty (START) II and III and the Anti-Ballistic Missile Treaty (ABM).
8. Implement and complete the Trilateral Initiative between the United States, the Russian Federation and International Atomic Energy Agency (IAEA).
9. Implement a step-by-step approach to achieve nuclear disarmament.
10. Place excess fissile materials under IAEA control.
11. Reaffirm general and complete disarmament, under effective international control, as the ultimate objective of states.
12. Report regularly on progress toward nuclear disarmament.
13. Further develop verification capabilities to assure compliance with nuclear disarmament agreements.

[14] NPT Article VIII states that, "Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty". The first NPT Review Conference was held in 1975. During the 8th NPT Review Conference, held in May 2010, a new Action Plan was adopted, with 64 steps to be complied with by the NPT member-states in the areas of non-proliferation, disarmament and nuclear energy, with special emphasis on nuclear disarmament. The 9th NPT Review Conference will be held in 2015.

Over a decade later, little was done. The decrease in numbers of nuclear weapons does not mean, in general, a reduction of the importance of such weapons in strategic doctrines.

The progressive accommodation of *de facto* nuclear weapons states and the persistence of doctrines and alliances based on the possibility of nuclear weapons use seems to point in the direction of growing critique of the NPT and of a new international division based on three state categories: i) those who have nuclear weapons *de jure* or *de facto*; ii) those who do not have nuclear weapons, but profit from their protection, under alliances or "nuclear umbrellas"; and iii) those which, genuinely, may be called non-nuclear armed states.

For this last category — which includes Brazil — there is a special concern, the difficult access to nuclear technology for peaceful purposes, set forth in the Article IV of the NPT , and the development of new military doctrines that foresee the use of nuclear weapons not only against exclusively nuclear threats, but also against various other types of threats, including those related to conventional arms or non-state actors.

The ambiguity of the so-called Negative Security Assurances', granted by states which have nuclear arms, aggravates the already worrisome expansion of the threat spectrum that nuclear weapons would supposedly dissuade. States with nuclear weapons refuse to grant to states without such weapons security guarantees, which are not ambiguous, non-conditional and backed by binding international legislation.

Among the goals set for Brazil, the following points stand out:

- non-proliferation and disarmament are inter-related, mutually reinforcing processes;
- the reversion of asymmetries inherent to the NPT and the effective reduction of risk of nuclear war can only happen through the complete elimination of nuclear weapons; and
- disarmament and non-proliferation efforts should not be directed in detriment to the right to use, develop and research of nuclear technology for peaceful purposes.

Brazil holds consolidated credentials in the field of non-proliferation. The Federal Constitution forbids the use of nuclear energy for non-peaceful purposes. The arrangement instituted for the Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC) is unprecedented and subjects the Brazilian Nuclear Program to two international organizations, which carry out auditing, accounting and the application of safeguards in an independent manner.

Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials (ABACC)

The ABACC is an independent international agency created by the Brazilian and Argentine governments. It is responsible for verifying the peaceful use of nuclear material, which may be used, direct or indirectly, in the production of nuclear weapons.

The ABACC was instituted by the Agreement for the Exclusively Peaceful Use of Nuclear Energy, signed in 1991, between Argentina and Brazil. By means of this agreement, the Common System of Accounting and Control of Nuclear Materials (SCCC) was also established and is administered by ABACC.

Since June 2011, the Four Party Agreement signed by Brazil, Argentina, the ABACC and the International Atomic Energy Agency (IAEA) has been acknowledged by the Nuclear Suppliers Group (NSG) as an agreement granting, in political terms, guarantees equivalent to those provided in the additional protocols of the IAEA's safeguards agreements.

Besides the NPT, Brazil is a party to the Treaty of Tlatelolco[15], the first instrument to establish a nuclear weapons free zone in a densely populated region. In a joint declaration, in January 2011, Brazil and Argentina stressed the high degree of integration reached by both countries through bilateral nuclear cooperation by means of significant projects in the scope of the Binational Nuclear Energy Commission (COBEN). Both nations also ratified all terms of the Joint Presidential Declaration on Nuclear Policy, signed in San Juan, Argentina, in August 2010, and promoted a political dialogue initiated in the Permanent Committee for Nuclear Policy (CPPN). The purpose of this forum is to continue the exchange of information on the status of both countries' nuclear programs, and also on the coordination of positions in international forums, such as the Nuclear Suppliers Group, among others, as well as the political evaluations of the bilateral nuclear cooperation and the performance of ABACC.

Brazil's international action in this area seeks to reinforce national independence and to guarantee that international rules against the proliferation of weapons of mass destruction do not become incompatible with autonomous technological education, including in strategic areas such as the nuclear sector.

[15] The Tlatelolco Treaty is the conventional name given to the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, established on February 14, 1967, in Mexico City. The treaty came into force on April 25, 1969, and was signed and ratified by all 33 Latin American and Caribbean nations. Brazil signed the Treaty in 1967 and incorporated it into its legal system through Decree Nº 1.246 of 1994. Signatory states agreed to forbid and prevent the "testing, use, manufacture, production or acquisition by any means whatsoever of any nuclear weapons" as well as the "receipt, storage, installation, deployment and any form of possession of any nuclear weapon".

International Treaties on the Sea, Antarctica and Outer Space

Differently from land frontiers, which have physical limits and references for their demarcation, in the sea there are no lines which permit the establishment of visible frontiers. This peculiarity demands the adoption of conventions that are accepted by the international community.

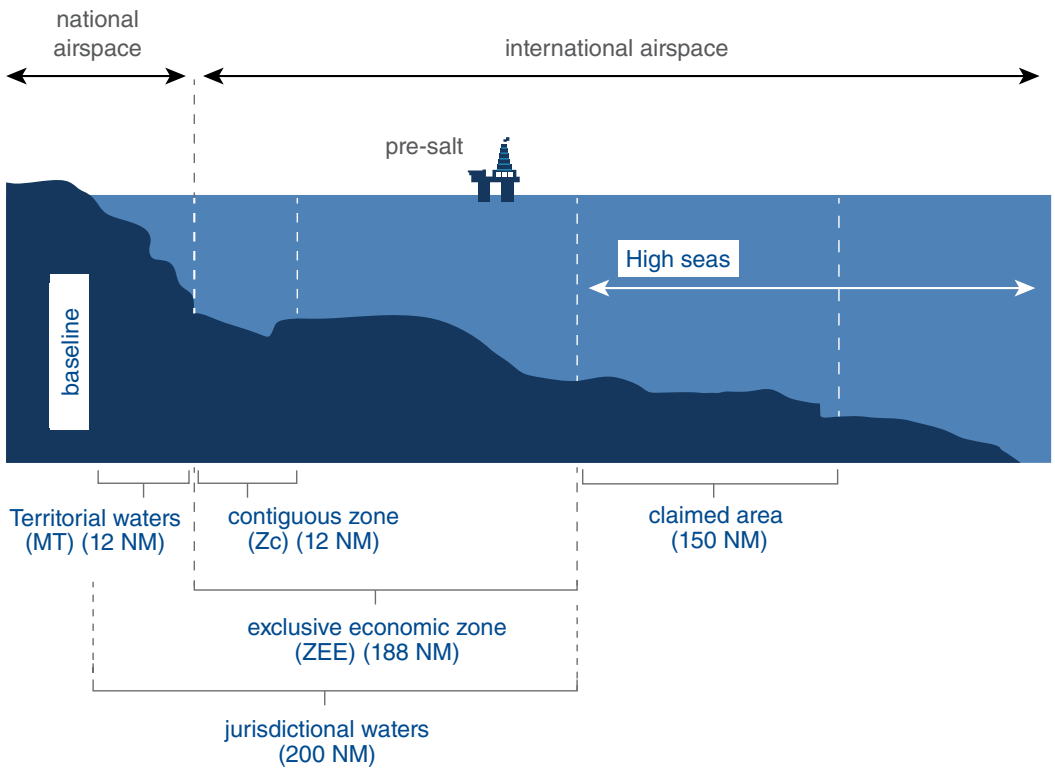
In 1982, the resolutions of the United Nations Convention on the Law of the Sea — (UNCLS) were ratified by Brazil. The UNCLS resolutions established important concepts for the regulation of sea limits, i.e. a territorial waters (MT), where the state exercises full sovereignty, including the airspace above; a contiguous zone (ZC), where the coastal state may implement customs, sanitary and control measures as well as restrain legal infractions; and an economic exclusive zone (ZEE), where the state has the sovereign right to explore, exploit, maintain and manage natural resources, whether living or non-living. From the baseline where the MT originates until the external limit of the ZEE, the coastal state exercises its rights over a 200 nautical miles (370 km) area, the so-called "jurisdictional waters", where sovereignty is exerted in differing degrees.

The UNCLS has been ratified by 152 countries. However, there are still non-adherent nations, including great powers. This fact may become a source for conflict in the future.

United Nations Convention on the Law of the Sea (UNCLS)

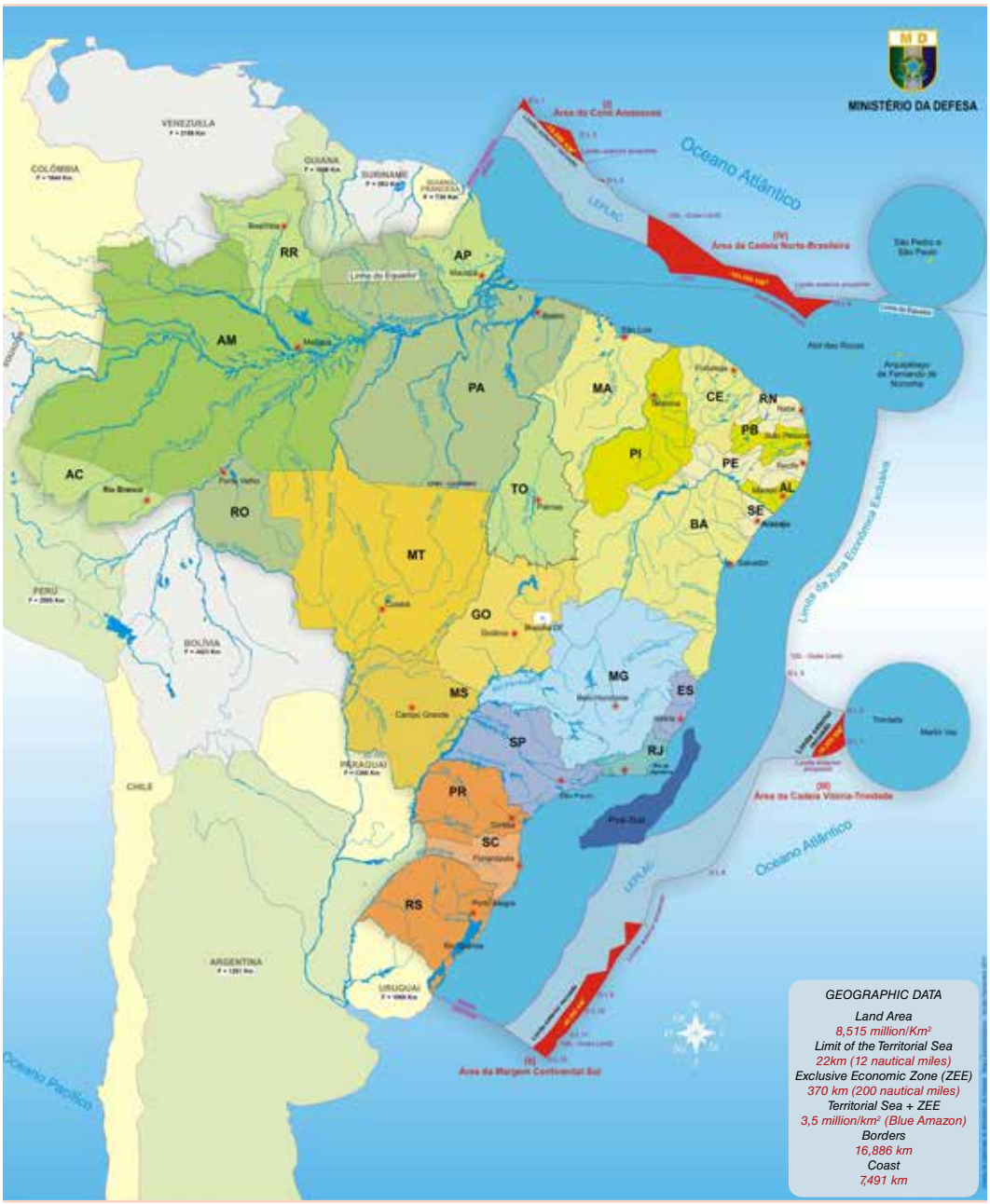
The UNCLS established a sea territory (MT) of 12 nautical miles (22 kilometers), measured from the continental base line; a contiguous zone (ZC), adjacent to the MT, which extends to a further 12 nautical miles; and an economic exclusive zone (ZEE), a 188 nautical miles strip, adjacent to the MT (including the ZC). The UNCLS established moreover that states may claim an increase in their ZEE, if certain technical criteria are complied with, to a maximum extent of 350 nautical miles (648 kilometers). Internally, in 1993, Brazil adopted the 1982 and 1988 resolutions of the UNCLS, but only in 1994, with the ratification of the 60th country, did the UNCLS enter into force.

Limits Established by the UNCLS



Continental shelf limits
(1 NM = 1.85 km)

The Brazilian ZEE, which has an external limit of 200 nautical miles, has an ocean area close to 3.54 million km². The referred area combined with the continental platform (PC), of around 960 thousand km², located beyond the 200 nautical miles and claimed by Brazil in the UN Commission on the Limits of the Continental Shelf totals around 4.5 million km². This extensive ocean area makes up the so-called "Blue Amazon", which is contiguous to the continent and corresponds to approximately 52% of the Brazilian continental area.



The Blue Amazon

The Fernando de Noronha, São Pedro and São Paulo archipelagos and the Trindade Island, which are far from the coast, are also used as reference points for the Blue Amazon. The referred region extends to 200 nautical miles, measured from its baseline.

In the São Pedro and São Paulo archipelagos, located 520 nautical miles from the coast of Rio Grande do Norte State, Brazil maintains a scientific research station, with support from the Navy. The station is permanently supplied and inhabited by Brazilian researchers and is considered to be a prerequisite for the archipelagos to contribute to the composition of the Blue Amazon.

The growing international interest in Antarctica, reinforced by claims of sovereignty by some countries, motivated the Washington Conference of 1959. This forum discussed the future of Antarctica and a legal framework for the solution of emerging deadlocks.

A significant part of the Brazilian coast is reached by the winds of the Antarctic region and the sea currents bring living resources, nourishment and oxygen to Brazil's seashore, elements which directly influence the country's southern coast. A great part of the available fishing in the Brazilian sea is influenced by the water mass originating in the Southern ocean. Thus, due to the unparalleled interest the region has for the country, the Brazilian Antarctic Program (PROANTAR) was approved in January 1982. In that same year, Brazil acquired the oceanographic support vessel "Barão de Teffé" for the Navy and commissioned it to carry out a hydrographic, oceanographic, and meteorological study in Antarctica, as well as to choose a site for a Brazilian research station. This initiative resulted in the international acknowledgement of the country's presence in that territory, which resulted in the acceptance of Brazil as a consultative member in the Antarctic Treaty[16] in 1983.

The international framework for outer space is of great importance to the country. Its main instrument is the Committee on the Peaceful Uses of Outer Space (COPUOS), created in 1958, soon after the launching of the first artificial satellite, the Sputnik-1. The UN General Assembly then formed an *ad hoc* Committee on the Peaceful Uses of Outer Space, composed of 24 member states, including Brazil. Currently, the Committee has 71 member states. The COPUOS supervises the implementation of five treaties and agreements regarding the use of space.

[16]The Antarctic Treaty was signed in Washington D.C. on December 1st, 1959, by countries which claimed possessions in parts of the Antarctic continent. Signatory states committed themselves to suspend their claims for an undefined period, and thereby allowed scientific exploration to be conducted freely in the continent under a system of international cooperation. The Treaty came into force in June 1961. Brazil adhered to the Treaty on May 16, 1975. Adhesion to the Treaty was reiterated by Decree Nº 75.963 of July11, 1975.

The space sector, along with the cybernetic and nuclear sectors, is considered to be a fundamental strategic sector for National Defense, as noted in the National Defense Strategy. One of the main objectives of the Brazilian Space Program (PEB) is to reach autonomy in the development of space activities. The program has a strategic nature; it permits the monitoring and management of the vast national territory; it contributes to the mastering of communication and information technologies; it enables meteorological forecasting as well as air and sea traffic control; and it promotes the development of new space technology. Among the main projects within the scope of the Brazilian Space Program, the following are of note:

- China-Brazil Earth Resources Satellite (CBERS): in July 1988, Brazil and China signed an agreement for the development of two advanced remote sensing satellites. Due to the combination of financial and technological resources, a shared responsibilities system was created (30% Brazilian and 70% Chinese), with the purpose of building a complete image captioning system at international level;
- Brazilian Satellite Launching Vehicle (VLS-1)[17]: main Brazilian space project being developed by the Institute of Aeronautics and Space (IAE), of the Brazilian Air Force;
- Cyclone-4 Project, in partnership with Ukraine: this project is managed by Alcantara Cyclone Space (ACS), a binational state enterprise of Brazilian and Ukrainian capital, set up in August 2006, with the objective of trading and launching satellites using the Ukrainian launching vehicle Cyclone-4 from the Alcantara Launching Centre in the Brazilian state of Maranhão;
- Space Cooperation Project, Argentine-Brazilian Satellite for Oceanic Observation (Sabiá-Mar): in November 2007, Brazil and Argentina signed an agreement to design and launch a satellite for Earth observation for environmental and oceanic research purposes. The project, which will be managed by a committee with representatives from Argentina and Brazil, is in its initial phase. It is expected that the satellite for oceanic observation will be launched in 2015; and
- Microsatellite Launching Vehicle Project (VLM-1): its objective is to develop a rocket for launching microsatellites (up to 150 kilograms) in equatorial and polar orbits or for reentry. The project will interface with others regarding the development of inertial platforms rocket engines, and satellite launching. It is coordinated by the Brazilian Space Agency and involves the Institute of Aeronautics and Space, foreign research institutes (one German and the other Swedish) and private Brazilian companies.

[17]The VLS project is detailed in chapter 5.

Treaties on the Environment

The environmental theme is of growing strategic concern for Brazil and brings new challenges for the country in the field of defense. The protection of natural resources is a highlight of the National Defense Strategy, mainly in regard to the Amazon region.

Brazil directs its environmental initiatives by "Principle 2"[18] of the Rio Declaration on Environment and Development, adopted during the United Nations Conference on Environment and Development (UNCED Rio-92)[19]. This principle reasserts every nation's sovereign right to exploit its natural resources in accordance with its own environmental and development policies. In return for the sovereign right of exploitation, every state must make a commitment to not damage the environment due to activities performed within its jurisdiction or under its authority.

Brazil acknowledges the importance of international cooperation, especially with neighboring countries, for the purpose of preserving the environment and to promote the sustainable use of natural resources. The nation is part of several regional and bilateral agreements that establish cooperative relations for managing transboundary natural resources, such as the agreements that regulate the cooperation and use of the hydro resources in the Prata basin and the agreement that regulates the Amazon Cooperation Treaty Organization (OTCA). In the scope of cooperation among Amazonian nations, it is worth noting the establishment, in 2010, of the New Amazonian Strategic Cooperation Agenda, which encompasses a series of cooperation initiatives in the area of preservation and sustainable use of renewable resources.

Within the scope of the Convention on Biological Diversity (CDB), Brazil defends its interests by upholding a balance between the three pillars of this Convention: the preservation of biodiversity, the sustainable use of biodiversity and the distribution of benefits derived from the exploitation of genetic resources.

Brazil considers that the establishment of an international agreement on the access to genetic resources and to the knowledge traditionally associated with this issue is an important measure to guarantee the rights of countries and communities which hold such resources, as well as to fight against biopiracy.

[18] Principle 2: "States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction".

[19] The United Nations Conference on Environment and Development (UNCSD) was held in Rio de Janeiro in 1992. In 2012, the Conference Rio+20, or Earth Summit 2012, gave continuity to this issue, pursuant to Resolution Nº 64/236 of the United Nations General Assembly.".

Brazil's actions in forums on forests, especially in the United Nations Forum on Forests (UNFF), is aimed at strengthening international cooperation among states in order to increase the capacity of all states, especially those in development, to contribute to the protection, preservation and sustainable management of their forest resources. Brazil does not renounce its autonomy of decision-making regarding the formulation of public policies on the preservation and sustainable development of its forest resources.

In the last few years, Brazil has amplified its actions to preserve its forests, as well as to improve regulation, monitoring, audit, technical assistance, training, credit availability, and incentives for sustainable production. The defense of this natural asset remains a commitment for the next decades.

The preservation of the environment is an important objective. The modernization of Brazil's defense structure is vital for protecting this enormous asset. The preservation of the environment in general, and the conservation of tropical rainforests and other biomes are responsibilities shared by government agencies in the municipal, state and federal levels. The Ministry of Defense is aware of its responsibility to contribute to the preservation, control and maintenance of the country's forest areas.

Foreign and Defense Policies

The foreign and defense policies are complementary and inseparable. The maintenance of regional stability and the construction of a more cooperative international environment are in Brazil's interest and will be favored by the joint action of the Ministry of Defense (MD) and the Ministry of Foreign Relations (MRE).

The National Defense Policy (PND), the National Defense Strategy (END) and the Defense White Paper (LBDN) are historic milestones for the establishment and dissemination of the foundations and parameters of our defense. Policy and Strategy determine responsibilities in promoting the national, particularly in with regard to the country's development and security. They evince a need for strengthening dialogue mechanisms between the MD and the MRE, in terms of sharing intelligence and joint planning.

In the global level, the close participation of military officers and diplomats in multilateral forums (South American Defense Council and political-military dialogues) increases the country's foreign policy and defense capacity to anticipate, in a coherent and strategic way, the international system and its governance structures, thus facilitating the defense of Brazilian interests abroad. This joint action must aim at diverse partnerships, in order to strengthen relationships among developing countries, without doing harm to

traditional relations with developed world partners. At the same time that Brazil seeks to optimize conditions to obtain technology from more developed countries, the profile of nations which comprise the BRICS group and the IBAS Forum demonstrates that there are great possibilities for cooperation among developing countries, even in areas of advanced technology. For instance, the Air-to-Air Missile Program with South Africa, the outer space cooperation with Russia, the CBERS program with China and the 145 aircraft project by the Brazilian Aeronautical Company, (EMBRAER) with Indian radar. The latter is of seminal importance for future cooperation with India in the defense field.

Air-to-Air Missile Program

The Brazilian South African air forces are producing, in cooperation, a new missile called the A-Darter. The project began in 2006, with investments by both countries. The Brazilian team is supported by the Funding Authority for Studies and Projects (FINEP). The A-Darter is a fifth generation air-to-air, short-range defense missile, i.e. it is able to perform maneuvers to engage targets during flight with an infrared detection system.

At regional level, especially in South America, the relationship between foreign and defense policies must be strong in order to foster and expand integration to empower South American action in the international arena. It should also be an aggregating factor in enabling the interaction of neighboring governments in order to prevent threats to the peace and security of the region.

The South Atlantic joins Brazil to Africa, a neighboring continent which significantly influenced the creation of the Brazilian nation. Brazil's special attention to Africa is reflected in increasing trade and financing and investments, such as the cooperation for the production of food and other agricultural goods with the support of the Brazilian Agricultural Research Corporation (EMBRAPA). The protection of communication lines and trade routes with Africa is of strategic importance to the country. It is one more element in the consolidation of cooperative relations within the South Atlantic.

Endowed with adequate defense capacity, Brazil will be in a position to dissuade aggressions against its territory, population and its interests, and thereby contribute to the maintenance of a peaceful environment in the region. At the same time, and in way that is coherent with the country's policy on cooperation, the increasing coordination between South American states in defense issues will help to avoid hostility against the assets of nations in the region. Through dissuasion and cooperation, Brazil will strengthen the tight link between its defense and foreign policies which, historically, have aimed for peace, integration and development.

Fourth BRICS Group Summit — New Delhi, India — March 2012

CHAPTER 3

TRIBUTE TO THE ARMED FORCES

DEFENSE AND THE MILITARY INSTRUMENT

> "Sovereignty only exists when there is strong Defense, that is, when there are properly equipped and trained Armed Forces, which are prepared to act jointly in any scenario, especially in today's increasingly diffused threats."
>
> Presidency of the Republic,
> Secretariat of Strategic Affairs — Brazil Plan 2022
> Brasilia, December 2010

The military instrument that accounts for Brazil's defense is made up by the Armed Forces, which in turn is comprised of the Navy of Brazil, the Brazilian Army and the Brazilian Air Force. These institutions need to have the capacity to assure the territorial integrity of the country and the defense of national interests, the Brazilian people, assets and resources, as well as to guarantee the country's sovereignty. All three institutions are integral parts of the Ministry of Defense (MD), which guides, supervises and coordinates all actions of the Armed Forces.

The territory is the nation's land base, delimited by frontiers, waters and airspace under Brazilian jurisdiction. Brazil has continental dimensions. To ensure its defense, the Armed Forces are structured in accordance with the Federal Constitution and statutes.

The National Defense Policy (PND)[20] and the National Defense Strategy (END) are legal frameworks that guide the organization and modernization of the Brazilian military instrument, as well as its training and employment, in a manner that is compatible with Brazil's political and strategic stature. These documents define the strategic dissuasive position adopted by the country. Said position relies on an active diplomatic policy which aims for peace and development, the preservation of friendship and cooperation with neighboring countries, and with the international community. It is based on mutual confidence and respect among nations. In accordance with legal guidelines, the Brazilian Armed Forces are structured on the basis of capabilities and not in accordance with identified enemies.

Regarding the international arena, the preventive aspect of National Defense depends on the importance allocated to diplomatic action as the first instrument for the resolution of conflicts and on a strategic position based upon the existence of recognizable military capability which is able to generate a dissuasive effect. To amplify the country's influence

[20] The current National Defense Policy (PDN) was approved by Decree Nº 5,484 of June 30, 2005 and updated in 2012.

worldwide and to reassert its commitment to the defense of peace and cooperation among nations, Brazil promotes actions based on the following aims:

- intensify the nation's participation in humanitarian actions and in peace missions under the aegis of multilateral organizations;
- ensure capacity for projecting power, with the objective of eventually participating in other operations established and authorized by the United Nations Security Council; and
- intensify exchanges with foreign Armed Forces, particularly those of South America and the West African Coast, and reinforce ties with countries that interact in forums such as IBAS and the BRICS, as well as with traditional partners.

The Armed Forces[21] — constituted by the Navy, the Army and the Air Force — are national permanent and regular institutions which are organized on the basis of hierarchy and discipline. These Forces are subordinated to the supreme authority of the President of the Republic and have as their mission the defense of the motherland, the protection of the constitutional branches of power and, by order of any of these branches, the protection of law and order, with the aim of preserving state sovereignty and federal union. The Armed Forces' obedience to the democratically elected government, subject to the authority of the President of the Republic, through the Ministry of Defense, is an essential element for the republic and for national integrity. Besides this mission, the Armed Forces also cooperate with national development and civil defense.

The Armed Forces also act, in partnership with the Judicial Police, against crime in the country's borderlands, airspace, sea and rivers. These actions are also conducted in coordination with other Executive agencies, in accordance with specific duties legally assigned[22] to the Navy, Army and Air Force.

In case of aggression against the country, the state will employ all components of national power, with emphasis on military power, to exercise its right to legitimate self-defense, in accordance with the United Nations Charter[23]. The country's military power depends on the capacity of its Armed Forces and the potential national resources that may be mobilized. The latter reflects not only material resources, but also Brazil's ability to rapidly increase its military manpower, by calling up its military reserve. The Ministry of Defense coordinates joint effort in the area of National Defense.

[21] Federal Constitution, Art. 142.

[22] Pursuant to Complementary Law № 97 of June 9, 1999, Art. 16-A.

[23] UN Charter, Art. 51.

The Ministry of Defense

The Ministry of Defense (MD) was created on June 10, 1999, substituting the Armed Forces' Joint Staff and the military ministries. The former ministries of the Armed Forces were transformed into the Navy, Army and Air Force departments. These agencies are directed by General or Flag Officers of the highest military ranks, i.e. Admiral and General.

The Ministry of Defense, as a government department of the federal public administration, is responsible for: coordinating joint defense efforts; for contributing to the protection of national sovereignty, the constitutional branches of powers, law and order, national assets and interests; and for promoting Brazil's influence in the international arena.

The Ministry of Defense has authority over various matters, some of great sensibility and complexity. These include joint military operations; defense budget; military policies and strategies; strategic intelligence; science, technology and innovation; health; national mobilization; remote sensors; command and control; and military service, among other issues.

The MD is also a political actor responsible for the promotion of cooperation among other government agencies, which develop activities that are related to national defense. The MD aligns defense projects with programs developed by these other government agencies.

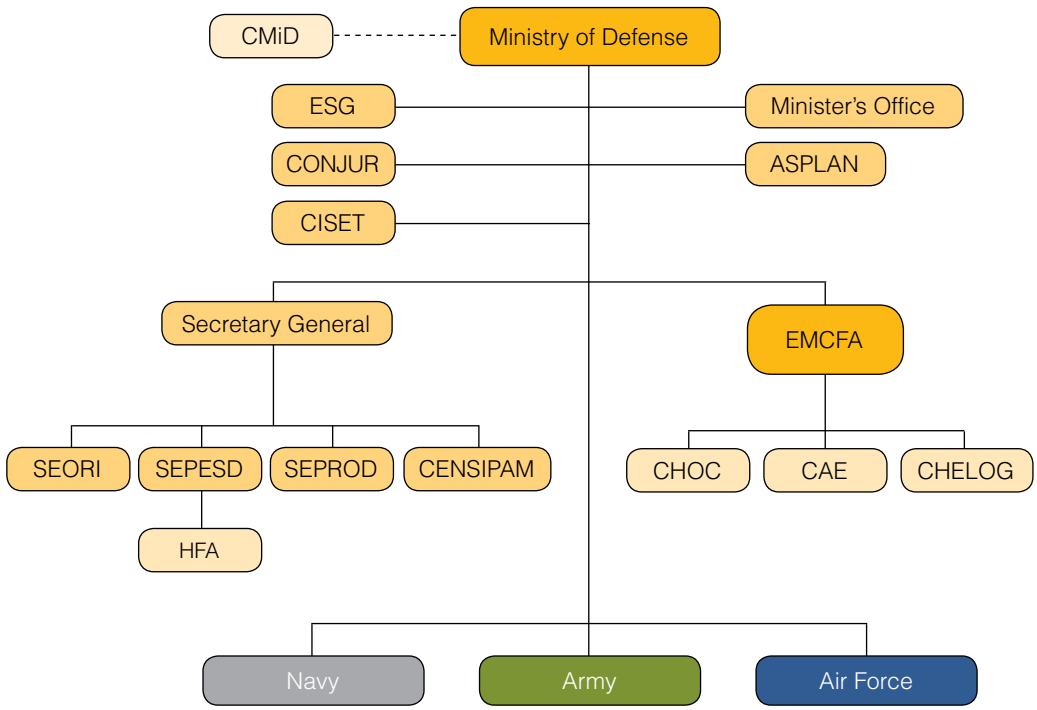
Organizational structure

The new perspectives derived from the National Defense Strategy, and the stronger protagonism of the Ministry of Defense in the Brazilian political scene has led to an ample restructuring of this government department. The rearrangement has promoted the role of the Armed Forces Joint Staff, the Secretariats, and other agencies within the Ministry.

The organizational structure of the Ministry of Defense is currently as follows:

- Defense Military Council (CMiD) — an advisory board;
- Armed Forces Joint Staff (EMCFA);
- Office of the Secretary General (SG);
- Office of the Minister of Defense;
- Planning Office (ASPLAN);
- War College (ESG);
- Legal Office (CONJUR);

- Internal Audit Office (CISET);
- Office of Management (SEORI);
- Office of Personnel, Education, Health and Sports (SEPESD);
- Office of Matériel (Secretaria de Produtos de Defesa — SEPROD); and
- Center for the Management and Operation of the Amazon Protection System (CENSIPAM).



Organization chart of the Ministry of Defense

Defense Military Council (CMiD)

The CMiD is composed by the Navy, Army and Air Force Chiefs of Staff, by the Chief of the Joint Staff and is chaired by the Minister of Defense. As a complementary defense board, the Council is responsible for assisting the President of the Republic on the employment of military resources and for advising the Minister of Defense, in accordance with item III in Article 3 of Decree Nº 7.276 of August 25, 2010.

Article 3 of Decree Nº 7,276 of August 25, 2010 — The authorities and agencies of the Defense Structure have the following responsibilities, beyond those provided in specific legislation: […] III - Defense Board: a) assist the President of the Republic on the employment of military means; and b) assist the Minister of Defense in the fulfillment of his responsibilities to the President of the Republic in specific situations, such as: in the decision to employ the Armed Forces; in the activation of operational commands; during crisis, armed conflict or in peacekeeping operations; in the appointment of commanders of operational commands; in the establishment of employment guidelines for operational commands; and during the evaluation of strategic plans for employment. The Defence Board must also assist the Minister of Defense in his other roles, which include the following: issue guidelines for the employment of the Armed Forces; direct joint exercises and peacekeeping operations; activate operational commands in accordance with Presidential orders; designate and activate operational commands for the purposes of planning operations and exercises; approve the strategic plans produced by the Joint Staff to confront possibilities of employment; and allocate resources to the operational commands, according to the demands presented by the operational commanders and the availability of means.

Armed Forces Joint General Staff (EMCFA)

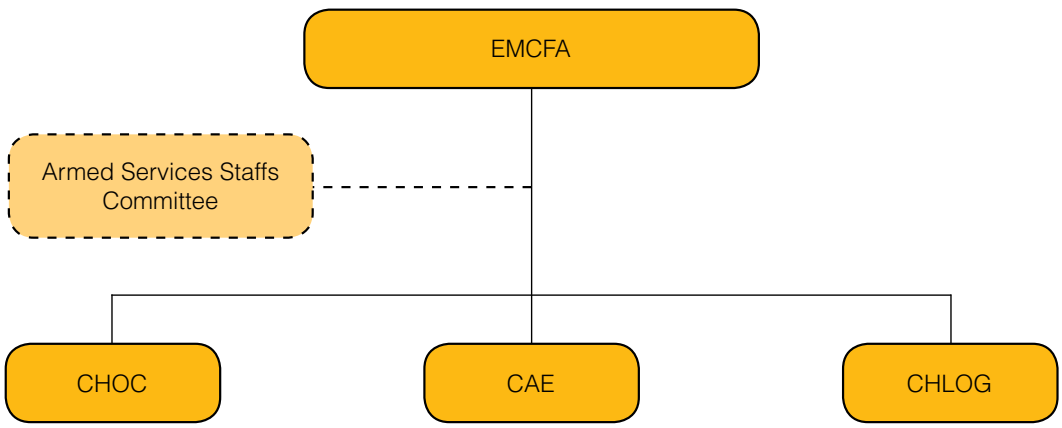
The Joint Staff is responsible for planning joint employment by the Armed Forces and for advising the Minister of Defense on the planning of joint operations and training exercises and on military operations in peacekeeping missions. It may also have other roles assigned by the Minister of Defense.

The Joint Staff exercises a fundamental role in the execution of the National Defense Strategy. It is responsible for the coordination of interoperability programs with the purpose of optimizing military resources for national defense, border security as well as rescue and humanitarian operations.

The main instrument, through which the Armed Forces will develop strategic and tactical flexibility, is the coordination among the military departments, which must improve joint operational guidance in order to enhance capability. The reference point for this cooperation will be the collaboration between the military staffs of each Armed Force in collaboration with the Armed Forces Joint Staff to establish and improve interoperability.

The office of Chief of the Joint Staff is reserved for General or Flag Officers of the highest military rank, in active service or from the reserve. The occupant is appointed by the President of Republic on recommendation of the Minister of Defense. The Chief of the Joint Staff coordinates an integrated committee composed of chiefs of the military staffs from each of the Armed Forces.

The Armed Forces Joint Staff is made up of three directorates, headed by General or Flag Officers of the highest military rank, in active service.



Joint Staff

Directorate of Joint Operations (CHOC)

The Directorate of Joint Operations is responsible for planning and monitoring joint operations and exercises of the Armed Forces. It measures joint defense resources, formulates and updates doctrine and strategic planning for joint military employment. It monitors the employment of joint and singular operational commands. This Directorate also proposes guidelines, plans, coordinates and monitors efforts by the Armed Forces in peacekeeping operations, in subsidiary actions and in support of civil defense. The Directorate is organized as follows:

- Vice-Directorate of Joint Operations (VCOC);
- Office of Operational Intelligence (AIOP);
- Deputy Directorate of Command and Control (SC1);
- Deputy Directorate of Operations (SC3); and
- Deputy Directorate of Operational Logistics (SC4).

Directorate of Strategic Affairs (CAE)

The Directorate of Strategic Affairs is responsible for monitoring the political and strategic environment as well as strategic intelligence, both related to the nation's defense. It also has representations in organizations in Brazil and abroad. This Directorate is closely connected to the Ministry of Foreign Affairs, and with military attachés abroad. It assists the Minister of Defense on proposals for cooperation with other countries. The Directorate is composed of the following subordinated institutions:

- Deputy Directorate for Policy and Strategy (SPCE);
- Deputy Directorate for Strategic Intelligence (SCIE);
- Deputy Directorate for International Affairs (SCAI);
- Brazilian Representation in the Inter-American Defense Board (RBJID);
- Military representations in New York and Geneva; and
- Defense Attachés in Brazil and abroad.

Directorate of Logistics (CHLOG)

The Directorate of Logistics is in charge of logistics matters, national mobilization and military service. It coordinates the planning, execution and monitoring of programs and projects on Armed Forces integrated logistics as well as military and national mobilization. Additional incumbencies to this Directorate include: the Defense Deployment and Equipment Plan (PAED), and the Citizen-Soldier Program. The following organizations make up the Directorate of Logistics:

- Deputy Directorate for Integrated Logistics (SUBILOG); and
- Deputy Directorate for Mobilization (SUBMOB).

Office of the Minister of Defense

The cabinet is responsible for: providing direct and immediate assistance to the Minister of Defense. Among its functions, the following are of note: monitor bills in Congress which are of interest to the Ministry of Defense; attend to consultations and requests made by the Congress, the Judicial Branch and the Office of the Public Prosecutor; formulate and implement the Ministry's press policy; serve as the Ministry's ombudsman; and coordinate the activities of the Minister's Aides-de-Camp and personal guard.

Office of Planning (ASPLAN)

ASPLAN is responsible for: coordinating the production of the Defense White Paper (LBDN); creating a continuous and systematic process for producing a scenarios document; leading and coordinating the strategic planning of the Ministry of Defense; measuring results of actions undertaken by the Ministry of Defense, in partnership with other sectors of the Ministry; and providing technical training and information for undertaking strategic planning.

Office of Legal Affairs (CONJUR)

The Legal Office assists the Minister of Defense on legal matters; prepares legal studies and reports; and sets the official interpretation of the Constitution, laws, treaties and other legal documents, especially when there is an absence of guidance from the Office of the Attorney-General. It also examines, previously and conclusively, procurement announcements, rules, contracts and similar documents.

Office of Internal Audit Office (CISET)

The Office of Internal Audit is responsible for auditing and supervising financial accounts, as well as for registering budgetary, financial and asset management activities. It also controls and supervises: actions taken to achieve the goals set in the Multiannual Plan, the implementation of government budgetary programs, the performance of administrators and credit operations.

Office of the Secretary-General (SG)

The Office of the Secretary-General assists the Minister of Defense in his duties and in the definition of guidelines. It supervises, coordinates and controls the activities of its subordinate offices and of the Center for the Management and Operation of the Amazon Protection System. It also performs other activities inherent to its field of action.

Office of Management (SEORI)

The Office of Management produces guidelines for the modernization of organizational structures, and the improvement and integration of administrative procedures that are

common to the Armed Forces and the Ministry's Central Administration[24]. It manages bills in Congress which are of interest to the Ministry of Defense and is also responsible for:

- coordinating and consolidating the joint budget proposal of the Armed Forces, observing the priorities established in the National Defense Strategy, which are reiterated in the Law of Budget Guidelines;
- consolidating the multiannual plans with the budget proposals of the Armed Forces and of the Ministry of Defense's Central Administration;
- act as a component of the Information Resources Administration System, the General Services System, the Federal Planning and Budgeting System, the Federal Financial Administration System and the Federal Accounting System; and
- coordinating and supervising the activities of the Northern Border Program.

Office of Personnel, Education, Health and Sports (SEPESD)

This Office is responsible for formulating, updating and monitoring the policies, strategies and guidelines on Defense personnel which are common to more than one Armed Force.

It also is responsible for the monitoring the implementation of actions set in the regulations of the Defense Education Policy.

In the area of sports, it proposes general guidelines and complementary instructions on military sports which are common to more than one Armed Force, and it monitors the implementation of these instructions. This Office also manages fund raising on behalf of the Rondon Project[25], it proposes the formulation and updating of the Armed Forces policy and strategy on health and welfare, and supervises the management of the Armed Forces Hospital (HFA)[26] in Brasilia (Federal District).

Office of Defense Material (SEPROD)

The Office of Defense Material advises on the formulation and updating of the policies listed below. It also monitors the implementation of these policies:

- National Policy for Science, Technology and Innovation Policy in the Area of Defense — this policy aims for technological development and the creation of new defense material;

[24] The Ministry of Defense's Central Administration is composed of: units which are of direct and immediate assistance to the Minister of Defense; the Office of the Secretary General and its subordinate offices; and the Armed Forces Joint Staff.

[25] The Rondon Project is a program of the Federal Government, coordinated by the Ministry of Defense. It is detailed in chapter 4.

[26] The Armed Forces Hospital is a military general hospital, with headquarters in Brasilia. It is designated for the treatment and hospitalization of active, reserve and retired military personnel, their dependents and other persons (authorized by agreements or special orders) who require general or specialized medical treatment.

- National Policy for the Defense Industry; and
- Policy for Defense Material Acquisition.

The Office of Defense Material regulates and oversees the control of foreign trade of defense products and represents the Ministry of Defense in meetings with other Ministries, in national and international forums which involve defense materials and matters related to science, technology and innovation.

It acts jointly with the Federal Government to establish special rules that promote the Defense industry, particularly in terms of procurement and contracts. In this manner, the Office seeks to promote the development and competition of the international market.[27]

It supervises and promotes: basic industrial and technological activities that concern the Armed Forces; activities in the fields of science, technology and innovation, which aim for the development of new defense material and industrialization. Moreover; and activities related to the collection of data on military technology and from the Military Catalogue System (SisMiCat).

Military Catalogue System (SisMiCat)

The Military Catalogue system is an uniform and common system for the identification, classification and codification of supplies for the Brazilian Armed Forces and other participating civilian agencies of the Federal Government. This system allows the full integra-tion and interoperability of the Armed Forces in the materiel area, through the use of a single language. It offers an economic and centralized database, which absorbs and displays the country's catalogued data.

Center for the Management and Operation of the Amazon Protection System (CENSIPAM)

This Center was created in 2002. In January 2011, it was transferred to the Ministry of Defense with a four star status. The Center's roles include the proposal, monitoring, and implementation of policies, guidelines and actions directed towards the Amazon Protection System (SIPAM). The Center promotes the gradual and structured activation of the SIPAM in partnership with federal, state and non-governmental organizations, and develops actions for the continuous updating and evolution of the System's concepts and technological apparatus.

[27] For example, the enactment of Law Nº 12,598 of March 22, 2012, referred to in chapter 5.

Amazon Protection System (SIPAM)

The Amazon Protection System is a system that produces and transmits technical data. It is composed of a complex technological base and an institutional network, which integrates and generates updated information for planning and coordinating government actions in the Legal Amazon, with the aim of defending and promoting social inclusion and sustainable development in that region.

Education in the Scope of Defense

The Ministry of Defense undertakes educational activities through the following subordinated institutions: War College (ESG), Institute for Joint Operations Doctrine (IDOC), Pandiá Calógeras Institute (IPC)[28] and Brazilian Joint Center for Peacekeeping Operations.

In the Armed Forces, defense education begins in military schools. The curricula of these institutions have recently been adapted to the new security and defense context dictated by the national and international environments. Defense sector personnel must be educated, since their initial education, to work jointly, in an efficient and cooperative manner.

War College (ESG)

The War College was created in 1949, with the purpose of developing and consolidating the necessary knowledge for the proper exercise of leadership and advisory roles, as well as for planning national security activities within the scope of government.

The War College is directly linked to the Minister of Defense. It is currently an institute of advanced studies and research in the areas of national development, security and defense. It imparts on civilian and military students and scholars wide knowledge on Brazilian challenges. The College offers a set of programs in the defense field, such as the Advanced Studies Program on Policy and Strategy (CAEPE), the Program on Policy and Strategy (CSUPE), the Program on the Law of Armed Conflict, the Program on Strategic Intelligence and the Joint Staff Program. The CAEPE and the CSUPE are the two most relevant programs for the diffusion of knowledge in the Brazilian Defense sector.

The CAEPE is taught in the War College's Rio de Janeiro campus. It requires regular attendance and lasts for one year. Its purpose is to prepare both civilians and military personnel, including those from other nations, for the exercise of senior leadership and advisory roles in public service, especially in the area of National Defense.

[28]Under implementation.

The CSUPE, which began in 2011, is taught in the War College Brasilia campus and has the purpose of promoting the study and spreading knowledge on Defense matters in the highest ranks of the civil administration, in the military and in the private and academic sectors. The CSUPE lasts for about two months. It requires regular attendance and relies on the participation of speakers from several government areas and the private sector.

Beyond its academic activities, the War College counts on the support and contribution of the Association of War College Graduates (ADESG) to disseminate, nationally, work produced by the College.

The Ministry of Defense is undergoing a series of structural modifications consistent with the new national context, so that it can better meet the directives of the National Defense Strategy, including the following:

- increase the institutional capacity of the War College to develop academic and administrative activities;
- intensify the exchange among members of the Federal Government; and
- optimize the training of human resources in the area of defense.

War College — Rio de Janeiro (State of Rio de Janeiro)

Institute for Joint Operations Doctrine (IDOC)

The IDOC is based in the War College's Rio de Janeiro campus. It is in charge of joint operations doctrine research and study. The institute seeks to enable the standardization of doctrine training in the schools of advanced studies of the three Armed Forces.

Pandiá Calógeras Institute (IPC)[29]

The Pandiá Calógeras Institute, which is currently being implemented, will be a civilian institution directly linked to the Minister of Defense. It will be a center for the study and research of strategic Defense issues. The Institute will combine civil and military initiatives with the purpose of developing studies that satisfy short and long-term demands of the Ministry of Defense.

The Institute will function in an environment of academic study, which allows for the close observation of political phenomena and strategic activities in the world. Its goals are to:

- promote and participate in events concerning Defense matters, and thereby contribute to the development of an authentic Brazilian way of thinking in this area;
- foster integration with academia;
- implement and maintain, in collaboration with similar organizations, a documentation center that may serve as a source of reference and database, for consultations, studies, research and projects; and
- undertake studies, research and projects which contribute to the formulation and knowledge base of new models of thought and action, in the area of National Defense.

In order to achieve its objectives, the Institute will maintain tight relations with similar organizations and with national and international *think tanks*[30], through cooperation agreements.

[29] Pandiá Calógeras was the first civilian to take office as Minister of War in Brazil's republican history. This occurred during the government of President Epitacio Pessoa. Calogeras' term in office lasted from October 3, 1919 to November 15, 1922.

[30] Reference to an institution dedicated to producing and spreading knowledge on the political, economic and scientific fields, among others, with state departments, associations, companies and universities.

COURSES FOR CAREER OFFICERS OF THE ARMED FORCES

PROGRAM TYPE	LEVEL	MINISTRY OF DEFENSE	NAVY	ARMY	AIR FORCE
Undergraduate Program	Undergraduate	———	Naval Academy (EN)	Army Academy (AMAN)	Air Force Academy (AFA)
				Military Engineering Institute (IME)	Technological Institute of Aeronautics (ITA)
	Extension		Admiral Wandenkolk Training Centre (CIAW)	Army Medical School (EsSEx)	Air Force Training Centre (CIAAR)
				Army Administrative and Technical School (EsFCEx)	
Specialization Program	Graduate	War College (ESG) — CEMC, CSIE, CLMN, CSUPE	Schools, training centers, health organizations and other Military Organizations* within the three Armed Services.		
Further Studies Program		———	Admiral Wandenkolk Training Centre (CIAW)	Junior Officer School (EsAO)	Air Force Junior Officer School (EAOAR)
Command and Staff Program		———	Naval War College (EGN)	Army Command and Staff College (ECEME)	Air Force Command and Staff College (ECEMAR)
					Air Force University (UNIFA)
Policy and Strategy Program		War College (ESG) — CAEPE	Naval War College (EGN)	Army Command and Staff College (ECEME)	Air Force Command and Staff College (ECEMAR)
					Air Force University (UNIFA)
Science and Technology Programs		———	———	Military Engineering Institute (IME)	Technological Institute of Aeronautics (ITA)

*Military Organizations (OM) are troop units, sections, establishments, ships, naval or aerial bases and any other tactical or administrative unit which is part of the Navy, Army or the Air Force.

COURSES FOR CAREER SERGEANTS OF THE ARMED FORCES

PROGRAM TYPE	LEVEL		NAVY	ARMY	AIR FORCE
Technical-Professional High School Programs	Sergeants' Programs		Admiral Alexandrino Training Centre (CIAA)	Combat Sergeant School (EsSA)	Air Force Sergeant School (EEAR)
				Logistics Sergeant School (EsSLog)	
			Admiral Sylvio de Camargo Training Centre (CIASC)	Specialized Training School (EsIE)	
				Army Medical School (EsSEX)	
				Army Center for Aviation Training (CIAvEx)	
	Military Traineeship		———	———	Air Force Sergeant School (EEAR)
	Further Studies Programs	Specliazation Programs	Various training centers, physical education centers, health organizations, troop corps, military teaching organizations, Military Organizations in general, operational squads and ships.		
		Career Enhancement Programs	Admiral Alexandrino Training Centre (CIAA)	Senior Combat Sergeant School (EASA)	Air Force Sergeant School (EEAR)
			Admiral Sylvio de Camargo Training Centre (CIASC)	Logistics Sergeants School (EsSLOG)	
			Directorate of Hydrography and Navigation (DHN)	Specialized Training School (EsIE)	
			Naval Hospital Marcilio Dias (HNMD)	Army Medical School (EsSEx)	
			Admiral Attila Monteiro Ache Training Centre (CIAMA)	Army Center for Aviation Training (CIAvEx)	
			Admiral Jose Maria do Amaral Oliveira Naval Aviation Training Centre (CIAAN)		

Sources: Law Nº 9,786 of February 8, 1999; Decree Nº 3,182 of September 23, 1999; education website of the Brazilian Army; Law Nº 11,279 of February 9, 2006; Decree Nº 6,883 of June 25, 2009; Enlisted Career Plan of the Navy; website of the Navy's Education Directorate (PCPM).

Brazilian Joint Center for Peacekeeping Operations (CCOPAB)

The Joint Center, named Sergio Vieira de Mello Center, prepares military and civilian personnel from Brazil and friendly nations to act in peacekeeping operations and in demining initiatives.

In 2010, the then named Center for Peacekeeping Operations Training (CIOpPaz), a Brazilian Army unit, originally founded in 2005, was transformed into the CCOPAB. From then on it has integrated members from the three Armed Forces, Military Polices and Fire Departments. This integration has strongly favored the synergy of these professionals in complex peacekeeping missions.

Defense Strategic Sectors

The National Defense Strategy selected three strategic areas: the nuclear sector, the cybernetic sector and the space sector. The Ministry of Defense's Ministerial Directive Nº 14 of 2009 resolved that the nuclear sector would be subject to the coordination of the Navy, the cyber sector would be managed by the Army and the space sector by the Air Force.

The priority for all three sectors is to improve national scientific and technological education and to develop human resources.

Nuclear Sector

Brazil develops nuclear technology with its own knowledge, and it is today included among the main countries that have more fully mastered nuclear technology, with special note to energy generation, and medical and industrial applications. The country has mastered the entire nuclear fuel cycle and possesses enough uranium resources to meet all of its needs.

Brazil's main objective is the technological autonomy and consolidation of its nuclear industry as a state-of-the-art complex and promoter of development. As already mentioned in Chapter 2, nuclear technology in Brazil is exclusively used for peaceful purposes. It is also worthy of note that the Brazilian nuclear industrial park qualifies as an international reference, especially concerning the security and protection of its facilities, as well as its waste control.

Since 1979, the Navy contributes to the Brazilian Nuclear Program, having fully mastered the nuclear fuel cycle[31], It currently supplies centrifuges to the Nuclear Industries of Brazil (INB), with headquarters in Resende (RJ).

[31] The nuclear fuel cycle is a set of stages in the industrial process which transforms the uranium element, in its natural state, into fuel for use in a nuclear plant.

The essential part of the Navy Nuclear Program is the construction of a reactor for the nuclear propelled Brazilian submarine, which will raise, considerably, the defense capacity of Brazil in the South Atlantic.

It is important to highlight that only the submarine's propulsion system will be nuclear, which is expressly permitted in the agreement signed with the International Atomic Energy Agency (AEIA). All of its weapons will be conventional, due to Brazil's constitutional commitment to the use of nuclear energy exclusively for peaceful purposes. This commitment was reaffirmed in international agreements, such as the Non-Proliferation Treaty, the Tlatelolco Treaty and the Brazil-Argentine treaty on the ABACC.

The possession of a submarine with nuclear propulsion will contribute to the defense and preservation of national interests in water, particularly in the South Atlantic, and will also permit:

- the protection of commercial routes;
- the safeguarding of navigation freedom;
- the protection of natural resources in the continental platform; and
- technological development.

Cybernetic Sector

Cyber threat has become a concern, as it puts in risk the integrity of delicate infrastructures, which are essential for the operation and control of various systems and organizations directly linked to the field of national security. Cyberspace protection includes a great number of areas, such as education, intelligence, scientific research, doctrine, military development, employment and personnel management. It also comprises the protection of cyber assets and the capacity for acting in network.

The cyber sector has both intra and inter-organizational elements. It is multidisciplinary and generates different technological services and products, besides management methods and processes, at all levels.

Brazil's efforts in the cyber sector has the purpose of ensuring confidentiality, availability, integrity and authenticity of data circulating in its networks, which are processed and saved. This project is a long-term effort which will positively influence the operational, scientific and technological areas.

Under Army coordination, significant advances have been made in training specialized personnel and in the development of advanced technological solutions. The following premises were set for the project:

- contemplate multidisciplinarity and duality of use;
- promote the defense industrial base;
- induce the national industry to produce innovative systems; and
- produce critical national components.

The Army Center for Cyber Defense is adding efforts to those of other existenting government organizations. It seeks to:

- develop human resources;
- update doctrine;
- strengthen security;
- respond to network incidents;
- incorporate lessons learned; and
- protect against cyber-attacks.

Space Sector

Brazil's space projects aim for scientific technological development. More specifically, they seek to strengthen Brazilian air and space power, scientific research, innovation, national space launch operations and technological services in aviation, space and defense systems.

The Satellite Launching Vehicle (VLS) is the main space project and requires higher investment. The Aeronautics and Space Institute (IAE), an organization subordinate to the Air Force Department of Aerospace Science and Technology (DCTA), has been developing, since 1966, a set of sounding rockets of the (Brazilian) Sonda group. The increasing improvement in space technology has allowed the development of the Satellite Launching Vehicle. The first stage of this vehicle consists of four equal S-43 propellant units. These devices, which operate simultaneously, are similar to the first stage of the Sonda IV rocket, of the last series of the Sonda group. Other space products have been developed by the national industry or in cooperation with foreign industries.

The Alcantara Launching Center (CLA) and the Barreira do Inferno Launching Center (CLBI), located in the states of Maranhao and Rio Grande do Norte, respectively, are Air Force organizations, subordinate to the Department of Aerospace Science and Technology (DCTA). They operate launch missions, track aerospace devices, and collect and process data on payloads. Moreover, these institutions conduct tests and scientific experiments of interest to the Air Force and in accordance with the National Policy for Aerospace Development.

Photo	Vehicle	Satellite*
	VLS-1 V1	SCD-2A
	VLS-1 V2	SACI 2
	VLS-1 V3	SATEC

Satellite Launch Vehicles

*Brazil designed and built two Data Collection Satellites (SCD 1 and SCD 2) to understand the environmental diversity of the national territory. The objective of the Scientific Application Satellites' objective (SACI) is the performance of scientific and technological experiments related to the atmosphere physics, and the Technological Satellite (SATEC) was planned to test technological equipment on board of the Satellite Launch Vehicles (VLS).

All activities undertaken by these centers derive from projects and programs previously approved in government guidelines.

Both launching centers participate, as remote stations, in joint tracking activities of suborbital launching operations in partnership with the Guianese Space Center (CSG), in Kourou, French Guyana, which belongs to the European Consortium ESA.

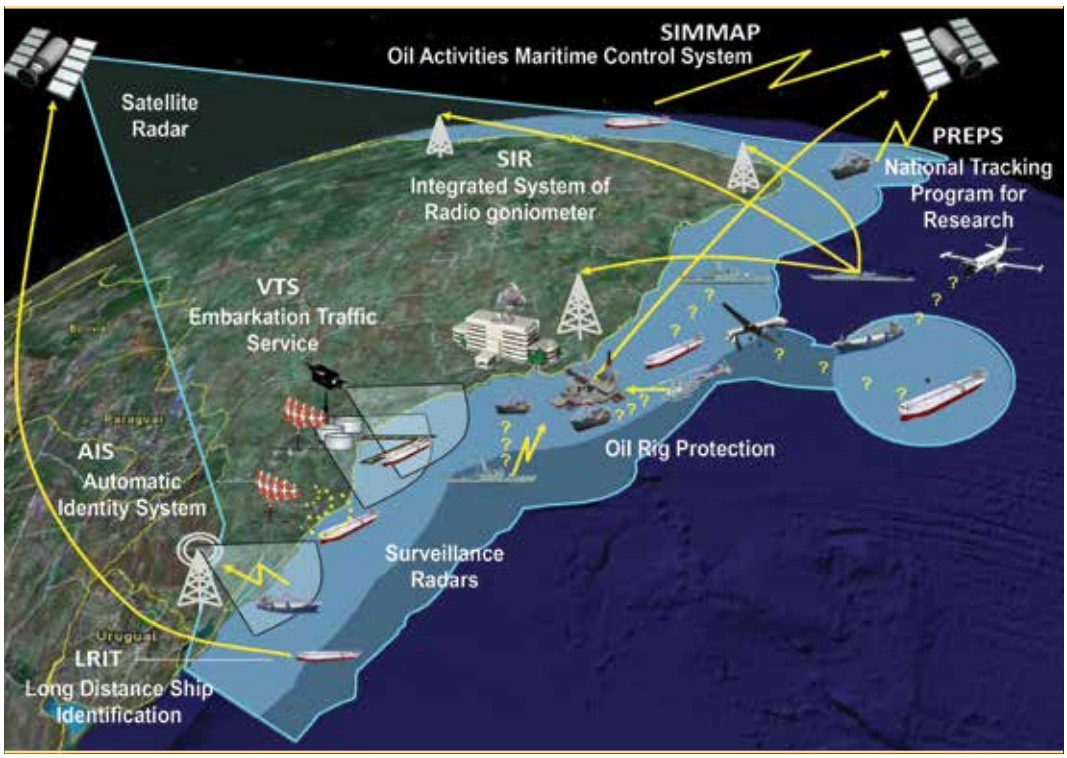
Monitoring and control systems

Blue Amazon Management System (SisGAAz)

This system was conceived as a monitoring and control system in the area of maritime security, for the protection of the Brazilian coast. It is projected to become the main command and control system of the Navy and it encompasses the management of activities

related to the sea which involve surveillance, monitoring, pollution prevention, natural resources, among others.

The system aims to increase knowledge of the marine environment and, if necessary, of the positioning of available operational resources, in order to promptly respond to crises and emergencies in the Brazilian coast.

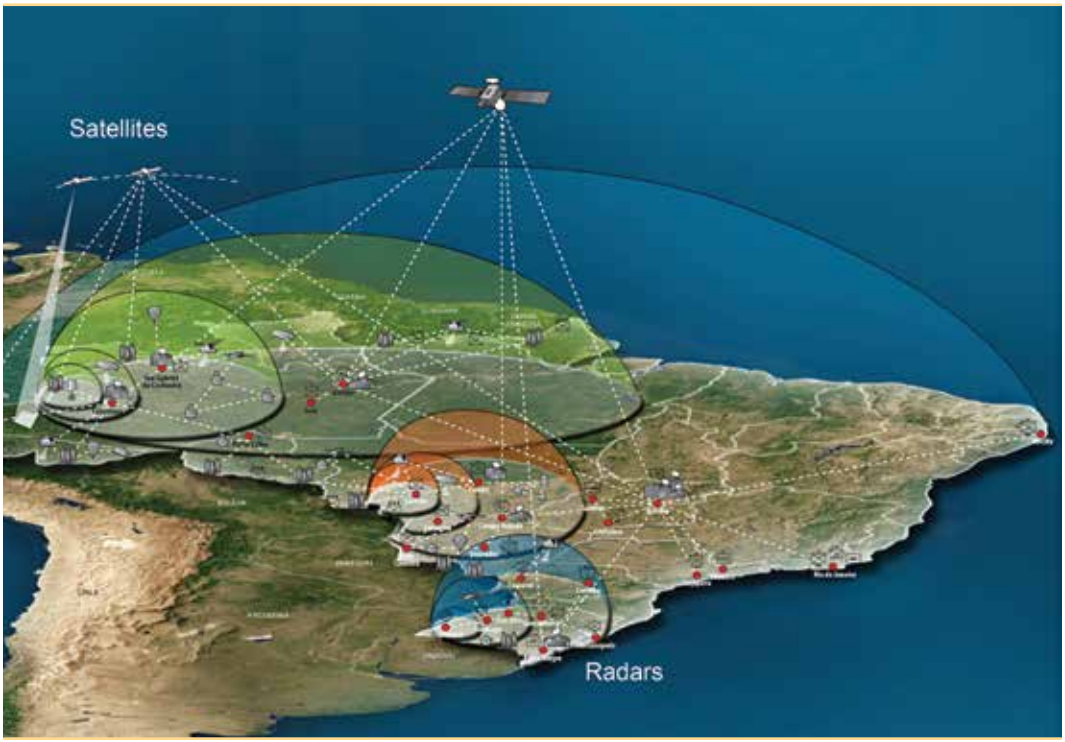


Blue Amazon Management System (SisGAAz)

Integrated Border Monitoring System (SISFRON)

This system, according to the guidelines of National Defense Strategy, is based on monitoring, control, mobility and presence. It will allow the Land Force to monitor national borders and to promptly respond to any aggression or threat, especially in the Amazon Region.

The system will contribute to unified initiatives of socioeconomic scope, which promote the sustainable development of the country's border regions. The system will be interlinked with similar systems of the other Armed Forces, of the Ministry of Defense and of other federal agencies.



Integrated Border Monitoring System (SISFRON)

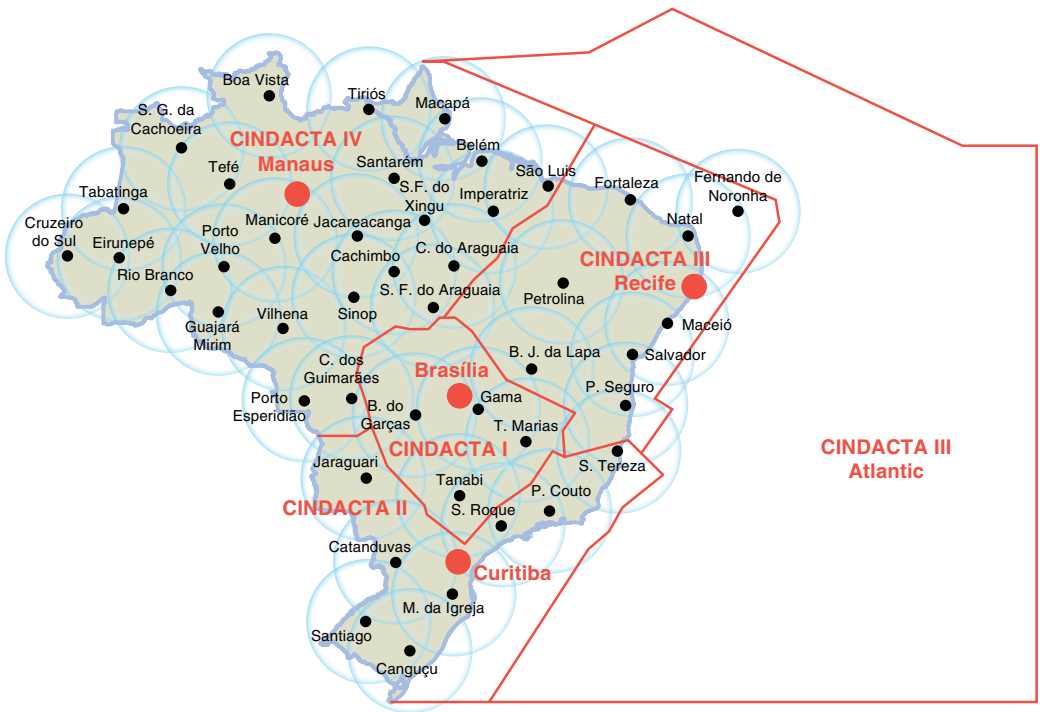
Brazilian Airspace Control System (SISCEAB)

The Brazilian Airspace Control System (SISCEAB) has as its central agency the Air Force Department of Airspace Control (DECEA). This department is responsible for providing necessary resources for the management and control of Brazilian airspace and for providing Air Navigation Services (ANS), including: Flight Information (AIS), Air Traffic Management (ATM), Search and Rescue (SAR), Communications, Navigation and Surveillance (CNS), and activities related to Aeronautical Meteorology, Aeronautical Cartography, Aeronautical Telecommunications and flight inspection.

The system utilizes: human resources; navigation, telecommunication and surveillance equipment; and a vast infrastructure distributed over the national territory. Its mission is to provide air traffic safety and fluidity, as provided in national laws and international agreements and treaties signed by the Brazilian government.

The airspace under Brazilian jurisdiction comprises the country's territorial airspace (8,511.965 square kilometers) and the airspace above an ocean area, which reaches the meridian 10° west, totalizing 22 million square kilometers (km^2).

The system divides the country into four large control areas, which are managed by Integrated Centers for Air Defense and Air Traffic Control (CINDACTA), with offices in the cities of: Brasilia, Federal District; Curitiba, State of Parana; Recife, State of Permanbuco; and Manaus, State of Amazonas. The system is also relies on a Regional Flight Protection Service (SRPV), located in São Paulo, State of São Paulo. These agencies oversee: five Area Control Centers (ACC), 47 Approach Control Centers (APP), 59 Aerodrome Control Towers (TWR), 79 Airspace Control Divisions (DTCEA), and over 90 Aeronautics Telecommunication Stations.



Radar coverage and flight data regions.

Brazilian Aerospace Defense System (SISDABRA)

The SISDABRA uses the same surveillance and telecommunications infrastructure as the SISCEAB. It has as its central agency the Brazilian Aerospace Defense Command (COMDABRA), a Combined Command directly subordinated to the Supreme Commander (the President of the Republic). It is part of the Military Structure of War (EMG), which, in peace time, is integrated to the Air Force, being directly subordinated to the Air Operations Command (COMGAR).

Its mission is to ensure the sovereignty over Brazilian Airspace, through control and, if necessary, actions and interferences against movements in the Brazilian airspace that are contrary to laws in force, or which may represent a threat to national interests, whether in peace or in conflict.

National mobilization

National Mobilization System (SINAMOB)

National mobilization[32] is a set of activities that are planned and developed by the state, in a fast and mandatory manner, with the purpose of enabling the Country to carry on strategic actions in the field of National Defense. The decree for mobilization is a presidential prerogative.

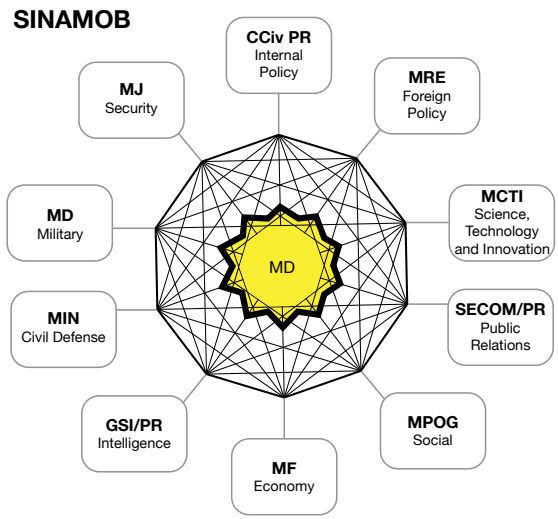
For these strategic actions to be a well prepared and executed, Law Nº 11.631 of 27 December of 2007 created the National Mobilization System (SINAMOB). This system is composed of a group of agencies which act in an integrated and orderly fashion, in order to plan and carry out all phases of national mobilization and demobilization.

When decreeing national mobilization, the Executive Branch must specify the national geographic area where it will take place and the necessary steps for its execution, including:

- the summoning of federal agencies to integrate the national mobilization effort;
- the readjustment of production, trade, distribution, consumption and services;
- the intervention in public and private production;
- the requisition and occupation of goods and services; and
- the drafting of civilian and military personnel.

[32] The concept of mobilization is mentioned in item XXVIII of Article 22, and item XIX of Article 84 of the Federal Constitution.

The capacity for mobilization is tightly linked to the concept of elasticity, noted in the National Defense Strategy. Elasticity refers to the capacity to rapidly increase human and material resources available for defense purposes. This concept is linked to the issue of military service, which is a National Defense instrument capable of supplying the reserve troops required for military mobilization.



National Mobilization System

Military Service

Compulsory Military Service is a fundamental element for the mobilization of the Brazilian people in defense of national sovereignty.

The legal basis for military service is provided in the Federal Constitution, in the Military Service Law; in the Law for Military Service in the Areas of Medicine, Pharmacy, Odontology and Veterinary Science; and in the Law for Alternative Service[33]. The Ministry of Defense is the central agency of the Military Service.

According to the system now in force in Brazil, initial military service is mandatory for male citizens. Permanence of these individuals in the regular service is optional.

Military service allows the nation to shape public spirit among citizens, instilling values of solidarity, and justice as well as principles of, ethics and national pride. It is also an important instrument for affirming national unity.

[33] Alternative Service refers to the practice of administrative, assistance, philanthropic or productive activities, instead of activities that are essentially military in nature.

The drafting process is preceded by enrollment and comprises four distinct phases: drafting, selection, appointment and registering. The initial military service lasts for a year. The contingent is composed of enlisted and selected men 18 years old or older, and by doctors, pharmacists, dentists and veterinarians, from both sexes, which fit into the aforementioned law.

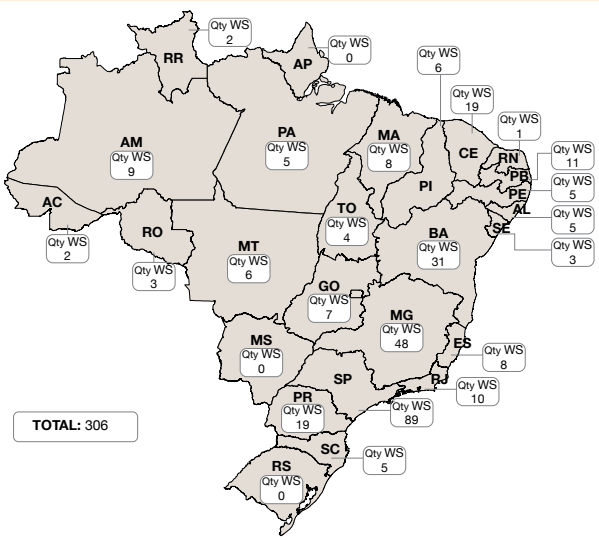
In Brazil, around 1.65 million young males annually reach the age required for military service enlistment and approximately 90 thou-sand are admitted into the Armed Forces.

From 2003 on, the phases of the recruiting process became common to the three Armed Forces, under the direction of the Ministry of Defense.

At the end of the selection phase, citizens may be assigned to military service in a Navy, Army or Air Force organization, while registered in one of the Reserves Training Units (OFR), such as Reserve Officers Training Centers, Reserve Officers Training Units and Military Shooting Ranges.

The Reserve Officers Training Centers (CPOR) and the Reserve Officers Training Units (NPOR) are military combat education institutions, dedicated to training reserve officers.

The Military Shooting Ranges, known literally as "Shots of War", are Army organizations that train reserve personnel. They permit draftees to undertake military service in their local area. This way, young draftees may combine military instruction with study and work.



Distribution of Army Shooting Ranges by state

Apart from its clear efficiency as an element of social integration, the military service has as its main objective the provision of trained men for the Armed Forces, who are capable of executing specific tasks in the battlefield.

The increasing technological complexity of weapons, as well as the fluidity of circumstances in which they are applied, generate ever growing demands on military personnel. This, in turn, elevates the necessity for qualified men and women in the Armed Forces.

Defense Intelligence System (SINDE)

Law Nº 9,883 of December 7th, 1999, states that the Ministry of Defense is a component of the Brazilian Intelligence System (SISBIN) and must supply data and specific knowledge related to the defense of national institutions and interests to the Brazilian Intelligence Agency (ABIN).

In 2002, the Defense Intelligence System (SINDE) was created in the scope of the Ministry of Defense and the Armed Forces, with the objective of integrating the planning and execution of actions on defense intelligence.

The Defense Intelligence System was developed to produce and safeguard knowledge of interest to the Ministry of Defense and which is strictly military-technical in nature. This system functions in two levels:

- Defense Strategic Intelligence — aims at the production of necessary knowledge for the decision making process, as well as the formulation and direction of policies and plans in the highest levels; and
- Defense Operational Intelligence — aims at the production and safeguarding of necessary knowledge for the planning, direction and support of military campaigns and operations, in order to achieve strategic objectives in the area of operations.

Based on systemic relations, without links of subordination, the Defense Intelligence System is comprised of the highest-level intelligence organizations within the Ministry of Defense and the Armed Forces. This System directs its activities in light of resolutions made by the Committee on Foreign Affairs and National Defense[34]chaired by the Minister of Institutional Security of the Presidency of the Republic (GSIPR), and in accordance with resolutions of the Government Council, chaired by the President of the Republic or, on his decision, by the President's Chief of Staff. The Council is also integrated by the Ministers and the President's Private Secretary.

[34] The Chamber is responsible for the formulation of public policies and guidelines of matters related to the Federal Government foreign affairs and National Defense.

Frigate Union in the Maritime Task Force (FTM) — UNIFIL, Lebanon, April 2012

Brazilian Navy

The Brazilian Navy was created on July 28, 1736, by authority of João V, King of Portugal, originally as a Secretariat of State for Naval Affairs and Overseas Territories, directly subordinated to the King.

In 1808, as a result of the Napoleonic invasions, the Portuguese Royal Court fled to Rio de Janeiro, and the Prince Regent, João VI, appointed João Rodrigues de Sá e Menezes, Count of Anadia, as head of that Secretariat, officially transferring it to Brazil.

In 1821, before returning to Portugal, João VI appointed the Fleet Chief Manoel Antonio Farinha, as Secretary of State for the Navy Department in Brazil.

Despite the importance of the above mentioned facts, which established the legal foundations of the Brazilian Navy, it is important to note that the first Brazilian commander of a naval group, in an essentially military mission, was registered 123 years before. In 1613, during the French occupation of the State of Maranhão, Jeronimo de Albuquerque, born in Olinda, State of Pernambuco, commanded an expedition of approximately 100 men, on board of ships built in Brazil, known as "caravelões" (large caravels). This expedition, departing from Recife and with the help of indigenous people, played a significant role in the expulsion of the invaders.

Brazil's maritime interests are historical and deep. The sea was the way to discovery, colonization, trade, foreign invasion and the consolidation of independence. It was also the arena for the defense of sovereignty in several occasions, including the two world wars.

In the 21st century, the country's geopolitical complexity and the importance of the sea for Brazil's development induce multiple scenarios for the use of Naval Force. In addition to the vastness of Brazil's maritime areas, the Brazilian Navy faces great challenges to its mission.

Mission

It is the Navy's responsibility to: develop and employ Naval Power in the defense of the homeland, in accordance with the Federal Constitution and other laws; to safeguard the branches of state; and, by initiative of any of these branches, to ensure law and order. The Navy also acts under mandate of international organizations and in support of the country's foreign policy. The Naval Force also fulfills subsidiary duties provided in law, especially those related to "Sea Authority", for the protection of national interests.

To fulfill its duties, the Navy directs its operational and support units according to the policies established by the Ministry of Defense.

The Navy is assigned the following subsidiary tasks:

- guide and control the Merchant Navy and its related activities in what concerns the Ministry of Defense;
- ensure the safety of maritime navigation;
- contribute to the formulation and direction of national maritime policies;
- enforce compliance with laws and regulations on the sea and inland waters, in coordination with other departments of the Executive Branch from the federal and state levels; and
- cooperate with federal departments on the repression of crimes with national or international repercussion, that occur at sea, in inland waters and in port areas, through logistical, intelligence, communications and training support.

Due to these responsibilities, the Navy Chief of Staff is legally designated as the "Sea Authority"[35]. The roles of the Sea Authority are related to matters of Sea Power[36].

[35] State power over maritime areas, which are under national sovereignty and jurisdiction.

[36] Maritime Power is the segment of National Power that is related to navigation in seas, inland waters as well as waterway transport, fishing, deep-sea resource exploration, related industries, maritime public policy and, mainly, the people's maritime vocation. Naval Power is the "armed branch" (or military segment) of Maritime Power.

Organization and Equipment

The Navy has the following organizational structure:

a) An office of general management, the Navy Staff (EMA).

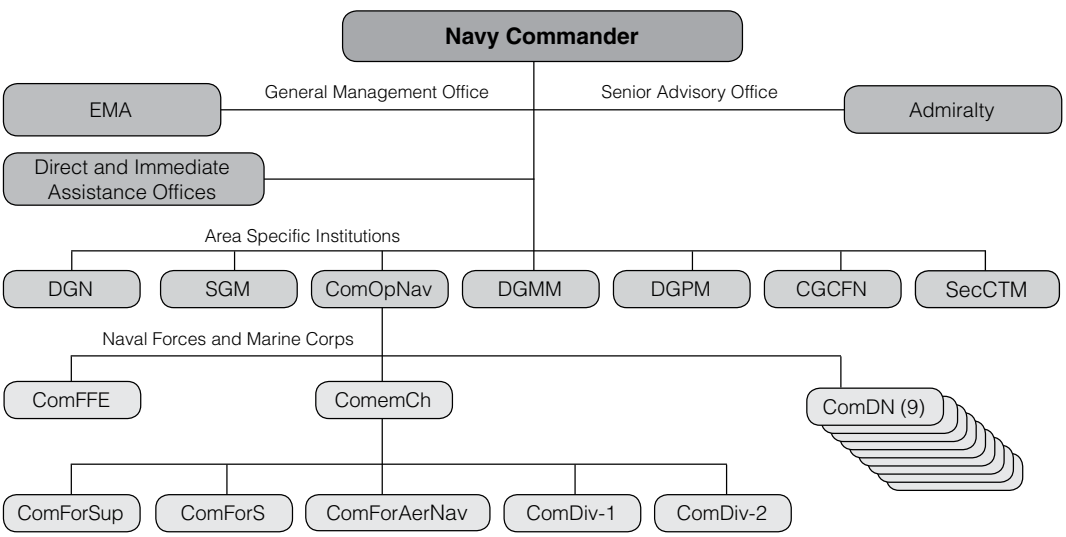
b) A senior advisory office, the Admiralty.

c) Six institutions of direct and immediate assistance to the Navy Chief of Staff:

- Office of the Navy Chief of Staff (GCM);
- Navy Intelligence Center (CIM);
- Navy Office of Internal Audit (SecCIM);
- Navy Special Attorney's Office (PEM);
- Inter-ministerial Commission for Maritime Resources (SECIRM); and
- Navy Press Office (CCSM).

d) Seven area specific institutions:

- Office of the Chief of Naval Operations (ComOpNav);
- Directorate-General for Navigation (DGN);
- Navy Secretary-General (SGM);
- Navy Directorate-General for Material (DGMM);
- Navy Directorate-General for Personnel (DGPM);
- Marine Corps Command (CGCFN); and
- Navy Secretariat for Science, Technology and Innovation (SecCTM).



Organization chart of the Navy

Office of the Chief of Naval Operations (ComOpNav)

The Office of the Chief of Naval Operations is responsible for readiness, training and employment of Naval, Naval Aviation and Marine Forces in military operations. It is comprised of the Commander-in-Chief Fleet (ComemCh), the Naval Districts Commands (ComDN), the Fleet Marine Corps Command, the Maritime Traffic Control Command and the Navy Center for Electronic Warfare.

The Office of the Chief of Naval Operations is the core of Brazilian Naval Power and has the purpose of maintaining its subordinate commands at the highest level of readiness for naval operations and naval war. The responsibilities of this Office include:

- planning assigned naval and naval aviation operations;
- supervising, at Fleet level, the employment of subordinate commands;
- supervising administrative activities related to military organizations (OM);
- submitting to higher ranks rules concerning employment, organization and maintenance of subordinate commands and other organizations; and
- supervising, within the scope of the Fleet, the employment of resources needed to ensure the readiness of subordinate commands and agencies.

Administratively, the Fleet is divided into forces, which are organized according to the operational environment where their units act. They are: the Surface Force Command (ComForSup), the Submarine Force Command (ComForS) and the Naval Aviation Force Command (ComForAerNav). There are also two other Military Organizations subordinated to the Office of the Chief of Naval Operations, which provide support for the implementation and evaluation of naval operations that are delegated to the Fleet: the Fleet First Division Command (ComDiv-1) and the Fleet Second Division Command (ComDiv-2).

The Fleet is based in the Mocangue Island, Rio de Janeiro (RJ), and is supported by the following bases and centers:

- Rio de Janeiro Naval Base (BNRJ), for ship support;
- Admiral Castro e Silva Base (BACS), for submarine support;
- Admiral Marques de Leão Training Center (CAAML), responsible for the training and professional improvement of military personnel who work with operational means, with emphasis on naval operations performance and damage control;
- Center for the Support of Operational Systems (CASOP), responsible for ensuring the readiness of naval combat systems; and
- Center for the Maintenance of Small Boats (CMEM).

The Fleet naval resources are marked as follows.

Ship Class	Type and Quantity	Name of Ship(s)	Photo
São Paulo	Aircraft Carrier 1	A-12 São Paulo	
Niterói	Frigate 6	F-40 Niterói F-41 Defensora F-42 Constituição F-43 Liberal F-44 Independência F-45 União	
Greenhalgh	Frigate 3	F-46 Greenhalgh F-48 Bosisio F-49 Rademaker	
Inhaúma	Corvette 4	V-30 Inhaúma V-31 Jaceguai V-32 Julio de Noronha V-33 Frontin	
Barroso	Corvette 1	V-34 Barroso	
Tupi	Submarine 4	S-30 Tupi S-31 Tamoio S-32 Timbira S-33 Tapajó	

Ship Class	Type and Quantity	Name of Ship(s)	Photo
Tikuna	Submarine 1	S-34 Tikuna	
Felinto Perry	Landing Ship 1	K-11 Felinto Perry	
Mattoso Maia	Landing Ship 1	G-28 Mattoso Maia	
Garcia D'Avila	Landing Ship 1	G-29 Garcia D'Avila	
Almirante Saboia	Landing Ship 1	G-25 Almirante Saboia	
Ceará	Dock Landing Ship 1	G-30 Ceará	

Ship Class	Type and Quantity	Name of Ship(s)	Photo
Almirante Gastão Motta	Tanker 1	G-23 Almirante Gastão Motta	
Marajó	Tanker 1	G-27 Marajó	
Brasil	Training Ship 1	U-27 Brasil	
Cisne Branco	Sail Boat 1	U-20 Cisne Branco	

Fleet's Naval Aviation Resources

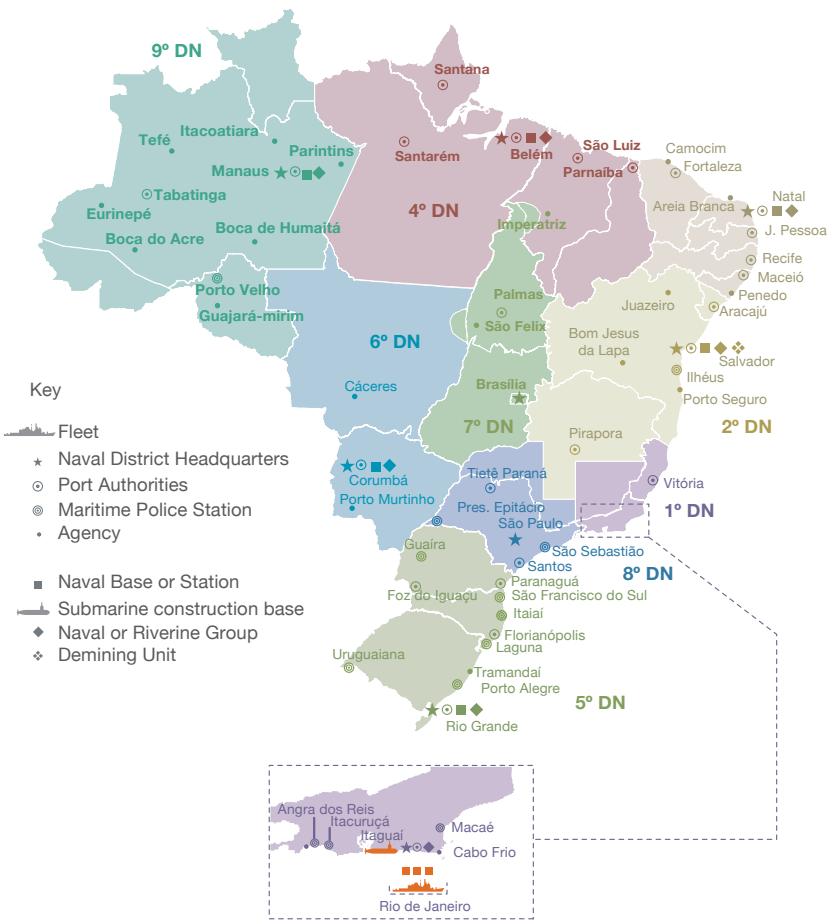
The Naval Aviation Force Command, based in São Pedro da Aldeia (RJ), has, among other Military Organizations, the following subordinate units: a naval air base, five helicopters squadrons and one interception and attack aircraft squadron, as shown in the table below.

Name	Type	Quantity	Photo
AF-1/AF-1A Skyhawk	Fighter Aircraft	23* *11 aircraft will be deactivated by 2017	

Name	Type	Quantity	Photo
SH-3A/B Sea King	Anti-submarine Helicopter	5* *will be deactivated by 2015	
AH-11A Super Lynx	Multipurpose Helicopter	12	
UH-14 Super Puma	Multipurpose Helicopter I	6	
UH-15 Super Cougar	Multipurpose Helicopter** **Part of the Project for the Development of the Navy's Core Capabilities	1* *15 aircraft to be received by 2017	
UH-12/13 Esquilo	Multipurpose Helicopter	15* *One aircraft to be deactivated by 2013	
IH-6B Bell Jet Ranger	Training Helicopter	16	
MH-16 Sea Hawk	General Purpose Helicopter** **Part of the Project for the Development of the Navy's Core Capabilities	4* *2 aircraft to be received by 2014	

Naval Districts

The Naval Districts (ComDN) seek to contribute to tasks which are under the Navy's responsibility, in their respective areas of jurisdiction. Altogether there are nine Naval Districts, based in the cities of Rio de Janeiro (State of Rio de Janeiro), Salvador (State of Bahia), Natal (State of Rio Grande do Norte), Belem (State of Pará), Rio Grande (State of Rio Grande do Sul), Ladario (State of Mato Grosso do Sul), Brasilia (Federal District), São Paulo (State of São Paulo) and Manaus (State of Amazonas).



Geographical distribution of commands and other major organizations

Districts' Naval Resources

The Naval Districts Commands possess the naval operational resources indicated in the table below.

Ship Class	Type and Quantity	Name of Ship(s)	Photo
Amazonas	Ocean Patrol Vessel 3	P-120 Amazonas* P-121 Apa P-122 Araguari *P-120 received in 2012, the others by 2013	
Grajaú	Patrol Boat 12	P-40 Grajaú P-41 Guaíba P-42 Graúna P-43 Goiana P-44 Guarajá P-45 Guapore P-46 Gurupá P-47 Gurupi P-48 Guanabara P-49 Guarujá P-51 Guaratuba P-52 Gravataí	
Macaé	Patrol Boat 2	P-70 Macaé P-71 Macau	
Piratini	Patrol Boat 6	P-10 Piratini P-11 Pirajá P-12 Pampeiro P-13 Parati P-14 Penedo P-15 Poti	
Bracuí	Patrol Boat 4	P-60 Bracuí P-61 Benevente P-62 Bocaina P-63 Babitonga	
Pedro Teixeira	River Patrol Boat 2	P-20 Pedro Teixeira P-21 Raposo Tavares	

Ship Class	Type and Quantity	Name of Ship(s)	Photo
Roraima	River Patrol Boat 3	P-30 Roraima P-31 Rondônia P-32 Amapá	
Piraim	River Transport and Dispatch Boat 1	U-29 Piraim	
Paraguassu	River Transport Boat 1	G-15 Paraguassu	
Potengi	River Logistics Support Boat 1	G-17 Potengi	
Parnaíba	Monitor 1	U-17 Parnaíba	
Triunfo	Ocean Tugboat 3	R-21 Tritão R-22 Tridente R-23 Triunfo	

Ship Class	Type and Quantity	Name of Ship(s)	Photo
Almirante Guilhem	Ocean Tugboat 2	R-24 Almirante Gulhem R-25 Almirante Guillobel	
Imperial Marinheiro	Corvette 2	V-15 Imperial Marinheiro V-19 Caboclo	
Aratu	Minesweeper 6	M-15 Aratu M-16 Anhatomirim M-17 Atalaia M-18 Araçatuba M-19 Abrolhos M-20 Albardão	
Pará	Auxiliary Ship 1	U-15 Pará	
Oswaldo Cruz	Hospital Aid Ship 2	U-18 Oswaldo Cruz U-19 Carlos Chagas	
Doutor Montenegro	Hospital Ship 1	U-16 Doutor Montenegro	

Ship Class	Type and Quantity	Name of Ship(s)	Photo
Tenente Maximiano	Hospital Ship 1	U-28 Tenente Maximiano	
Soares de Meirelles	Hospital Ship 1	U-21 Soares de Meirelles	
Amorim do Valle	Hydro-Oceanographic Ship 1	H-37 Garnier Sampaio	
Faroleiro Mario Seixas	Buoy Tender 1	H-26 Faroleiro Mario Seixas	
Comandante Varella	Buoy Tender 4	H-18 Comandante Varella H-19 Tenente Castelo H-20 Comandante Manhães H-25 Tenente Boanerges	
Aspirante Moura	Research Dispatch Boat 1	U-14 Aspirante Moura	

Ship Class	Type and Quantity	Name of the Ship(s)	Photo
Aspirante Nascimento	Training Dispatch Boat 3	U-10 Aspirante Nascimento U-11 Guarda-Marinha Jansen U-12 Guarda-Marinha Brito	

Districts' Naval Aviation Resources

Aircraft Designation /Type	Site	Quantity	Photo
UH-12 Esquilo General Purpose Helicopter	5th Naval District	3	
	6th Naval District	3	
	9th Naval District	5	

The Marine Corps (CFN)

The Royal Navy Brigade was the origin of the Brazilian Marine Corps. It was created in Portugal on August 28, 1797, by authority of Queen Maria I, who arrived in Rio de Janeiro on March 7, 1808, accompanying the rest of the Portuguese Royal family migrating to to Brazil.

The Marine Corps' baptism of fire[37] took place during an expedition to French Guyana (1808/1809), with the takeover of Caienne[38] In 1809, João Rodrigues Sá e Menezes, Count of Anadia, then Navy Minister, ordered the Navy Royal Brigade to occupy the São José Fortress, in the Island of Cobras, where to this day the Marine Corps Command has its headquarters.

After King João VI's return to Portugal, one battalion of the Navy Royal Brigade remained in Rio. Since then, marines have been present in all important events of the history of Brazil, whether in conflicts to consolidate national independence or in the Prata campaigns, or in other armed conflicts which the country has been engaged in.

Over the years, the marines has been designated different names: Naval Artillery Battalion of Rio de Janeiro, Navy Artillery Corps, Naval Battalion, Navy Infantry Corps, Naval Regiment and, finally, since 1932, Marine Corps. In the 1950's, the Marine Corps was structured for operational employment as a Landing Force, becoming a segment of the Navy assigned to naval campaigns requiring land operations.

[37] First combat engagement.

[38] Brazil was then integral part of the Kingdom of Portugal.

The Marine Corps is a professional and volunteer military unit which is in permanent readiness for employment. It is expeditionary in character, par excellence, and essential for the defense of naval and port facilities; as well as ocean archipelagos and islands in Brazilian jurisdictional waters. The marines are also important for controlling river banks in riverine operations and for conducting peacekeeping and humanitarian missions.

Organization

The Marine Corps is part of the Navy organization. It is composed of a Marine Command (CGCFN) and its operational branch, the Fleet Marine Force Command (ComFFE), the latter under the Naval Operations Command.

The Marine Corps Command has the purpose of contributing to the development and employment of Naval Power, regarding specific Marine Corps activities, in the areas of personnel, equipment and doctrine.

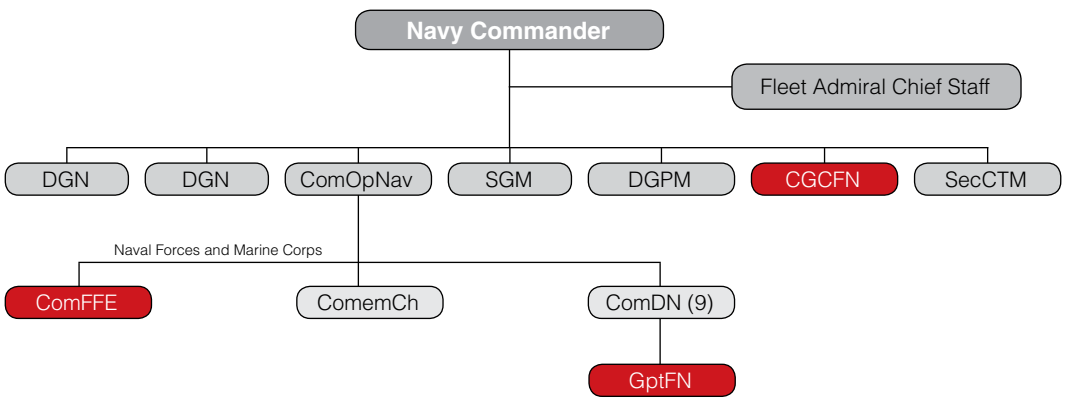
The Fleet Marine Force (ComFFE) is a unit that is organized, trained and equipped for the execution of amphibious and land operations of limited range. These activities entail launching a military force, from ships or vessels at sea, and involves landing on hostile or potentially hostile beaches.

An amphibious operation is characterized by the integration of trained, organized and equipped forces with different combat roles. Such operations, though generally concluded on land, aim at the objectives of a naval campaign.

Marines in landing exercises on a beach

The ComFFE is organized as follows:

- Amphibious Division — assigned to amphibious and land operations. It has three Infantry, one Artillery, one Armored, one Air Tactical Control, one Air Defense and one Command and Control battalions;
- Reinforcement Unit — provides support for combat units. It is indispensable for marine missions. Its main battalions are: one Logistics, one Engineering, and one Amphibious Vehicles;
- Landing Command — assigned to constantly monitor potential crises situations, in order to enable agility on the part of the Fleet Marine Force in the organization, activation and employment of its Marine Corps Operational Groups (GptOpFuzNav);
- Marine Corps Special Operations Battalion — a special operations unit, adopted in hostile environments, with the purpose of: destroying or damaging relevant objectives in defended areas, capturing or rescuing personnel or material, recovering facilities, obtaining data, outwitting or producing psychological effects on the enemy; and
- Rio Meriti Marine Corps Base — a support unit that supplies personnel and material for command, control and administrative purposes.



Marine Corps organizations (in red) within the Navy's organizational structure

The Marine Corps Groups (GptFN) are operational units designed to provide security to naval facilities and to undertake limited operations, compatible to their numbers, in support of Fleet Marine Corps Operational Groups. The Marine Corps Groups are located and subordinated to Naval Districts' headquarters, except for the 8th Naval District which has no Marine Corps group.

The Marine Corps' Resources and Armaments are distributed as follows:

Name	Type	Quantity	Photo
SK-105 Kuerassier	Light Tank	18	
M-113	Armored Personnel Carrier	30	
Piranha IIIC	Armored Fighting Vehicle	18	
AAV-7A1/ LVTP-7	Assault Amphibious Vehicle	26	
L-118 Light Gun (Rebocada 105mm)	Artillery	18	
M-114 (Rebocada 155mm)	Artillery	6	
Mortar M-60 BRANDT (60mm)	Artillery	103	

Name	Type	Quantity	Photo
Mortar 81mm	Infantry	26	
K6A3 (Mortar 120mm)	Artillery	6	
L/70 BOFORS 40mm	Anti-aircraft Artillery	6	
RBS-56 Bill (Anti-tank missile)	Light Armament	18	
Anti-aircraft Missile MISTRAL	Light Armament	8	

Directorate-General of Navigation (DGN)

Organization

The Directorate-General of Navigation has the purpose of contributing to the development and employment of Naval Power and Sea Authority, in activities related to maritime issues, navigation security, hydrography, oceanography and meteorology. The following specialized directorates are subordinated to the DGN: the Directorate of Ports and Coasts (DPC) and the Directorate of Hydrography and Navigation (DHN).

The Directorate of Ports and Coasts is responsible for the guidance and control of the Merchant Navy, and related activities in the area of National Defense. It contributes to waterway traffic safety; prevention of pollution by vessels, platforms and their supporting stations; formulation and execution of national maritime policies; maritime law enforcement; Merchant Navy personnel authorization and development, and related activities.

The Directorate of Hydrography and Navigation has the following roles: support the employment of Naval Power, through activities related to hydrography, oceanography, cartography, meteorology and nautical signaling; guarantee the quality of navigation safety measures in Brazilian waters; and contribute to research projects in Brazilian jurisdictional waters and those resulting from international agreements. To achieve its goals, the DGN utilizes the following naval resources:

Ship Class	Type	Quantity	Photo
Almirante Graça Aranha	Hydro-Oceanographic Lighthouse Tender	1	
Ary Rongel	Oceanographic Support Ship	1	
Antares	Oceanographic Ship	1	

Ship Class	Type	Quantity	Photo
Almirante Maximiano	Polar Ship	1	
Sirius	Hydrographic Ship	1	
Amorim do Valle	Hydro-Oceanographic Ship	2	
Cruzeiro do Sul	Hydro-Oceanographic Ship	1	

Capabilities

The Navy has currently sixty thousand military personnel. It plans to gradually increase this number by 2030, in order to meet the requirements in the National Defense Strategy and, especially, the Defense Deployment and Equipment Plan (PAED), in particular the Navy Nuclear Program (PNM), the Submarines Development Program (PROSUB) and the Navy Re-equipment Program (PRM).

The Navy should be able, whichever the situation, to fulfill four basic tasks concerning Naval Power: deny the enemy use of the sea, to control maritime areas, project power over land and contribute to determent.

A Naval Force must be able to efficiently provide for its own defense, including against air threats. In such situations an operational aircraft carrier is indispensable. The capacity to control maritime areas cannot be reached only through escort ships, which are vital. The employment of interception and attack aircraft are also indispensable.

A Naval Force with different types of ships, commanded by an aircraft carrier, has the mobility, permanence, flexibility and versatility needed to enable it to meet a wide range of missions, from humanitarian to peacekeeping, as well as typical maneuvers in crises or armed conflict.

A well-equipped Naval Force provides policymakers the capacity to calibrate the employment of force, at appropriate time and place, with proportional intensity to meet intended purposes. It is therefore an efficient determent element.

Since the 1970's, the Navy found that conventional submarines were not sufficient to face possible threats in the South Atlantic, its immediate naval operations environment. To comply with its constitutional mission of defending sovereignty, territorial integrity and the country's sea interests, the Navy also requires nuclear propulsion submarines. The exceptional mobility of these vessels ensures the advanced defense of the farthest maritime frontier.

The surface Naval Force will rely on medium and large sized ships, which are able to operate and remain for a long time at sea, as well as smaller sized ships, assigned to coastal patrol and the patrol of main navigable Brazilian waterways.

In order to ensure readiness and security of Brazilian sovereignty and interests, inside the country and overseas, the Navy will keep forces in conditions of immediate employment (Fast Task Force) in naval war operations, in peace time, or in situations of crisis and conflict.

The Navy, employing its naval, air force or amphibious resources, has the condition to conduct non-combatant evacuations, peacekeeping and humanitarian operations. It may also project amphibious forces, regardless of hostility levels and the type of mission to be achieved.

Strategic vision and goals

The Navy directs its activities with the aim of becoming a modern and well-balanced Force[39], It seeks to possess naval, aircraft and amphibious resources, which are compatible with the country's political and strategic standing in the international arena.

[39] A modern Force is a military organization which is equipped with resources that are up-to-date, i.e. resources that are less than 20 years in use. To ensure this, quality must prevail over quantity. Balance refers to the development of activities which ensure simultaneous employment at sea or in inland waters. Balance also refers to the capacity of executing, gradually, the four basic tasks of Naval Power and naval war operations.

Pursuant to the National Defense Strategy, the Navy has developed the Navy Deployment and Equipment Plan (PAEMB), aligned, at the ministerial level, with the Defense Deployment and Equipment Plan (PAED), which is further detailed in chapter 5.

For the Navy, the availability of nuclear submarines adds a new dimension to Brazilian Naval Power, guaranteeing it deterrence capacity as required by its constitutional mission.

During the formulation of projects for deployment, procurement and modernization of naval resources, the premises were contemplated. These principles were based on the guidelines established by the National Defense Strategy for the Navy:

- the cyber, space and nuclear sectors are vital for National Defense;
- the task of denying the use of the sea by the enemy guides the country's naval strategy;
- the reconfiguration of the Navy's resources should balance between submarine, surface and aerospace elements;
- the prioritization of the control of maritime areas which stretch from Santos (SP) to Vitória (ES) and the Amazon River delta;
- the Naval Force will be organized around capabilities. It will be emphasize monitoring/control, mobility and presence. In this manner, it will respond promptly through strategic mobility, having the operational capacity to monitor the sea from space;
- Personnel will be relocated, particularly to the Amazon delta region, to the national borders and to the large hydro basins of the Amazon, and the Paraguay-Paraná rivers;
- the capacity to assist undertake peacekeeping operations, humanitarian action and international commitments for search and rescue will be increased;
- Brazil will project and manufacture its conventional or nuclear propulsion submarines, as well as surface, amphibious, naval air and space resources;
- the Navy organizes itself and deploys its units in a manner that facilitates joint and singular operations; and
- the Navy should act, primarily, through a strategic defensive position.

Based on the aforementioned premises, short and long term projects of interest to the Navy were developed[40], Some are listed below, in no particular order, although they and are all considered strategic and vital for the Naval Force:

- ensure the continuity of the Navy's Nuclear Program;
- revitalize and reinvigorate the Navy's current resources;

[40] The main projects and sub-projects will be in detail in Chapter 5.

- build a Second Fleet and a Second Marine Corps Force, with headquarters in the North/Northeast (including a naval base, a naval air base, an amphibious base and a supply base);
- improve the current Submarine Force, by incorporating conventional resources (S-BR) and nuclear propulsion submarines (SN-BR). The Submarine Development Program (PROSUB) may be highlighted. It includes the launching of four "Scorpène"[41] conventional submarines from 2016 on and one nuclear propulsion submarine from 2022 on; the building of specific docks and naval base; and the continuity of the Submarine Modernization Program (MODSUB) for the five currently available conventional submarines of "Tupi" and "Tikuna" classes;
- structure surface forces to increase the capacity for controlling maritime areas with cover demining, logistics and defense support;
- renew the surface fleet by building, primarily in Brazil, escort ships, logistics support ships, patrol ships of various classes, aircraft carriers and multiple purpose ships;
- refit the Fleet Air Arm with highly efficient defense aircraft;
- increase the current Marine Corps manpower to two Fleet Marine Forces with two landing units — one an amphibious brigade in the First Fleet, the other an amphibious unit in the Second Fleet;
- structure the Navy with riverine forces for the Amazon basin and the Pantanal region;
- ensure the necessary resources and organizational structure to support subsidiary roles assigned to the Sea Authority, through the "Navigation Safety" Program. This program seeks to create and elevate (hierarchically) military port authorities, their branches and agencies. It also aims at the construction of riverine ships for patrolling transportation, medical assistance and assigned ships;
- increase the capacity of the Navy to fulfill international commitments for search and rescue;
- supply the Navy with appropriate resources to participate in peacekeeping operations and humanitarian actions, and to support the National Civil Defense System;
- implement the "Blue Amazon" Management System, for monitoring and surveying Brazilian jurisdictional waters (AJB), with the purpose of improving the Navy's capacity for controlling maritime traffic in the South Atlantic. This is meant to ensure the security of vessels engaged in strategic activities and to increase the capacity for search and rescue;

[41] Scorpène submarines are conventional submarines, i.e. they rely on diesel-electric engines. These vessels are derived from French technology, which will be transferred to the Brazilian Navy as part of PROSUB.

- modernize military communications resources and integrate all command, control, intelligence, monitoring and communications subsystems;
- increase interoperability of the Sea Traffic Data System (SISTRAM) with equivalent international systems;
- increase the operational intelligence capacity of the Navy, by promoting exchanges between national and international agencies, particularly regarding knowledge and monitoring of so called "new threats"[42]; and
- obtain, improve and retain knowledge on the conception, construction, operation and maintenance of naval, air-naval and amphibious resources.

Education — Main Institutions

Naval Academy (EN)

The Naval Academy was created in 1782, in Lisbon, Portugal, by Royal Charter of Queen Maria I, with the name of Royal Academy of Midshipmen. It was first located in the Monastery of São Bento and there remaining until 1832. From then, the Academy moved to several different facilities, having functioned even onboard ships. In 1938, it finally settled in Villegaignon Island, in the City of Rio de Janeiro.

Its undergraduate program lasts four years and produces Navy officers in the initial ranks of the Fleet Corps (CA), the Marine Corps (CFN) and the Logistics Corps (CIM). The majority of first year students of the Naval Academy is derived from the Naval Junior College, located in Angra dos Reis (State of Rio de Janeiro), a high school institution that prepares students for admission into the Naval Academy through a three year program. The remaining positions are filled through competitive selection. After the finishing fourth year, the student is appointed to the rank of midshipman (GM) and granted a naval sciences degree.

[42] Detailed in Chapter 2.

Naval Academy (EN) — Rio de Janeiro (State of Rio de Janeiro)

Admiral Wandenkolk Training Center (CIAW)

This Training Center, created in 1945, is located in the Enxadas Island, Rio de Janeiro. It is an undergraduate and graduate center for officers of the Navy Engineering Corps (EN), Medical Corps (CSM), Assistance Corps (CAM) and Complementary Staff (QC) of the Fleet, Amphibious and Logistics Corps.

For the Navy Medical Corps, the Center develops officers in the following professions: medicine, dental surgery and medical support. For the Navy Assistance Corps, the Center develops technicians, naval chaplains, and assistants of the Fleet and Marine Corps.

It also offers specialization programs for Complementary Officers on surface matters (weapons, communications, electronics and engines, at the graduate level) as well as education and training programs for Officers of the Volunteer Military Service, and special programs.

Naval War College (EGN)

Created in 1914 and located in the City of Rio de Janeiro, the Naval War College is an advanced military studies institution with the purpose of developing officers for the exercise of operational, administrative, staff, command, leadership and management roles in the senior echelons of the Navy.

The Naval War College offers programs on General Staff for Junior Officers and advanced military studies — General Staff Program for Senior Officers (CEMOS) Senior Program (CSUP) and Maritime Policy and Strategy Program (CPEM) — all with duration of one year.

The Naval War College also has a Center for the Study of Policy and Strategy (CEPE), which seeks to complement the research activities of the faculty.

Center for Academic Coordination in São Paulo (CCEMSP)

For several years, the Navy has been developing military engineers through a partnership with the University of São Paulo (USP). To accomplish this, the Navy maintains a Center for Academic Coordination at the USP campus. Civilian professionals from other technical fields, such as health, law, education, public relations and technology, are recruited to the Navy through specific selection process, and undertake basic military training at the Admiral Wandenkolk Training Center.

Navy Enlisted Schools (EAM)

The Navy Enlisted Schools aim to develop seamen for the Seamen Corps of the Fleet. They are located in the cities of Fortaleza, Recife, Vitória and Florianópolis. The Seamen's program lasts for one year and is taught in two semesters.

Admiral Alexandrino Training Center (CIAA)

This Center has its origins in the Seamen's Quarters (QM), an institution created in 1836, in the City of Rio de Janeiro. It is responsible for the instruction and training of seamen, offering specialization, further training and special programs.

The center trains specialized corporals and sergeants in the following fields: crafts (metallurgy, carpentry and mechanics); armaments and deck; management; communications; electricity and electronics; machinery, mechatronics and telematics.

Admiral Sylvio de Camargo Training Center (CIASC)

This Center has its origins in the Marine Corps Training Center (CICFN), created in 1955. Located in Rio de Janeiro, it is responsible for developing Marine Corps officers and enlisted men. The center offers various programs for corporals and sergeants as well as amphibious combat programs for officers.

Scientific and Technological Institutions

Navy Technological Center in São Paulo (CTMSP)

The Navy Technological Center, located in Ipero (State of São Paulo), was created in 1986, with the mission of implementing the Navy's Nuclear Program. This program aims to enable the Navy to master the technological, industrial and operational processes of nuclear facilities which have applications in naval propulsion. It is composed of the Fuel Cycle Project, the Nuclear-electric Energy Generation Laboratory Project and the Infrastructure Project. Among the projects funded by the Studies and Projects Fund (FINEP) of the Ministry of Science, Technology and Innovation (MCTI), the following are noteworthy: the project for the development of permanent magnetic engines for naval propulsion and the project for the development of precursor fiber for the manufacturing of carbon fiber.

Admiral Paulo Moreira Institute of Marine Studies (IEAPM)

Created in 1985 and located in the City of Arraial do Cabo (RJ), the Institute of Marine Studies is subordinated to the Navy Department of Science, Technology and Innovation (SecCTM). Its mission is to plan and execute scientific, technological and innovative activities in the areas of oceanography, meteorology, hydrography, marine biology, marine geology, geophysics, submarine acoustics, remote sensing, oceanographic instrumentation, and coastal and oceanic engineering, in order to contribute to models, methods, systems, equipment, materials and techniques that allow for a better understanding and efficient use of the marine environment, which is of interest to the Navy.

Navy Research Institute (IPqM)

Founded in 1959, in Rio de Janeiro, the Navy Research Institute is a service providing military organization (OMPS) subordinated to the Navy Department of Science, Technology and Innovation (SecCTM). Its mission is to development technologies which are necessary for the Navy, particularly in the areas of cyber warfare, weapons systems, submarine acoustics, digital systems and materials.

Naval Systems and Analysis Center (CASNAV)

Created in 1975, the Naval Systems and Analysis Center conducts operational assessment of naval systems and resources, as well as research, projects and development of employment procedures and tactics for naval systems and resources and for decision-making digital systems. The Center also develops applied algorithms and systems for information security and cryptology and for administrative data systems.

Navy Hydrographic Center (CHM)

Created in 1998, with headquarters in the City of Niteroi, Rio de Janeiro, the Navy Hydrographic Center originated from the re-structuring of the Directorate of Hydrography and Navigation. The Center produces necessary environmental information for the employment of Naval Power, for navigational security and in support of national scientific maritime projects. It is also responsible for marine meteorology, nautical cartography, oceanographic observation, maintaining the National Oceanographic Database (BNDO), and publicizing the "Notices to Seafarers" in accordance with the country's international commitments.

Foreign Exchange and Cooperation

The Navy undertakes a series of exchange and cooperation activities with other nations. Its support for the development of Namibia's Navy is noteworthy. The following are the more relevant areas of exchange and cooperation:

Military Education and Training

- Foreign military personnel In Brazil (2001-2011)

Country	Military Personnel	Country	Military Personnel	Country	Military Personnel
South Africa	7	USA	16	Nigeria	01
Germany	2	France	3	Paraguay	35
Angola	22	Guatemala	1	Peru	40
Argentine	22	Guiana	6	United Kingdom	1
Bolivia	15	Guinea-Bissau	5	Dominican Republic	38
Chile	19	India	2	Suriname	7
Colombia	3	Mexico	6	Uruguay	6
Ecuador	28	Mozambique	10	Venezuela	51
Spain	1	Namibia	1,179	—	—

- Brazilian military personnel abroad (2001-2011)

Country	Military Personnel	Country	Military Personnel	Country	Military Personnel
South Africa	1	China	3	Israel	1
Germany	4	Colombia	4	Italy	8
Argentine	34	Spain	20	Norway	5
Belgium	3	USA	88	Portugal	21
Canada	9	France	14	United Kingdom	11
Chile	15	Netherlands	4	Serbia	1
Sweden	3	Switzerland	1	Uruguay	2

2010/2011 Military exercises

Operation/Exercise	Host Nation	Participating Countries
ASPIRANTEX	Argentina and Uruguay	Brazil, Uruguay and Argentina
	Multinational exercise, aimed at improving training and tightening ties of friendship	
PANAMAX	Panama	Countries in the Americas
	Multinational exercise, aimed at increasing friendship among participating countries	
FRATERNO XXVIII	Argentina	Brazil and Argentina
	Binational exercise, aimed at training attack, anti-submarine, information and logistics operations	
PAMPAREX	Argentina and Uruguay	Brazil, Argentina and Uruguay
	Multinational exercise, aimed at training resources and tightening ties of friendship	
BRACOLPER	Colombia and Peru	Brazil, Colombia and Peru
	Multinational exercise, aimed at increasing friendship with visited countries	
CARIBEX	Central America Countries	Brazil, Guiana, Puerto Rico, Antigua & Barbuda, Martinique and Suriname
	Multinational exercise, aimed at training and representation visits to foreign ports	
PLATINA	Paraguay	Brazil and Paraguay
	Binational exercise, aimed at training and tightening ties of friendship	
VIGIAR ATLANTICO	Caribbean Sea	Brazil, USA and United Kingdom
	Multinational exercise, aiming at training resources and tightening friendship ties	
ACRUX V	Argentina, Paraguay	Brazil, Argentina, Bolivia, Paraguay and Uruguay
	Multinational exercise, aimed at performing a combined operation and tightening ties of friendship	
DIPLOMEX I	Uruguay	Brazil and Uruguay
	Binational exercise, aimed at increasing friendship and exchanging nautical signaling activities	

Operation/Exercise	Host Nation	Participating Countries
DIPLOMEX II	Uruguay	Brazil, Uruguay and Argentine
	Multinational exercise, aimed at increasing friendship and exchanging nautical signaling activities	
UNITAS LII PHASE I and II	Brazil	Brazil, USA, Argentina and Mexico
	Multinational exercise, aimed at training and tightening ties of friendship	
FRATERNO XXIX	Brazil	Brazil and Argentina
	Binational exercise, aimed at training attack, anti-submarine, information and logistics operations	
JOINT WARRIOR	Scotland	Brazil, France, Canada, USA, United Kingdom, Turkey and Denmark
	Multinational exercise, aimed at training deployment and tightening ties of friendship	
VENBRAS	Venezuela	Brazil and Venezuela
	Binational exercise, aimed at training deployment and tightening ties of friendship	
UNITAS LI	Argentina	Brazil, Argentina, Mexico and USA
	Multinational exercise, aimed at training and tightening ties of friendship	
IBSAMAR-II	South Africa	Brazil, India and South Africa
	Multinational exercise, aimed at deployment and tightening ties of friendship	
AFRICA 2010	Africa Western Coast	Brazil, Namibia, Angola, São Tome and Principe, Nigeria and Ghana
	Multinational exercise, aimed at deployment, training, cooperation and tightening ties of friendship	
INTERCAMBIO SUR	Peru	Brazil, Peru, Argentina, Canada, Chile, Colombia, USA, Ecuador, Mexico, Paraguay and Uruguay
	Multinational exercise, aimed at combined operations training	

Women in the Navy

Women began to occupy positions in the Navy from 1980 onwards, when their admittance to the Naval Force was regulated by law.

Over the years, the participation of women in the Navy has been notable. As officers and enlisted women, they act in various areas, such as medicine, odontology, health assistance (nursing, psychology, nutrition, physiotherapy and pharmacy), engineering, architecture, civil construction, pedagogy, accounting, administration, law, history, social communication, museology, librarianship, computer science, economics, social service, security of waterway traffic, physical education, oceanography and meteorology, among other fields relevant to the Navy.

Women are now military organization heads or deputy heads and team leaders. They manage projects and the construction of warship and other equipment. They lead departments, divisions and sections in the administration, in hospitals, in technology centers, in naval districts and in the Navy's specialized directorates.

In the Navy's Medical and Engineering Corps, in particular, women may rise to the rank of General Officer (Admiral), competing in equal conditions with male officers belonging to the same Corps.

On November 25, 2012, Captain Dalva Maria Carvalho Mendes, of the Navy's Medical Corps, became the first Brazilian woman appointed to the rank of Admiral.

President Dilma Rousseff greets the recently promoted Rear Admiral Dalva

Armored units conducting maneuvers

Brazilian Army

The origin of the Brazilian Army (EB) dates back to the colonial period to the struggle of the colony against Dutch invaders. The first Battle of Guararapes, on April 19, 1648, is considered the genesis of the Brazilian Army. On this occasion, the Forces fighting the invaders were genuinely formed by Brazilians (white, colored and Amerindians).

In 1822, the Army cooperated with the quest for independence, supporting Emperor Pedro I in a struggle that consolidated the political emancipation of the country.

The Army fought, under the Empire, in conflicts of the River Plata region and contributed to the consolidation of the Brazilian territory. Led by Marshall Deodoro da Fonseca, the Brazilian Army played a fundamental role in the establishment of a Republican government in 1889.

The Army exercised a relevant role in maintaining the unity of the homeland, and it continues to do so. Its history is mixed with the country's. The Army is present across the national territory and identifies itself with the people. In it men and women are represented without distinction of ethnic, religious, or social background.

The Country's geopolitical complexity presents multiple scenarios for the Land Force. The Army's mission is conditioned by a territory of continental dimensions, by geographical diversity and by a vast border with 10 countries.

Mission

It is the Army's responsibility to develop the Land Force in order to meet its constitutional mission of defending the homeland, protecting the three branches of state and upholding law and order when called upon. The Army must also fulfill subsidiary roles as provided in complementary law, such as: to support national development and civil defense, as well as the country's foreign policy and to participate in international peacekeeping and humanitarian missions.

The Army integrates the National Civil Protection and Defense System (SINPDEC), taking part, across the national territory, in aid and assistance to victims of natural disasters, whether in the phase of prompt response or in the stage of recovering and reconstructing.

The following subsidiary duties are also assigned to the Army:

- act, through preventive or repressive actions in the land frontiers, against border and environmental crimes, separately or jointly with agencies of the Executive Branch. This includes performing patrols; screening and inspecting people, land vehicles, ships and aircraft; and arresting flagrant offenses;
- cooperate with federal agencies, whenever necessary, in the repression of crime, within the national territory, by providing logistical, intelligence, communications and training support; and
- cooperate with federal, state and municipal agencies on engineering services.

Organization and Equipment

The Army has the following organizational structure:

a) One general management office, the Army Staff (EME).

b) Two advisory offices:

- Army High Command; and
- Economic and Finance Council.

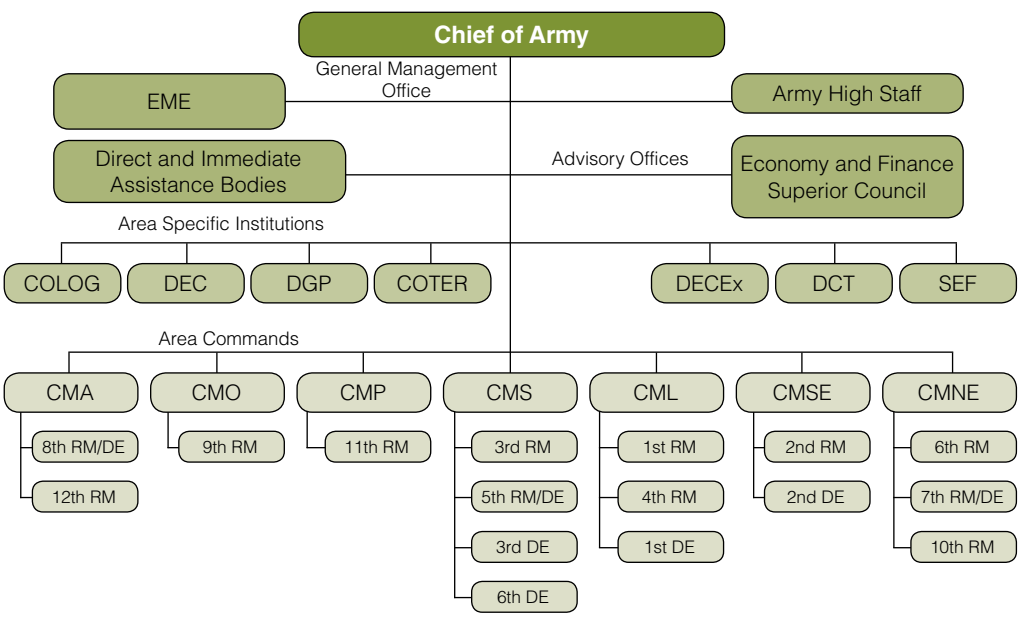
c) Six offices of direct and immediate assistance to the Army Chief of Staff:

- Office of the Army Chief of Staff (Gab Cmt Ex);
- Office of the Secretary-General of the Army (SGEx);
- Army Intelligence Center (CIE);
- Army Press Office (CComSEx);
- Army Office of Internal Audit (CCIEx); and
- Army Office of Legal Affairs (CJACEx).

d) Seven area specific institutions:

- Logistics Command (COLOG);
- Department of Engineering and Construction (DEC);
- Department of Personnel (DGP);
- Department of Education and Culture (DECEx);
- Land Operations Command (COTER);
- Department of Science and Technology (DCT); and
- Economic and Finance Secretariat (SEF).

The Army today has 575 military organizations distributed across the national territory. It also has 306 military shooting ranges in every region of the country.



Organization chart of the Brazilian Army

Land Force

The Land Force is composed by seven Area Commands:

- Amazon Command (CMA);
- Western Command (CMO);
- Planalto Command (CMP);
- Southern Command (CMS);
- Eastern Command (CML);
- Southeastern Command (CMSE); and
- Northeastern Command (CMNE).

Geographical distribution of area commands

Area Commands

The Area Commands (CMilA), as shown in the image, are composed of large operational commands — the Army Divisions (DE) — and large logistics and administrative commands — the Military Regions (RM). The Land Force has seven Army Divisions and twelve Military Regions, some of which are cumulative. The Amazon Command and the Northeastern Command have each an engineering group.

The Army Divisions incorporate brigades and artillery units. The Army has 27 brigades and four artillery units (three in the Southern Command and one in the Eastern Command). The brigades may be subordinated to the Army Divisions or directly to the Area Commands.

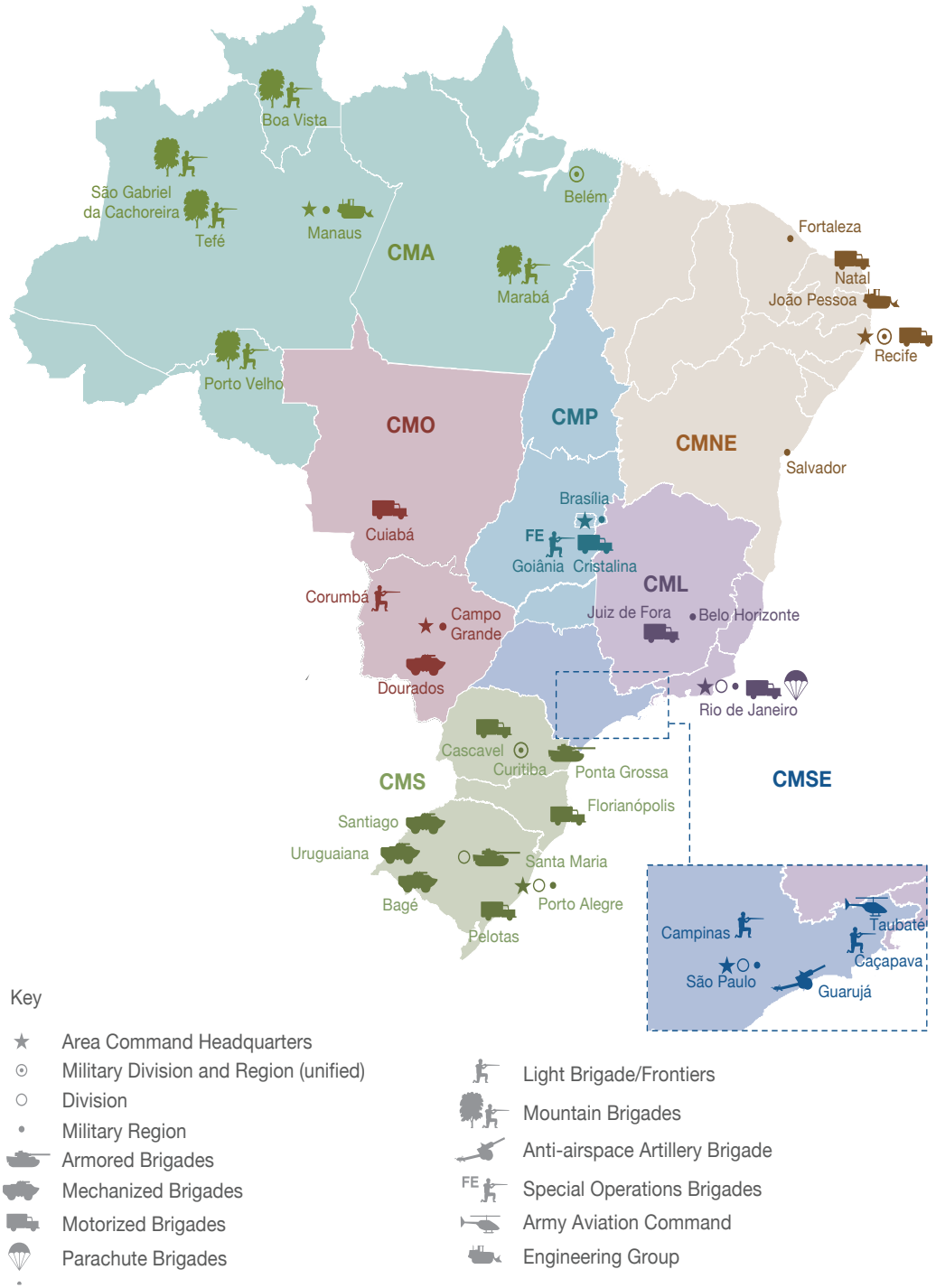
The basic combat module is the brigade, which may be one of several types, depending on the nature of its mission, the material utilized, or the operational area to which it is was designated.

The brigade is a large unit based on a combined arms approach, which is able to perform missions in an autonomous manner. Normally, it is composed of: maneuverable units and sub-units (infantry and cavalry); suppressive fire units (field artillery): air defense units (anti-aircraft artillery); combat support units (engineering and communications); and logistics support units (supplies, medical services and combat materials). Brigades may receive, according to their needs, fractions of the Army's aviation, electronic warfare, electronic intelligence, psychological operations, special operations, and anti-aircraft units, and also Unmanned Aerial Vehicles (UAVs).

Brigades are characterized by the flexibility of their organization and diversity of weapons, munitions, vehicles and equipment, which, together with qualified personnel, are integrated to ensure adequate performance of complex operations.

The main brigade types are:

- Light Brigades: Jungle Infantry Brigade, Frontier Infantry Brigade, Motorized Infantry Brigade, Light Infantry Brigade and Parachute Infantry Brigade. The light brigades were created due to the Land Force's need for units with great flexibility and operational capacity, which are able to move and act with celerity and efficiency anywhere in the national territory, and also to guarantee law and order, as provided in the Constitution;



Deployment of brigades

- Medium Brigades: Mechanized Infantry Brigades and Mechanized Cavalry.

  Medium Brigades have armored vehicles on wheels. They are assigned to defense operations against foreign threats. During conflicts, they may be used in for scouting and security purposes. They delay potential aggressors until the Land Force deploys troops which are in better conditions to face the enemy; and

- Heavy Brigades: Armored Cavalry Brigade and Armored Infantry Brigade.

  The Heavy Brigades are armored brigades. They are potent, highly mobile forces and, therefore, can be decisive in land conflicts. Their mission is to close in on the enemy, in order to destroy or neutralize, utilizing fire, maneuver and shock tactics. In the battlefield, they are particularly capable of conducting highly mobile offensive actions with great depth.

There are also three specific brigade combat modules[43]:

- Army Air Command;
- Special Operations Brigade; and
- Anti-aircraft Artillery Brigade.

The strategic conception of employment and the operational environment indicate the nature, organization and material which are to be used by the Land Force. From this premise, brigades are organized and trained to act mainly in their areas of specialization.

Equipment

In addition to human resources, the Land Force possesses the following equipment, in order to meet its Constitutional mission:

[43] A combat module of a Brigade is the lowest ranking unit of the Land Force which gathers under a single command the main operational systems (maneuver, intelligence, command and control, fire suppression, mobility, counter-mobility and protection, anti-air aircraft defense and logistics), allowing combined training of arms and services. This combination must integrate combat units (infantry and cavalry), combat support units (engineering, artillery and communications) and logistics units, with specific tasks, which compose the operational systems. The combat module is able to act independently and to endure in action.

Name	Type	Quantity	Photo
Leopard1A1	Armored Vehicles	128	
Leopard1A5	Armored Vehicles	250	
M60 Patton A3 TTS	Armored Vehicles	91	
M-41B/C	Armored Vehicles	112	
EE-9 Cascavel	Armored Vehicles	409	
EE-11 Urutu	Armored Vehicles	213	

Name	Type	Quantity	Photo
M113BR	Armored Vehicles	584	
VBTP-MR Guarani	Armored Vehicles	4* *further acquisition of 2,040 vehicles planned	
M108 105mm	Artillery Material	72	
M109 155mm	Artillery Material	40	
M114 155mm	Artillery Material	92	
L118 105mm	Artillery Material	36	

Name	Type	Quantity	Photo
M101 105mm	Artillery Material	320	
Astros II	Artillery Material	20	
Oerlikon 35mm	Artillery Material	38	
Bofors 40mm L/70	Artillery Material	24	
Mortar 120 mm	Combat Support	60	
Eurocopter Cougar	Helicopters	8	

Name	Type	Quantity	Photo
Fennec/Esquilo	Helicopters	32	
Black Hawk	Helicopters	4	
Eurocpter Pantera	Helicopters	32	
Caracal	Helicopters	16	

Capabilities

The Army currently has approximately 200 thousand military personnel. Military manpower, which is compatible with the Country's political and strategic stature, is essential.

The Army develops capabilities, whether jointly with the other Forces or separately, to meet three requirements simultaneously: secure the defense of the territory, project power in order to secure vital interests and meet foreign policy demands for security, international peace and regional integration. These capabilities require Forces at a high level of readiness, supported by others formed by the mobilization of material and human resources.

Based on lessons learned from contemporary wars and trends of future conflicts, the Army develops its resources based on capabilities, since this approach provides the institution with effective tools to respond to diffuse challenges in future.

The following new capabilities are considered priorities for the Army:

- land determent compatible with the country's political and strategic status;
- international projection of the Army in support of Brazil's foreign policy;
- performance in cyberspace with freedom of action;
- Land Force logistics readiness;
- interoperability (with other Forces) and complementarity (with other agencies);
- integrated management at all levels;
- effective military doctrine;
- higher emphasis on the human dimension;
- adequate budget;
- defense products linked to operational capacity; and
- systemic management of operational data.

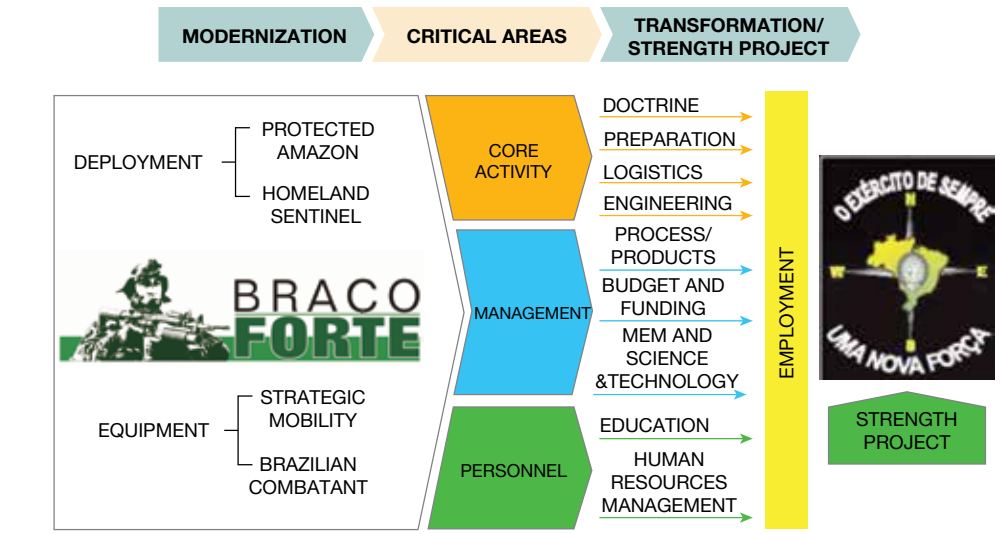
Strategic Vision and Goals

The Army is a public and permanent national institution. It is a fundamental instrument for the security and defense of the Brazilian state. The internal and external acknowledgement of the Army's capacity to fulfill its mission demonstrates the Force's relevance to the society it serves. Such relevance must be permanently sustained through the understanding of the people's needs, of the state's demands and the conditions imposed by the environment.

The Army has sought to modernize its equipment and armament, as well as the quality of its personnel. However, to meet strategic demands, it has become evident that, beyond adapting and modernizing, the Army must adopt the concept of transformation. Transformation refers to the development of capabilities to comply with new duties, whether derived from the present operational environment or from future challenges. This concept is detailed in chapter 5.

Consistent with the dynamic development of the strategic environment, the Army started a Transformation Process which will be continuous and oriented by a Force Project. Both Process and Project are inserted into the Planning System of the Army.

The Army Staff completed a diagnostic of the Land Force, based on the National Defense Strategy, and proposed actions for its adaptation to new demands of the state and the Brazilian people. This initiative has resulted in the Strong Arm Strategy (EBF).



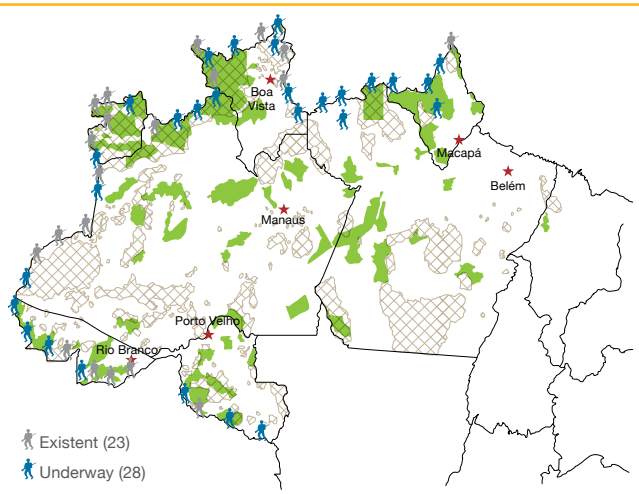
Army's Transformation Project

The following premises, established by the National Defense Strategy, were considered in the preparation of the Strong Arm Strategy:

- the Army will be organized under the aegis of the trinomial monitoring/control, mobility and presence;
- it must have strategic mobility to response quickly to any threat or aggression;
- it must deploy its strategic reserves in way that allows for fast concentration and employment of Forces;
- it must deepen the presence of military units in the frontiers;
- it must develop the concept of flexibility in combat in order to meet monitoring/ control, mobility and presence requirements;
- it must develop the principle of elasticity, which is the capacity to quickly increase the quantity of troops; and
- the Amazon region is of great interest for the Ministry of Defense and the Army must be able to deploy equipment and personnel in this area.

The Strong Arm Strategy is composed of a Deployment Plan, which determines the positioning of personnel in order to meet the strategic concepts of employment, presence and determent, and to attend to requirements of an Equipment Plan. The former comprises the Protected Amazon Program and the Homeland Sentinel Program. The latter comprises the Strategic Mobility Program and the Brazilian Combatant Program. These plans are aligned to the Defense Deployment and Equipment Plan (PAED). The Strong Arm Strategy therefore comprehends the following programs:

- Protected Amazon Program — a set of projects aimed at strengthening the presence of the Land Force in the Amazon. It includes the progressive installation of new Special Frontier Platoons, as well as the modernization of existent ones. In a second stage, the Program determines actions for the strengthening of the operational and logistics structure of the Amazon Command. Simultaneously, the Army will implement a Border Monitoring System (SISFRON), through the use of electronic and radar means, such as the SABER M60 and others to be developed, in integration with other military and civilian systems, with the purpose of optimizing the capacity of monitoring around 16 thousand kilometers of border area in the Amazon, Midwest and Southern regions;
- Homeland Sentinel Program — includes the reorganization, the improvement and, especially, the integration of logistics and operational structures of the area commands. As aforementioned, the Amazon Command is contemplated in the Protected Amazon Program;
- Strategic Mobility Program — aims to attend to the Army's needs in terms of replacements and material modernization, in order to improve mobility, flexibility and interoperability with other Armed Forces; and
- Brazilian Combatant Program — includes projects dedicated to the research and development of Defense products, the priority being the growth of nationalization and acquisitions in the internal market.



Special frontier platoons

Based on the aforementioned strategy and programs, priority projects were selected with the purpose of transforming the Land Force by supplying brigades with means of transportation, equipment, armaments and provisions, in order to meet demands and aspired levels of modernization. These projects include: Recovery of Land Force's Operational Capacity (RECOP); Cyber Protection System — Cyber Defense; Integrated Border Monitoring System (SISFRON); Integrated System for the Protection of Strategic Land Structures (PROTEGER); New Family of National Armored Vehicles (Guarani); Anti-aircraft Defense System; and Missiles and Rockets System (ASTROS 2020), detailed in chapter 5.

Education — Main Training Centers

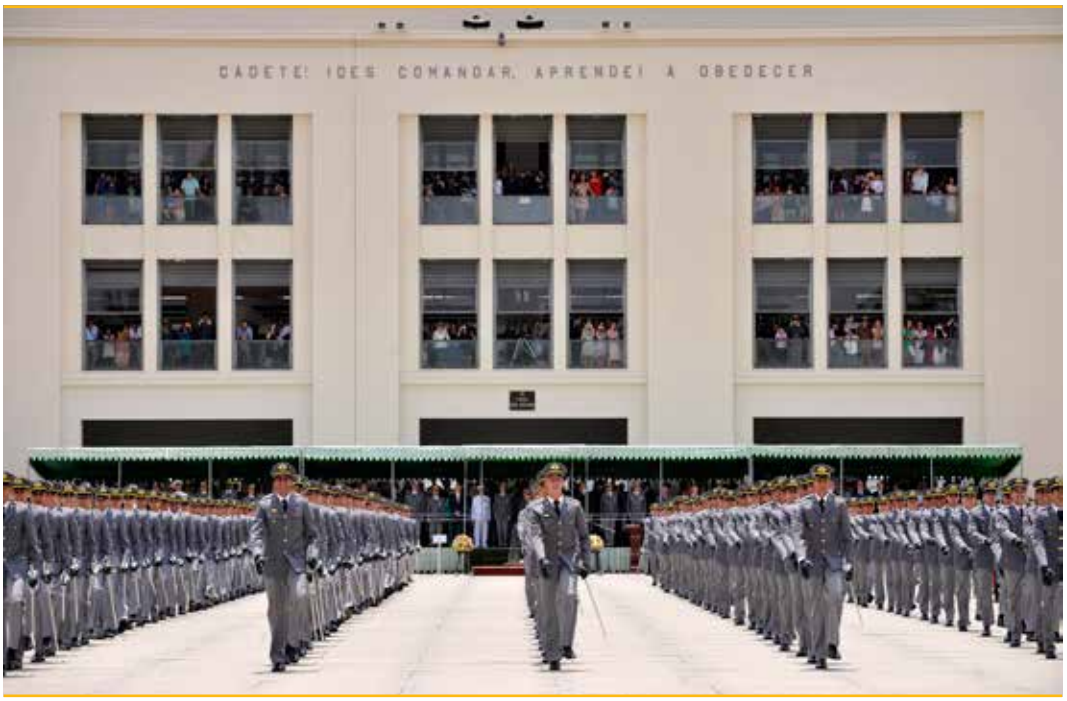
Army Academy (AMAN)

The Army Academy originated in 1792, with the creation of the Royal Academy of Artillery, Fortification and Design, in Rio de Janeiro — the first military school of the Americas. During the 19th century, the name was successively changed to Royal Military Academy, Imperial Military Academy and Military Academy of the Royal Court. From 1906 to 1910, this institution functioned at the War School in Porto Alegre (State of Rio Grande do Sul), and in 1913, at the Military School of Realengo (State of Rio de Janeiro). It was only on January 1st 1944 that the Army Academy was installed in a permanent site in Resende (State of Rio de Janeiro). In 1951, the institution was officially designated the name of Army Academy.

The Academy develops the Army's career combat officers. The undergraduate program activities are carried out to develop necessary qualities for the military profession. The Program lasts five years. The first year is undertaken in the Army Cadets Preparatory School (EsPCEx), located in Campinas (State of São Paulo). The remaining four years are studies at the Army Academy itself.

The curriculum includes subjects related to military and exact sciences, as well as humanities. On concluding the program, the graduate is declared officer candidate and is granted a military sciences degree. Admittance to the Army Academy occurs exclusive through national competitive exams for the Army Cadets Preparatory School.

The founder of the Army Academy was Marshall José Pessoa Cavalcanti de Albuquerque, who chose the location for the new building, conceived the project for the institution and reinstated the title of "cadet", which had been abandoned at the time of the proclamation of the Republic. He also determined the use of historic uniforms and created the "Short Sword of the Duke of Caxias".



Army Academy — Resende (State of Rio de Janeiro)

The Army Academy programs aim to develop basic military character, with solid ethics and strong qualities, including leadership, initiative, discipline, responsibility and teamwork. Throughout the teaching process, the cadet develops humanistic, scientific and technological knowledge necessary for a career in the Army.

In the Academy, the cadet acquires a technical and military foundation, through training and exercises, in order to be able, as a future officer, to exert command and leadership of small groups (platoons and sections) and of subunits (companies, batteries or squads).

Junior Officer School (EsAO)

Founded in April 8, 1920, by the Minister of War Dr. João Pandiá Calógeras, the Junior Officer School has the mission of developing captains, enabling them to command and lead military units and preparing them for the exercise of staff duties which are not reserved for the active duty Army Staff group. The program offered by this School lasts two years. The first year is undertaken through distance learning, the second year requires class attendance.

Command and Staff College (ECEME)

Created in 1905 and located in Rio de Janeiro, the Command and Staff College is a traditional Brazilian Army education institution. Its mission is to prepare senior ranking officers for staff, command, leadership, management and advisory roles in the highest ranks of the Land Force. The College also cooperates with general and specialised organisations in the Army in the field of doctrine for force development and employment.

All Command and Staff College programs are of graduate level and taught in accordance with the country's legislation on university education and the Army's education regulations.

The Command and Staff College is increasing its relationship with similar military schools in the Navy (Naval War College), in the Air Force (Air Force Command and Staff College) and with civilian universities. Currently, it also accepts in its programs military personnel from friendly nations, mainly from South America and Africa.

Military Engineering Institute (IME)

Located in the city of Rio de Janeiro, the Military Engineering Institute originated from the merger of the Army's Technical School and the Military Institute of Technology, in 1959.

The Military Engineering Institute has the mission of developing officers for the Army's Military Engineering Group (QEM). The following programs are offered: undergraduate degree, exclusively for officers from the Army Academy; undergraduate degree and basic military training for young civilians who finished high school; and basic training program for graduate engineers who wish to join the Army. It also offers Masters and PhD degrees for civilian and military personnel. Furthermore, the Institute plans, coordinates controls and executes competitive examinations for admittance and the selective recruitment process for the Army's Military Engineering Group.

The quality of the Institute's programs is apparent from the excellent results which it regularly obtains in the Programs General Index (IGC)[44]. It is always among the 14 best institutions, out of over two thousand participants.

The Army Technological Project determines the transfer of the Military Engineering Institute from its current facilities to Guaratiba (State of Rio de Janeiro), near the Army Technology Center (CTEx). New and modern buildings, with state-of-the-art equipment, and proximity to civilian and military research and development organization will allow the Institute to reach higher levels of excellence in its activities. The study on IME transfer and updating process is in a conclusion stage.

[44] The Programs General Index (IGC) evaluates the performance of university level institutions in the country. It synthesizes in one index the quality of all undergraduate, masters and PhD degrees in an educational institution. The Index is published by the Anísio Teixeira National Institute for Educational Studies and Research (Inep) of the Ministry of Education, immediately after the results of the National Students Performance Exam (Enade) is published.

Army Health School (EsSEx)

The Army Health School was created in 1910 with the name of Military Applied Medical School. Located in the city of Rio de Janeiro (RJ), the School is a university level educational institution in the field of military health education. Its mission is to: develop active duty officers of the Medical Doctors' Group of the Army's Health Service; coordinate graduate programs for Health Service officers, as well as other programs for military personnel of the Complementary Group in the fields of Nursing, Veterinarian Science and Psychology; contribute to the development of military doctrine in the health area; carry out research in Health Studies, in cooperation with similar institutions; offer internships in the health area; and administrate competitive examinations for admittance into military health programs.

Army School of Administrative and Technical Studies (EsFCEx)

The Army Administrative and Technical School was created on April 5, 1988 with the name of Army School of Administration. Located in the city of Salvador (BA), the School began its activities by offering programs for Army career officers and enlisted men.

On October 2, 1989, Law Nº 7,831 created the Complementary Officers Group to meet changes required by the modernization of the institution. From then on, the School took charge of the education of officers for this new Group.

The School currently develops men and women with previous degrees in different fields from university level institutions acknowledged by the Ministry of Education. Applicants to the School must pass competitive exams, of national scope. Once admitted, they then attend the Program for Officers of the Complementary Group (CFO/QC) which enables them to perform and assume responsibilities and roles of Army officers, within their field of expertise.

On November 8, 2010, the Ministerial Regulation Nº 1,080 transformed the Army School of Administration into the Army School of Administrative and Technical Studies, changing its mission and organization. Besides officers of the Complementary Group, the School began, from then on, to develop officers in the professions of dentistry and pharmacy.

Combat Sergeant School (EsSA)

Located in the city of Três Corações (State of Minas Gerais) the Combat Sergeant School is the military educational institution in charge of selecting and educating sergeants in the professions of Infantry, Cavalry, Artillery, Engineering and Communications. The program, which lasts one year and a half, develops students so that they are able to exercise roles in military organizations.

Logistics Sergeant School (EsSLog)

Located in the city of Rio de Janeiro, this School was established in 2010 due to the transformation of the School of Military Materiel. It is the military educational institution responsible for selecting and educating sergeants in the professions of supply management, communications maintenance, vehicles maintenance, weapons maintenance, topography and music. The School's main purpose is the professional development of the Army's logistics sergeant. All curriculum activities seek to enable students to exercise specialized roles within Army organizations.

Senior Combat Sergeant School (EASA)

The Senior Combat Sergeant School was established on July 10, 1992, with the name of Sergeant Training Center — South, subordinated to the Southern Command, in the quarters of the 17th Infantry Battalion.

The School has the mission of further educating sergeants of the Brazilian Army. To achieve this purpose, it offers the Further Studies Program for Sergeants (CAS) of the Infantry, Cavalry, Artillery, Engineering and Communications professions, thereby enabling them to exercise roles at their rank level, including in administrative areas.

Scientific and Technological Institutions

Army Technology Center (CTEx)

Established in 1979, in Rio de Janeiro, the Army Technology Center is a military organization directly subordinated to the Department of Science and Technology. Its mission is to conduct research and development of defense products of interest to the Land Force. To accomplish this goal, the Center, on occasion, engages in partnerships with national companies for the joint development of products and receives financial support from the Studies and Projects Fund (FINEP) of the Ministry of Science, Technology and Innovation (MCTI). These partnerships were celebrated, for example, to develop the SABER M60 radars.

Among the projects under development by the Army Technology Center, the following are noteworthy:

- radar SABER M60 — the project contemplates a low altitude anti-aircraft defense system, which protects sensitive points and areas;

- anti-vehicle light weapon — developed by Army Technology Center in partnership with national companies, it is a weapon of individual use for anti-vehicle combat at close quarters;
- missile MSS 1.2 AC — has the objective of attending to the demands of modern combat, including high level of mobility, strong fire power and the capacity to engage different types of targets; and
- flight simulator for Esquilo and Fennec helicopters — a product of the Army Technology Center, developed in partnership with a national company, it aims to train Army pilots.

Foreign Exchange and Cooperation

The Army maintains a series of exchange and international cooperation activities with other nations. The Land Force's growing cooperation with South American and African countries is noteworthy, particularly the Brasil-Paraguay Military Cooperation, which began in 1942, originally named Brazilian Military Training Mission in Paraguay (MMBIP).

The following areas deserve note:

Military Education

- Foreign military personnel in Brazil (2001-2011)

Country	Military Personnel	Country	Military Personnel	Country	Military Personnel	Country	Military Personnel
South Africa	8	South Korea	8	Indonesia	2	United Kingdom	4
Germany	7	El Salvador	9	Iran	2	Dominican Republic	27
Angola	82	Ecuador	142	Ireland	1	Czech Republic	3
Argentine	134	Spain	23	Italy	4	Senegal	1
Belize	2	USA	70	Mexico	29	Suriname	54

Country	Military Personnel	Country	Military Personnel	Country	Military Personnel	Country	Military Personnel
Bolivia	71	France	37	Mozambique	17	Sao Tome and Principe	22
Belgium	2	Guatemala	25	Namibia	6	Thailand	1
Cape Verde	19	Guiana	56	Nicaragua	3	East Timor	21
Canada	12	French Guiana	4	Nigeria	3	Uruguay	102
Chile	74	Guinea-Bissau	18	Paraguay	246	Venezuela	159
China	6	Honduras	7	Peru	146	-	-
Colombia	68	India	2	Portugal	9	-	-

- Brazilian military personnel abroad (2001-2011)

Country	Military Personnel	Country	Military Personnel	Country	Military Personnel	Country	Military Personnel
South Africa	11	China	7	Hungary	1	Portugal	12
Germany	42	Colombia	70	India	7	United Kingdom	33
Argentine	51	Ecuador	15	Ireland	1	Sweden	5
Austria	1	Spain	35	Israel	5	Switzerland	4
Australia	1	United States	171	Italy	7	Tunisia	1
Bolivia	8	Finland	4	Mexico	4	Turkey	1
Belgium	3	France	19	Norway	8	Uruguay	20
Canada	60	Guatemala	1	Paraguay	5	Venezuela	6
Chile	44	French Guiana	10	Peru	23	-	-

2010/2011 Military Exercises

Operation/ Exercise	Host Country	Participating Countries
FUERZAS COMANDO COMPETITION	El Salvador (2010) Dominican Republic (2012)	Bahamas, Belize, Brazil, Chile, Colombia, Costa Rica, El Salvador, Ecuador, USA, Guatemala, Honduras, Nicaragua, Paraguay, Panama, Peru, Dominican Republic and Uruguay
	Multinational competition involving special forces from countries in the American continent, with alternating venues. Its objective was to develop and maintain alliances and regional cooperation; strengthen political and military relations and improve training, interoperability and the capacity of the special forces for implementing tactics, techniques and procedures in their field of expertise.	

Women in the Army

The first recorded participation of a Brazilian woman in combat took place in 1823 when Maria Quiteria de Jesus fought for the permanence of Brazil's independence. Maria Quiteria is considered to be the first Brazilian woman to enlist in a military unit. However, it was only in 1943, during World War II, that women were officially admitted into the Brazilian Army. In that year 73 nurses (67 of them based in hospitals and six specialized in air transport) were recruited. These volunteers served in four different United States Army hospitals. After the war, as with the rest of the Brazilian Expeditionary Force (FEB), the majority of nurses were awarded medals, promoted to officer ranks and placed on leave from regular military service.

In 1992, the Army Administration School in Salvador (BA) enrolled the Army's first student cohort which included women — 49 in total, approved in competitive examinations.

The Army instituted, in 1996, the female volunteer military service for medical doctors, dentists, pharmacists, veterinarians and nurses with undergraduate degrees. In the same year, the first class of 290 volunteer women was incorporated into the Army to render military service in the healthcare area.

In 1997 the Military Engineering Institute enrolled its first 10 female students into the Military Engineers' Group (QEM).

Also in 1997, the Army Health School (EsSEx) enrolled and educated its first cohort of university-level female medical doctors, dentists, pharmacists, veterinarians and nurses for the Army Officer Health Group.

In 1998, the Army instituted a technical traineeship for graduates from other fields. In that year, to meet institutional demands, it incorporated the first cohort of female lawyers, business administrators, accountants, teachers, systems analysts, engineers, architects, journalists, among other professionals, totaling 519 women.

The Health School, in 2001, opened applications for women to participate in competitive examinations for positions in the Health Sergeant Program.

In 2011 the Army Command and Staff College awarded, for the first time since its establishment, certificates to three female officers. The female officers (and medical doctors) concluded the Leadership and General Staff Program for officers of the Health Group. They therefore have the possibility to compete, in future, for promotion to General Officer rank.

The Army's greatest asset is motivated men and women, who are able to fulfill their missions. Therefore, in order to correct a legal gap, the Executive Branch has proposed a bill to allow women to be admitted into more military programs which develop Army career personnel, taking into account the peculiarities of military life.

Women in active service in the Army

Aircraft A-1

Brazilian Air Force

The Brazilian Air Force (FAB) has its origins in the aviation of the Brazilian Navy and the Brazilian Army. In 1916 the Navy founded the Naval Aviation School, in the Island of Enxadas, in the city of Rio de Janeiro. In 1919, the Army created the Military Aviation School at Campo dos Afonsos, a neighborhood of the same city.

In 1941, during World War II, the Ministry of Aeronautics[45], was created from the merger of aerial and human resources from the Army, Navy and Civil Aviation Department. Its armed branch was initially called National Air Forces, and in June of same year, it became called Brazilian Air Force.

It is noteworthy that, in 1932, the first flight of the Military Air Mail (CAM) departed from Campo dos Afonsos. This service was later replaced by the National Air Mail (CAN), which has been of great importance for national integration.

[45] The first Minister of the Air Force was a lawyer and political leader named Joaquim Pedro Salgado Filho.

The Air Force had its baptism of fire during World War II. It took part in the anti-submarine campaign of the South Atlantic and in air combat over Italy, on the side of the Allies.

With the establishment of the Ministry of Defense in 1999, the Ministry of Aeronautics, similarly to the other Armed Services, was subordinated to this new ministry and renamed Brazilian Air Force.

The challenges faced by the Brazilian Air Force are proportional to the country's dimensions. The continental dimensions of the Brazilian airspace which needs to be patrolled, controlled and defended, as well as the complexity of the international environment, generate multiple demands for the Air Force, which in turn requires modern and efficient means to meet these challenges.

Mission

The Air Force is responsible for maintaing sovereignty over the national airspace in order to defend the homeland. In particular, it must stop any acts hostile to national interests. To achieve its purpose, the Air Force relies on its capacity for surveillance, control, and defense of the national air space, through resources of detection, interception and destruction.

The Air Force has the following subsidiary roles:

- provide security for airspace navigation;
- establish, equip and operate aerospace, aerial and airport infrastructure under its responsibility;
- operate the National Air Mail;
- cooperate with federal agencies in the area of law enforcement involving the use of airspace and airport areas, through the provision of logistics, intelligence, communications and training; and
- act in a continuous and permanent manner, alongside the judicial police services, through airspace control, against all types of illicit air traffic, especially the traffic of drugs, weapons, ammunitions and illegal passengers.

For the performance of this last role, the Air Force acts in cooperation with inspection agencies, which take action after landing of aircrafts involved in illegal air traffic. In the absence of lack of these agencies, the Air Force may inspect people, land vehicles, boats and aircrafts, as well as arrest individuals engaged in flagrant infractions.

Considering the nature of these roles, the Air Force Chief of Staff is officially designated "Military Air Authority".

The Air Force, as provided by law and whenever authorized of the President of the Republic or by his delegate, has the power to destroy any aircraft classified as hostile after all legal coercive means have been exhausted, as provided in Law Nº 7,565 of December 19, 1986, altered by Law Nº 9,614 of March 5, 1998.

Organization and Equipment

The Air Force has the following organizational structure:

a) One general management office, the Air Staff (EMAER).

b) Two senior advisory offices:

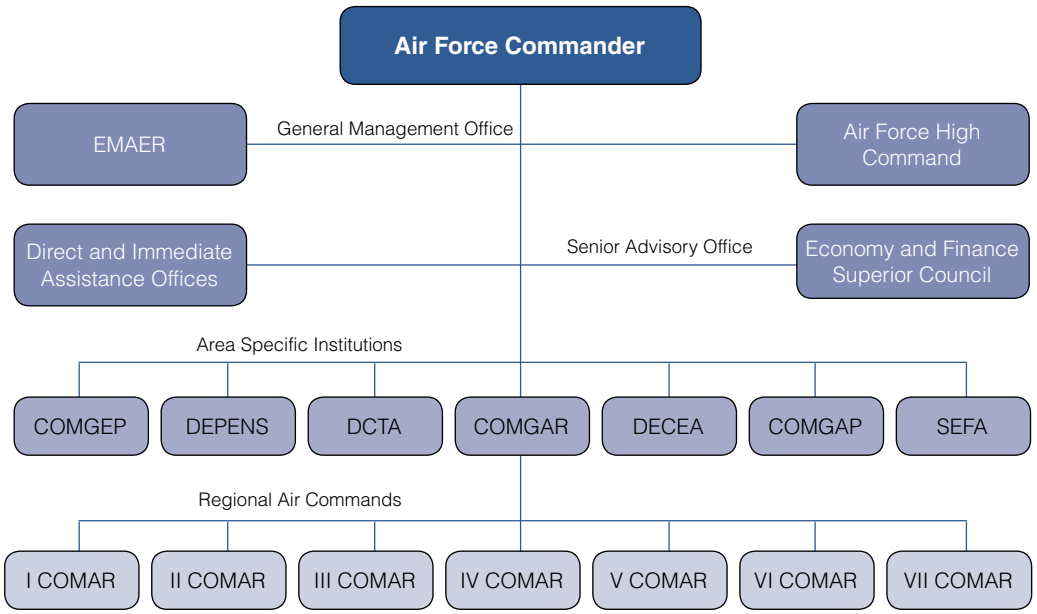
- Air Force High Command; and
- High Council of Economics and Finance.

c) Eight offices of direct and immediate assistance to the Air Force Chief of Staff:

- Office of the Air Force Chief of Staff (GABAER);
- Air Force Intelligence Center (CIAER);
- Air Force Press Office (CECOMSAER);
- Air Force Accident Investigation and Prevention Center (CENIPA);
- Air Force Office for Congressional Relations (ASPAER);
- Air Force Institute of Air History and Culture (INCAER);
- Air Force Committee for Officers' Promotion (CPO); and
- Airspace Office for Operational Security and Airspace Control (ASOCEA).

d) Seven area specific offices:

- Air Operations Command (COMGAR);
- Support Command (COMGAP);
- Personnel Command (COMGEP);
- Office of the Secretary of Economics and Finance (SEFA);
- Department of Airspace Control (DECEA);
- Department of Aerospace Science and Technology (DCTA); and
- Department of Education (DEPENS).



Organization chart of the Air Force

Air Operations Command

The Air Operations Command (COMGAR) is responsible for the preparation and employment of the Air Force's main resources. This organization's roles include commanding, planning, directing, controlling, coordinating, executing and assessing the employment of all air units. Seven large Regional Air Commands (COMAR) are subordinated to the Air Operations Command.

The Regional Air Commands are administrative organs of the Air Force. They support air units in their respective geographical areas, with the objective of ensuring effective employment of air power in real or training missions.

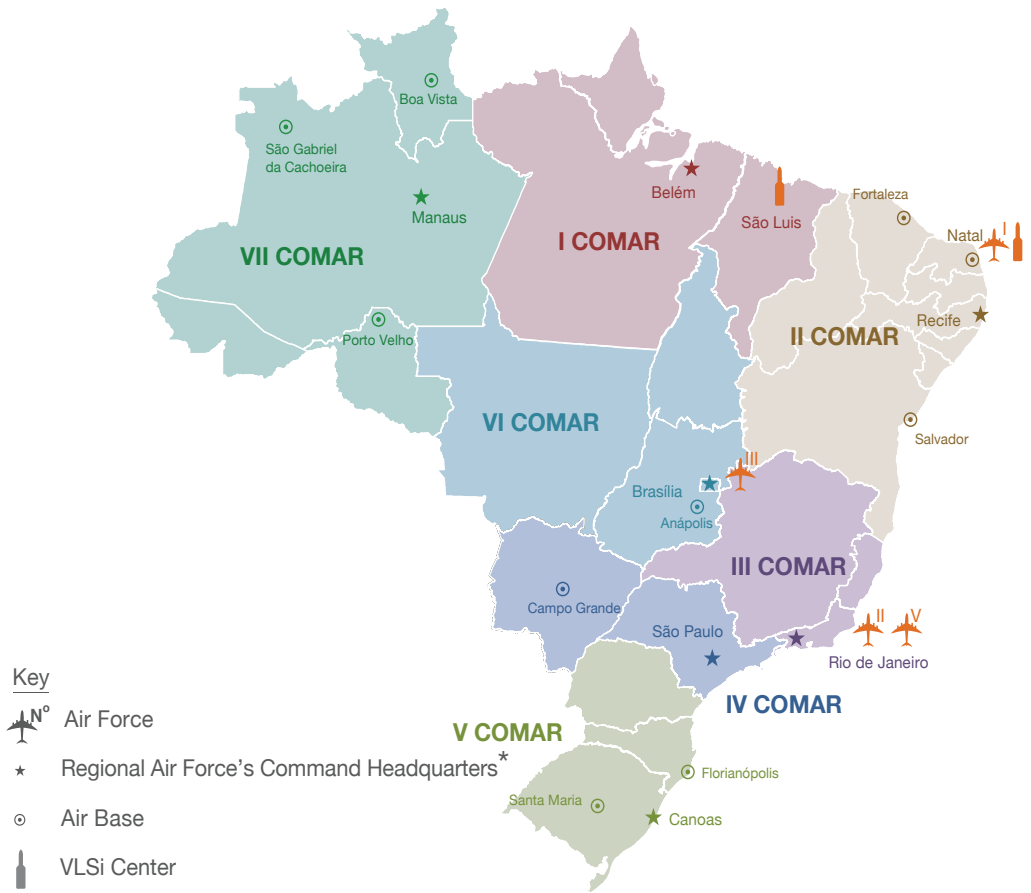
The seven Regional Air Commands have their headquarters in the cities of Belém, Recife, Rio de Janeiro, São Paulo, Canoas, Brasília and Manaus.

The commander of a Regional Air Command is responsible for issues concerning the Air Force in his respective area of jurisdiction. The administrative structure of a Regional Air Command encompasses all fields of action of the Air Force.

The Air Force is also organized in operational commands called Air Forces[46], also subordinated to the Air Operations Command. They are in charge preparing and employing aircrafts of various types and in different operational environments.

[46] Currently, the Fourth Air Force (IV FAE) and the Sixth Air Force (VI FAE) are deactivated.

- First Air Force (I FAE) — trains Air Force pilots in fighter, helicopter, transport, reconnaissance and patrol aviations;
- Second Air Force (II FAE) — employs aircrafts in air tactical operations independently or jointly with the other Forces and in search and rescue missions;
- Third Air Force (III FAE) — employs strategic and tactical fighters as well as reconnaissance and aerial defense aircraft; and
- Fifth Air Force (V FAE) — is responsible for transport, flight refueling, parachute launching and support units as well as for supporting Army units.



*Includes air base, except for São Paulo, which has a very close air base, in Guarulhos. In Rio de Janeiro, there are the Santa Cruz, Galeão and Afonsos air bases.

Air Force commands and main military organizations

Equiment

Besides its human resources, the Air Force relies on the following materiel to fulfill its constitutional mission:

Name	Type	Quantity	Photo
AH-2 Sabre	Combat helicopter	6	
AT-26 Xavante	Test aircraft	2	
A-1	Air-to-surface and reconnaissance combat aircraft	53	
A-29 Super Tucano	Advanced training and light combat Aircraft	86	
C-105 A Amazonas	Transport, search and rescue aircraft	12	

Name	Type	Quantity	Photo
C-130 Hercules	Air transport, in-flight refueling and search & rescue aircraft	22	
C-95 Bandeirante	Transport, reconnaissance, maritime patrol, and search and rescue aircraft	86* *Approximately 35% of total will be deactivated in the next 5 years	
C-97 Brasilia	Transport aircraft	20	
C-98/A Caravan	Transport aircraft	29	
C-99 Embraer 145	Transport aircraft	8	
E/R 99 Embraer 145	Airborne early warning & control and reconnaissance aircraft	8	

Name	Type	Quantity	Photo
F-2000 B/C Mirage 2000	Interceptor fighter aircraft	12* *Deactivation of all units to occur in December 31, 2013, with replacement by the FX-2 Project	
F-5 EM/FM Tiger II	Multirole fighter aircraft	57	
H-1H	Transport and search & rescue helicopter	24* *Deactivation of all units to occur within the next 5 years	
H-34 Puma	Transport and search & rescue helicopter	10* *Deactivation of fleet foreseen within the next 5 years	
VH-35	VIP transport helicopter	2	
H-36 EC-725	Transport and search & rescue helicopter	1* *16 more helicopters acquired.	

Name	Type	Quantity	Photo
H-50 Esquilo	Training helicopter	24	
H-55 Esquilo birreator	Test helicopter	4	
H-60 Black Hawk	Transport and search & rescue helicopter	10	
IU-93A	Flight inspection aircraft	4	
KC-137 Boeing 707	Transport and in-flight refueling aircraft	4	
P-3 AM	Maritime patrol aircraft	5* *9 more aircrafts acquired	

Name	Type	Quantity	Photo
T-27 Tucano	Training aircraft	101	
VU/R-35 Learjet 35	Trasnport and reconnaissance aircraft	7	
VC-99 B/C Legacy/E-135	VIP transport aircraft	8	
T - 25 Universal	Training aircraft	60	
VC-1 Airbus A-320	Presidential airplane	1	
VC-2 Embraer 190	Presidential airplane	2	

Capabilities

The Air Force currently possesses approximately 67 thousand military personnel. Its equipment is classified by type of employment, i.e. fighter, patrol, transport, search & rescue, rotor-wing and reconnaissance aircrafts. This materiel is distributed in air bases across the national territory.

The air bases are in charge of providing the necessary administrative, logistical, operational and security support to the Air Force and the operational commands that act within their premises, permanently or temporarily.

The following factors are considered important for the full utilization of the Air Force's capabilities to achieve the institution's mission.

In the strategic realm:

- capacity to visualize areas of crisis or conflict;
- technological capacity; and
- institutional and international relations.

In the logistics realm:

- combined and joint operational capacity as well as continuous logistical support;
- security and redundancy of communications system;
- maintenance of elevated morale;
- human, financial and material resources;
- information technology training and education; and
- organizational structure, asset management and administrative rationality.

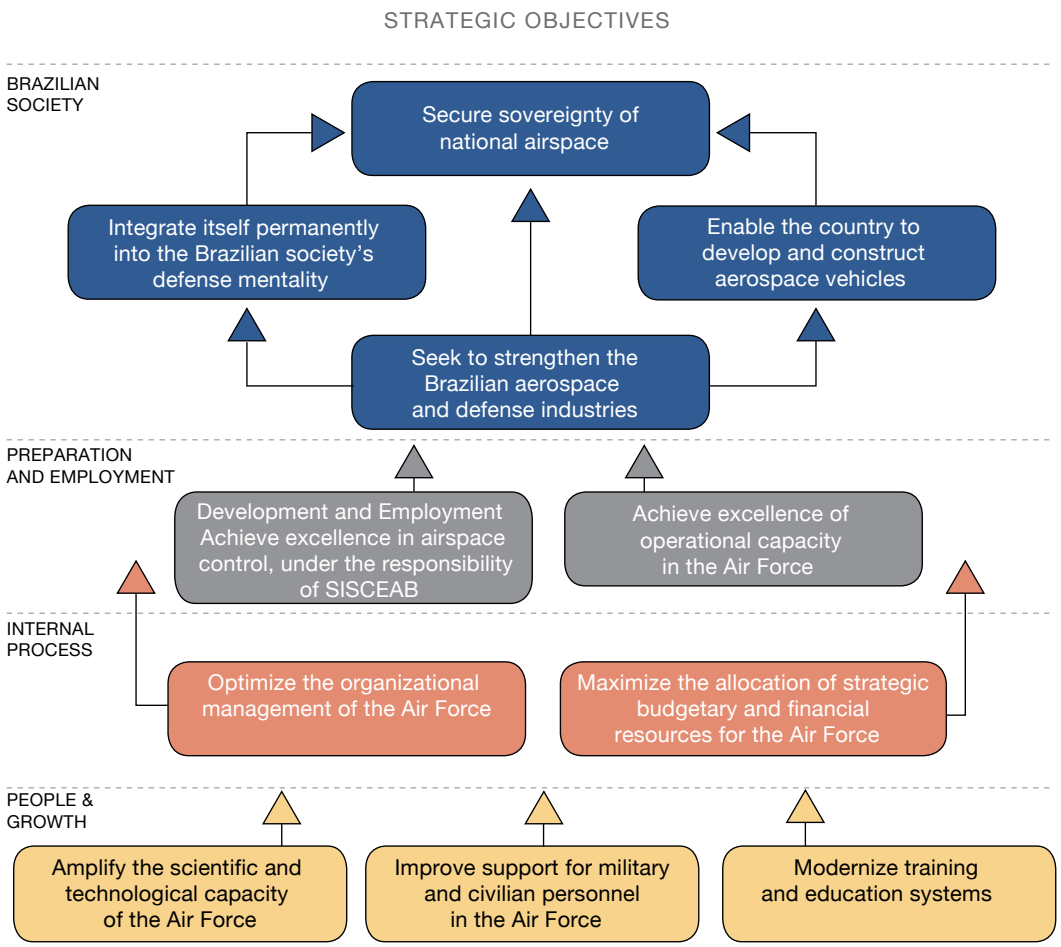
In the operational realm:

- command and control capacity;
- combat capacity;
- capacity to operate in hostile electromagnetic environments;
- capacity for self-defense on land and against aircrafts;
- intelligence capacity; and
- operational planning capacity.

Strategic Vision and Goals

To fulfill the Air Force's mission — as provided in the Constitution and federal laws, and according to the National Defense Strategy — an Institutional Planning System was established. This process defines a logical sequence of procedures so as to ensure unity of thought and action, which are indispensable for operational efficiency and administrative continuity within the Air Force.

The following diagram shows the strategic objectives of the Air Force, set in Air Force's Strategic Military Plan — PEMAER.



Strategic Objectives

The System allows the Air Force to: set a medium to long-term vision; manage a process oriented towards results; integrate planning, budgeting and management; and promote the conceptual alignment of documents.

The Air Force's Strategic Military Plan (PEMAER) is a product of the Planning System. This Plan reaffirms projects and actions contained in the Defense Deployment and Equipment Plan (PAED), sets the objectives for the Air Force for an intended period and guides the prioritization process of budget resources, while defining duties and responsibilities.

Based on a methodology developed by the Air Force, a strategy for planning and action was conceived, which sets three structural axes described below.

I. Strengthening operational capacity

This axis has the following main objectives: supply the necessary means for the safe and efficient circulation of both civilian and military air traffic in Brazilian airspace; and contribute to the defense of national sovereignty, through aircraft development, acquisition and modernization.

Main benefits:

- effective capacity for surveillance, control and defense of airspace over vulnerable points and areas of the national territory, based on resources for detection, interception and destruction;
- stronger military capacity to integrate main efforts for defending the nation. Actions related to Air Force re-equipment would be prioritized; and
- assimilation of knowledge which will allow the country to achieve technological independence in the airspace sector.

II. Scientific-technological training and education

Planning regarding the aerospace scientific-technological complex is guided by the continual effort to educate and train human resources, as well as acquire physical capital, in order to attain full knowledge over the technologies required. To achieve this purpose, the Air Force allocates special attention to research as well as technological and industrial development in the aerospace sector.

Main benefits:

- contribution to the reduction of foreign dependence, in straight cooperation with national industry, especially in the aerospace sector, through the gradual nationalization of equipment and services;

- adequate plans to support national industry by promoting associations, participations and acquisitions that secure competitiveness, with the aim of promoting exports; and
- human resources development in the field of Air Force related technology.

III. Organizational and operational transformation

The Air Force transformation process seeks to identify the ideal dimensions and structure for the organization, in order to eliminate strategic vulnerabilities, and thereby allow the Air Force to carry out its mission of National Defense and of promoting the country's development.

Main benefits:

- full knowledge of advanced technologies, through the modernization of human resources education and training systems;
- maximization of operational and management effectiveness within the Air Force, in accordance with new operational capacities and concepts, which require organizational change;
- appreciation of Air Force professionals through the improvement of support structures; and
- promotion of relations that expedite planning and interoperability with other Armed Services, and that favors the deployment, employment and support to the Air Force.

Education - Main Institutions

Air Force Academy (AFA)

The Air Force Academy replaced the Aeronautics School, an institution originally located in Campo dos Afonsos, which developed aviation and logistics officers for the Air Force since the creation of the Ministry of Aeronautics in 1941. The name changed from Aeronautics School to Air Force Academy in 1969.

In 1971, the Academy was transferred to new facilities in Pirassununga (State of São Paulo). It is now responsible for developing cadets through the Pilot Officers Program (CFOAV), the Logistics Officers Program (CFOINT) and the Infantry Officers Program (CFOINF).

These undergraduate degree programs last four years and prepare officers for the initial ranks of the Air Force in the aviation, logistics and infantry careers. The majority of first-year vacancies are filled by students from the Air Cadets Preparatory School (EPCAr), a high school level Air Force institution located in Barbacena (State of Minas Gerais), which

Air Force Academy — Pirassununga (State of São Paulo)

offers a three-year program. The remaining places are filled through an open competitive selection process. On concluding fourth year, the cadet is declared an officer candidate and is granted a Bachelor of Science in Aeronautical Science.

Air Force University (UNIFA)

Established in 1983 and located in the city of Rio de Janeiro, the Air Force University is linked to the Air Force Department of Education (DEPENS). It has the purpose of planning, guiding, coordinating and controlling programs aimed at further studies and advanced military studies, which are required for preparing officers for the highest ranks. The University also offers Master's and PhD degrees as well as graduate certificates and internships. The Air Force Command and General Staff College (ECEMAR) and the Air Force Junior Officer School (EAOAR) are subordinated to the University.

Air Force Command and Staff College (ECEMAR)

The Air Force Command and Staff College was instituted in 1947, in Rio de Janeiro. It offers advanced studies programs to Air Force senior officers. The College is in charge of

updating student knowledge on aerospace power, air war and management within the Air Force, through the Aerospace Policy and Strategy Program (CPEA) and the Command and Staff Program (CCEM).

Air Force Junior Officer School (EAOAR)

The Air Force Junior Officer School was established in 1953, in Guarulhos (State of São Paulo), and later transferred to Rio de Janeiro. It has the mission of educating and training junior officers, with the aim of developing specific competencies for the exercise of administrative, advisory and operational roles, through the Air Force Junior Officer Program (CAP).

Technological Institute of Aeronautics (ITA)

The Technological Institute of Aeronautics was established in 1950 and is located in São Jose dos Campos (State of São Paulo). It is a university-level institution specialized in the field of aerospace and managed by the Air Force. It has the purpose of promoting progress in science and technology related to the field of aerospace through education, training and research. In particular, the Institute is in charge of providing education to graduates in key areas of interest for the Air Force and the aerospace sector in general. The institute is subordinated to the Department of Aerospace Science and Technology (DCTA). It is an essential element for the development of the scientific-technological aerospace sector.

The excellence of the programs offered by ITA are evidenced by the exceptional results which this institution regularly achieves in the Courses General Index (IGC). It is consistently ranked one of the six best out of over two thousand assessed institutions.

The Institute's plans to double its number of undergraduate students within six years, from 120 to 240 students by 2018. It also intends to expand its number of graduate students by 60% within the next five years.

Air Force Training Center (CIAAR)

This Center was established in 1983, replacing the Air Force Enlisted Training Center (CIGAR). It is currently being transferred from Pampulha, in Belo Horizonte (State of Minas Gerais), to Lagoa Santa (State of Minas Gerais). It is responsible for training civilians and military personnel for future employment as Air Force officers.

Air Force Sergeant School (EEAR)

The Air Force Sergeant School was created in 1941 through the merger of human and physical capital from the Navy and Army aviations. The Sergeant School was initially located in the Ponta do Galeão, Governor's Island, in the city of Rio de Janeiro. In 1950, it was transferred to Guaratinguetá (State of São Paulo) where it remains to this day. This School is charged with developing Air Force sergeants.

Scientific and Technological Institutions

Aeronautics and Space Institute (IAE)

The Aeronautics and Space Institute was created from the merger, in 1991, of the Research and Development Institute (IPD) and the Space Activities Institute (IAE). Its mission is to conduct research and development in the field of aerospace.

This Institute has been developing scientific and technological solutions to strengthen Brazilian Aerospace Power. In particularly, it manages the satellite launching vehicle project, the sounding rockets project and the unmanned aerial vehicle project, among others.

Advanced Studies Institute (IEAv)

The Advanced Studies Institute originated from the fusion of the Advanced Studies Laboratory and the Advanced Studies Division, both belonging to the now extinguished Aerospace Technical Center (CTA). With the activation of the Technical Aerospace Command, the Advanced Studies Institute became a military organization of the Air Force, specifically assigned to the development of experimental technologies and the study of liquid propellants and supersonic combustion technology, among other affairs.

Industrial Promotion and Coordination Institute (IFI)

The Industrial Promotion and Coordination Institute was established in 1967. Its mission is to contribute to the performance, security and availability of aerospace products and systems that are of interest to the Air Force. It renders services in the areas of legislation, metrology, certification, intellectual property, technological transference and industrial coordination. Thus, this Institute promotes the Brazilian scientific-technological aerospace industry.

The Institute is recognized by the *International Accreditation Forum* (IAF) as an organization that certifies quality management systems and aerospace quality management systems.

Foreign Exchange and International Cooperation

The Air Force maintains a series of exchange and cooperation activities with foreign nations, especially with South American and African countries. The Brazilian Air Force Technical Mission (MTAB) in Paraguay, established in 1982 is noteworthy. Its objective is to supply technical, operational and administrative assistance to the Air Force of said country. The most relevant areas of exchange and cooperation are noted below:

Military Education

- Foreign military personnel in Brazil (2001-2011)

Country	Military Personnel	Country	Military Personnel	Country	Military Personnel	Country	Military Personnel
South Africa	1	Chile	2	France	1	Paraguay	53
Angola	18	Colombia	5	Guatemala	11	Peru	66
Argentina	15	South Korea	4	Guinea Bissau	37	Portugal	10
Bolivia	55	El Salvador	4	Mozambique	17	Dominican Republic	28
Cape Verde	12	United States	4	Namibia	2	Uruguay	5
Canada	2	Ecuador	21	Panama	62	Venezuela	71

- Foreign military in Brazil (2001-2011)

Countries	Military Personnel	Countries	Military Personnel	Countries	Military Personnel	Countries	Military Personnel
Germany	11	China	3	France	26	Peru	1
Argentina	13	Colombia	10	Italy	19	United Kingdom	30
Belgium	1	South Korea	5	India	1	Russia	49
Canada	7	Spain	114	Israel	1	Sweden	1
Chile	5	United States	110	Portugal	22	Venezuela	8

2010/2011 Military Exercises

Operation/ Exercise	Host Country	Participating Nations
BOIADEIRO	Brazil	Brazil and Paraguay
	Binational operation, aimed at controlling the transit of cattle and bovine derived products from Paraguay.	
FELINO	Angola	Brazil, Angola, Cape-Verde, Guinea-Bissau, Mozambique, São Tome and Principe, Portugal and East Timor
	Multinational exercise, aimed at organizing and exercising a combined joint task force (FTCC) of the Community of Portuguese Language Countries (CPLP); and testing peacekeeping operations command and control procedures during crisis.	
ANGEL THUNDER	United States	Australia, Belgium, Brazil, Canada, Chile, Colombia, France, Germany, Italy, Netherlands, Spain and United Kingdom
	Multinational and annual exercise, taking place in the United States. Organized by the US Air Force to train special operations.	
COOPERACIÓN	Chile	Argentina, Bolivia, Brazil, Canada, Chile, Colombia, El Salvador, Ecuador, USA, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay and Venezuela
	Multinational exercise, of irregular occurrence, organized by the Chilean Air Force under the aegis of the American Air Forces Cooperation System. Its purpose was to train Air Forces in combined operations, in the area of humanitarian assistance for victims of natural catastrophes.	
CRUZEX V	Brazil	Argentina, Brazil, Chile, France, United States, Uruguay and Venezuela
	Multinational and biannual exercise in Brazil, organized by the Brazilian Air Force. Its purpose was to plan and train combined operations, as well as promote military cooperation among participant nations.	
PERBRA IV	Brazil and Peru	Brazil and Peru
	Binational and biannual exercise, in the Brazil-Peru border region. Jointly organized by the respective Air Forces, with the purpose of patrolling airspace and fighting cross-border crime through aerial means.	
BOLBRA I	Bolivia	Brazil and Bolivia
	Binational and biannual exercise, in Bolivia, jointly organized by the respective Air Forces with the purpose of increasing cooperation.	

Women in the Air Force

The Air Force created the Air Force Women's Reserve Corps (CFRA) in 1981. In the following year the first cohort of this Corps was incorporated in Campo dos Afonsos, Rio de Janeiro. On that occasion, 150 women were admitted to the Air Force — psychologists, nurses, systems analysts, social assistants, phono-audiologists, nutritionists and librarians — selected from across the country. Women, therefore, have been part of the administrative life of the Air Force for three decades.

In the Air Force Academy — where the military personnel that are allowed to achieve the highest ranks of the Air Force are trained and educated — women began to be admitted in 1996, in the Logistics Officer Program. In 2006, the Air Force graduated its first cohort of female military pilots.

Female Air Force officers of the aviation, logistics, infantry, health and aeronautics engineering careers are allowed to be promoted to General Officer ranks, while competing in equal conditions for promotions with male officers. Currently, the Brazilian Air Force employs approximately four thousand women.

Fighter Aircraft Pilot A-29 (Super Tucano)

General Principles of Military Force Employment

Political and Strategic Conduct

The development and employment of military power is executed according to a Defense Structure, as provided in Decree № 7,276 of August 25, 2010. The Defense Structure is composed of the following officials:

I. President of the Republic;

II. Minister of Defense;

III. Defense Council;

IV. Armed Forces Chiefs of Staff;

V. Chief of the Joint Staff; and

VI. Commanders of Operational Commands.

The President of the Republic, as commander-in-chief of the Armed Forces, assisted by the Minister of Defense, and by the Defense Council, is responsible for the employment of military resources and for the strategic direction of the Armed Forces, as provided in Article 2 of Complementary Law № 97 of June 9, 1999.

The Armed Forces have their own structure and are subordinated to the Minister of Defense. The Joint Staff (EMCFA) is the permanent advisory institution of the Minister of Defense for the direction of the Armed Forces. The Joint Staff prepares and coordinates the planning of joint employment in operations that involve military personnel and resources.

In face of crisis or armed conflict, the President of the Republic approves a strategic plan for employment and appoints Commanders of Operational Commands. Once activated, each Operational Command is responsible for a geographical area — Theater of Operations — where the Commander has the authority to conduct military operations in order to reach selected and approved objectives. The Operational Commanders present to the Minister of Defense an overview of operations to be conducted and a proposal for the allocation of resources to their respective Commands.

The Armed Forces Chiefs of Staff supply the resources allocated by the Minister of Defense to the Operational Commanders and provide the necessary logistical support.

Joint Operations Doctrine

The development of the Armed Forces, based on their operational capacities, allows the Ministry of Defense to possess military forces that are able to act jointly, with flexibility, versatility and mobility.

Military operations of extended scope demand the employment of considerable resources from more than one Armed Service. To meet this challenge, the Armed Forces must join efforts, adopt compatible procedures and integrate actions in order to obtain greater efficiency and effectiveness in the execution of joint operations.

The Joint Staff prepares the Strategic Plans for the Joint Employment of the Armed Forces (PECFA) and coordinates joint Armed Forces training and employment.

The planning of a joint operation, though similar to any other operation, is distinct in terms of the heterogeneity of employment procedures and of the technical peculiarities of the participating Forces. Hence the importance of coordination and integration of planned actions through a joint operations doctrine.

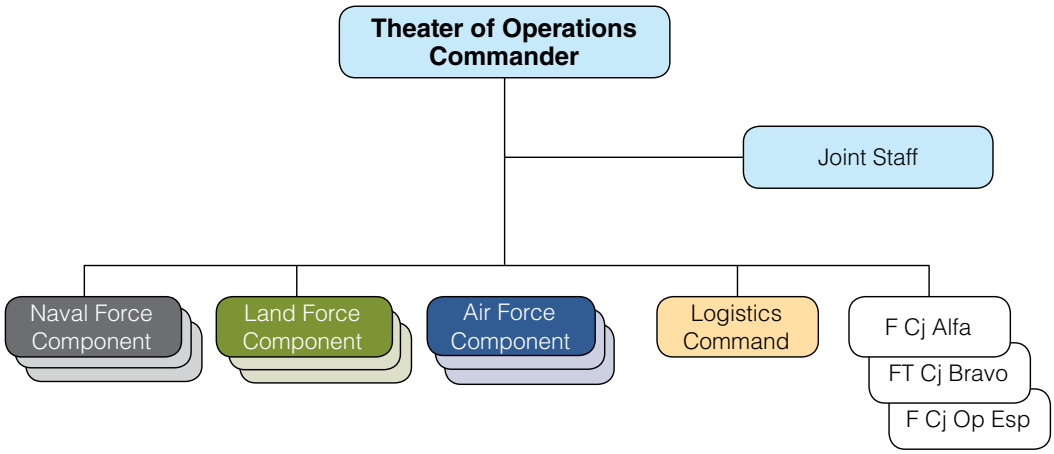
The joint operations doctrine sets conditions for the synchronization of naval, land and aerial actions, in order to attain strategic and operational objectives, in accordance with political, diplomatic and economic efforts. The goal is to be effective through the synergy of Force Components within the Operational Command operating in a certain Theater of Operations.

Theater of Operations (TO)

The Theater of Operations can be on land or sea and is comprised of the necessary area for operations to be conducted, including the respective logistical support. The Armed Forces that act in a TO are under a single Operational Command. The single Command allows the coordination of actions and greater interoperability among Forces, avoiding duplicate efforts and favoring the reduction of losses.

An Operational Command will be of a joint nature whenever it is formed by more than one Force. On the other hand, each Force Component, integrating a Joint Operational Command, may be either of singular or joint nature.

A Force Component will be of a singular nature whenever it is constituted of resources from just one of Force. In this case the Force Component will receive the name Naval Force Component, Land Force Component or Air Force Component.



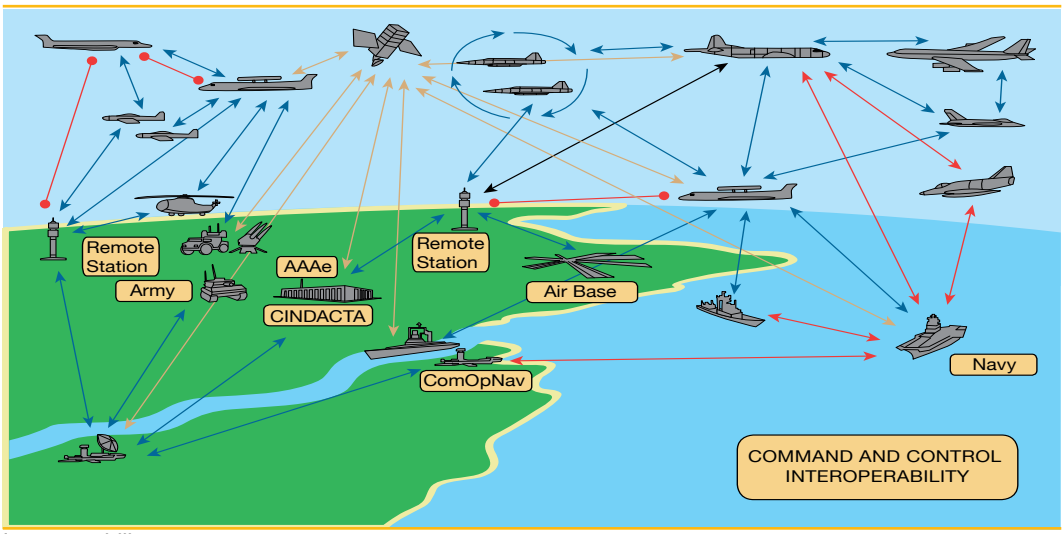
Armed Forces in a Theater of Operations (TO)

The Component Force will have a joint nature whenever it incorporates considerable amounts of resources allocated from more than one Armed Force, under a single command. In this case, they may be called Joint Task Force (Ft Cj) or Joint Force (F Cj), for example: Special Operations Joint Force (F Cj Op Esp), Logistic Command (C Log) etc.

These military Forces must share areas of operation and carry out actions with a single objective, which requires a high degree of interoperability. This requires mutual knowledge and exchange of information and services regarding: employed forces; common procedures; standardization of plans and document; and equipment employed.

Interoperability in Joint Operations

Several Force Components coexist in the Theater of Operations, sharing the sea, land and aerial environments in a coordinated way, conducting actions for the achievement of missions. The Theater of Operations Command synchronizes the Force Components in order to reach strategic and operational objectives. The goal is to obtain effectiveness through the synergy of the various resources in the Theater.



Interoperability

The Armed Forces Ensuring Law and Order (GLO)

Law and order operations demand special preparation and training. The employment of the Armed Services in this type of operation is fundamentally different, in principles and doctrine, from their traditional employment in missions related to defense against foreign threats. In the latter, action is focused on enemy forces that are perfectly identifiable in the field and usually characterized by conventional military weaponry and uniforms.

The peculiarities of this type of action has fostered the creation of a school for the study and research on the field. The Law and Order Operations Training Center (CIOpGLO), in Campinas (State of São Paulo), subordinated to the 11th Light Infantry Brigade, seeks to modernize doctrine and the development of human resources for this type of employment.

The employment of the Armed Forces in law and order operations is the prerogative of the President of the Republic as provided in Article 15 of Complementary Law Nº 97 of 1999[47]. The Law specifies that following presidential orders, the Armed Forces' operational units will be activated to carry out the preventive and repressive actions necessary to ensure the expected results, in an episodic manner, within a previously established area and for a limited time.

[47] Altered by Complementary Laws Nº117 of 2004 and Nº136 of 2010.

After the decision to employ the Armed Forces to guarantee law and order, it is the duty of the competent authority (e.g. state Governor) to formally transfer the operational control of necessary law enforcement agencies to the authority in charge of the operations. The latter should establish an operations coordination center, comprised of representatives of the public agencies under his operational control or with related interests.

Brazilian legislation highlights the subsidiary nature of the Armed Forces' intervention, which should only occur "when all other means assigned to the preservation of public order and the safety of the people and their property are exhausted", as determined in Article 144 of the Federal Constitution.

Presidential Decree Nº 3,897 of 2001 determines that public security means are considered exhausted whenever, within a certain period of time, they become unavailable, inexistent or insufficient for the regular performance of their constitutional mission.

It is also noteworthy that — as provided in Article 5 of same decree — the Armed Forces may be employed to ensure law and order in situations when disturbances are presumable, such as in official and public events, particularly those in which heads of states or of a foreign governments participate, or on elections, upon request by the Electoral High Court.

Usually, the Armed Forces are employed to ensure law and order jointly with federal, state and municipal security agencies.

Contemporary Examples of Military Force Employment

Brazil's Participation in the World Wars

Brazil's participation in the First World War was motivated by a series of episodes involving Brazilian ships in Europe. For example, in April of 1917, the merchant vessel "Paraná" was sunk near the English Channel. During the following months, other Brazilian merchant vessels were sunk as well.

President Wenceslau Bras made an alliance with the countries of the Triple Entente and, even without substantial military power, Brazil supported them, logistically, with agricultural and raw materials.

In compliance with commitments to the Inter-allied Conference, the Brazilian government sent a medical mission comprised of civilian and military surgeons, to act in campaign hospitals in the European Theater of Operations, a number of aviation officers, from the

Army and the Navy, to join the Allied Air Force and, also, part of the Fleet, essentially to conduct anti-submarine warfare.

In order to meet the Navy's duties, the organization of a task force named "Naval Division for Operations of War" (DNOG) was established. It was constituted of ships from the Brazilian Fleet divisions. The following vessels joined the DNOG: the cruisers "Rio Grande do Sul" and "Bahia", the destroyers "Piauí", "Rio Grande do Norte", "Paraíba" and "Santa Catarina", the supply ship "Belmonte" and the tugboat "Laurindo Pitta". The total naval contingent was approximately 1.5 thousand men. The division was charged with patrolling an area within a maritime triangle, which extended from the city of Dakar, in the African coast to the island of São Vicente, in the Cape Verde archipelago, and Gibraltar, in the Mediterranean.

The participation of Brazil in World War II was also strongly motivated by the successive sinking of Brazilian merchant vessels. In reaction to popular pressure, Brazil declared war on the Axis powers on August 1942. The participation of the country in this conflict was more significant than during the First World War.


TORPEDEADO UM NAVIO BRASILEIRO

O GLOBO

O COMUNICADO OFICIAL

EDIÇÃO EXTRA

PARTIDO AO MEIO PELA EXPLOSÃO DOS TORPEDOS

Merchant ship "Buarque" torpedoed — 1942

Naval War ship confronting a submarine

Brazilian operations in the South Atlantic started almost at once. The Navy controlled the navigation routes between North and South America. It also participated in joint and combined operations, including the air-naval patrol, protection and escort of naval convoys and preventive actions to impede attacks by the Axis powers on Brazilian soil. The Brazilian

Navy was the only South American naval force that took part in the two world wars. It protected the country's international trade and ensured necessary supplies for the nation.

The Army sent approximately 25 thousand men to fight in Europe against the Axis powers. The Brazilian Expeditionary Force (FEB) integrated the Fifth US Army. After heavy losses, the FEB's first successful operation was the siege Monte Castello Fortress, which was occupied and garrisoned by a highly capable enemy division.

Following this success, the FEB carried out its subsequent missions with equally impressive results. The first enemy force to surrender in Italy did so to FEB personnel, the so called "Smoking Snakes"[48]. During the World War II Italian campaign, the FEB took custody of over 20 thousand prisoners.

Illustration of a Brazilian soldier in World War II and the Brazilian Expeditionary Force symbol — the Smoking Snake

The Brazilian Air Force was created during World War II, in 1941. In 1942, it began to carry out engagements in the patrol of Brazilian waters. In 1943, the 1st Fighter Group was created. In the same year, a Brazilian Air Force aircraft sank an Axis submarine in the coast of Rio de Janeiro.

The 1st Fighter Group operated in Italy from 1944 and integrated the 350th US Fighter Group. It executed over two thousand missions and distinguished itself as one of three foreign air units to be awarded a United States Presidential Unit Citation.

[48] The Brazilian Expeditionary Force adopted the smoking snake as symbol due to what was said at the time: that it would be easier to see a snake smoking than to see Brazil at war.

Illustration of an aircraft of the Brazilian Air Force in World War II and the symbol of the Air Force in the conflict

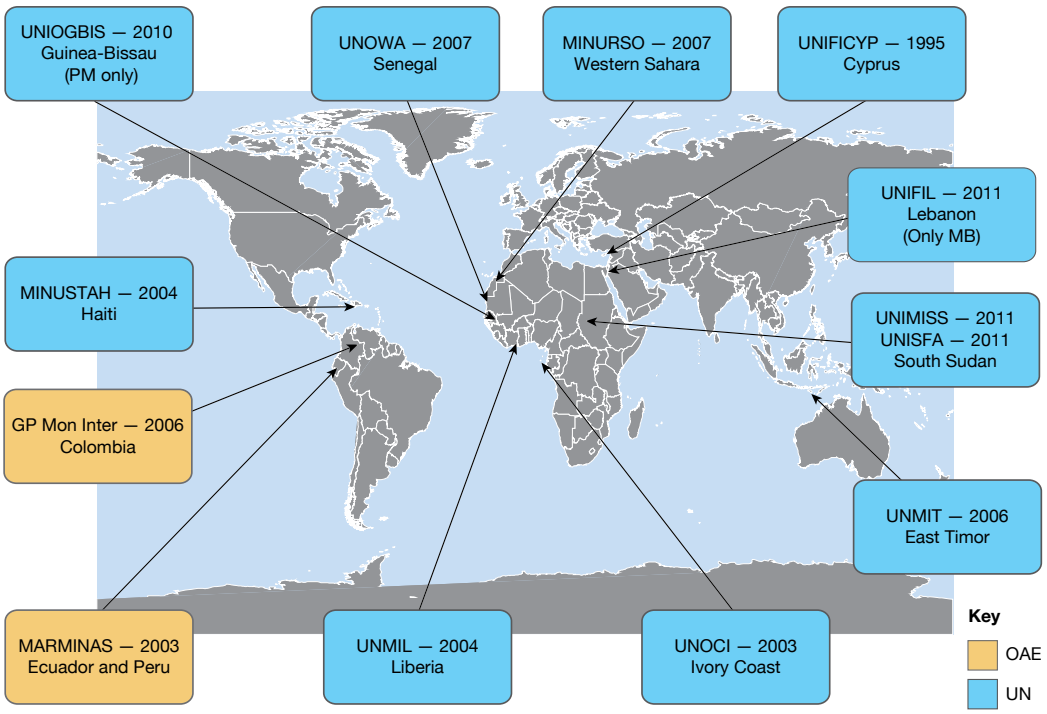
Also worth noting is the participation in Italy of the 1st Liaison and Observation Squadron, which acted jointly with the Divisionary Artillery, both units of the Brazilian Expeditionary Force. In this joint action, the aircraft crews were formed by Air Force pilots and by Army air observers, whose task it was to regulate artillery fire.

Brazil's Participation in Peacekeeping Missions

Since 1947, the country participates in United Nations peacekeeping missions, having already contributed with over 30 thousand military and police personnel. It has integrated operations in Africa (Congo, Angola, Mozambique, Liberia, Uganda and Sudan), in Central America and the Caribbean (El Salvador, Nicaragua, Guatemala and Haiti), in Asia (Cambodia and East-Timor) and in Europe (Cyprus and Croatia). Brazil assigned troops to Suez (UNEF), Angola (UNAVEM), Mozambique (ONUMOZ), East-Timor (UNTAET/UNMISET), Haiti (MINUSTAH) and, recently, in Lebanon (UNIFIL).

An important example of Brazilian participation in peacekeeping missions is the presence of a contingent of the Armed Forces in Haiti, since 2004, in the United Nations Stabilizing Mission — MINUSTAH. Brazil supplies over two thousand Army, Navy and Air Force military personnel, the largest contingent among the 15 participating countries and holds the command of this Peacekeeping Force.

The MINUSTAH was created by resolution of the United Nations Security Council. It contributes to the reestablishment of institutional normality in Haiti after a long period of political instability.



Brazilian participation in ongoing peacekeeping and humanitarian missions

The MINUSTAH's role in ensuring the presidential elections of 2006 and 2010, with peaceful transition of power, are noteworthy. As is the relevant role of the United Nations Mission in reconstructing Haiti after the severe earthquake of January 2010.

The work undertaken by the Brazilian military is acknowledged by the Haitian people and by international authorities. This is due to the military's particular form of action, a result of prior training received and its own professional expertise acquired with time.

The Haiti mission also allows participating Forces to improve their operational and logistical systems, as well as maintain exchanges with troops from other nations.

In coordination with the UN and other UNASUL countries which integrate the Mission, Brazil plans a gradual withdrawal of its troops from Haiti, in accordance with the desire and capacity of the Haitian government to guarantee the country's security.

Another recent example of Brazil's participation in peacekeeping missions is the Brazilian presence in the United Nations Interim Force in Lebanon (UNIFIL). In February 2011, a Brazilian Admiral took office as Commander of the Maritime Task Force (MTF) of the UNIFIL. The MTF was established in 2006 and is the first Naval Task Force to integrate a UN Peacekeeping Mission. It is assigned to prevent the entrance of illegal

President Dilma visiting Haiti

weapons into Lebanon, as well as to train the Lebanese Navy's personnel. The Frigate "União" was incorporated into the MTF in November 2011 and replaced by Frigate "Liberal" in May 2012. The UNIFIL was created in 1978, with the purpose of keeping the stability within the region, during the Israeli troops' withdrawal from Lebanese territory.

Numbers of Troops in Peacekeeping Operations in MINUSTAH and UNIFIL

	2004	2005	2006	2007	2008	2009	2010	2011	2012*
MINUSTAH	1,200	2,400	2,396	2,396	2,396	2,396	4,396	4,395	2,099
FTM-UNIFIL	-	-	-	-	-	-	-	261	267

*Number estimate until June 2012.

Brazilian Government Expenditure on MINUSTAH and UNIFIL (R$ million)

Year	Brazilian Government Expenditure		Refunded by the UN*
	MINUSTAH	UNIFIL	MINUSTAH
2004	148,07	-	12,59
2005	142,38	-	77,57
2006	80,67	-	51,59
2007	112,10	-	42,63
2008	127,92	-	95,01
2009	125,41	-	20,08
2010**	673,86	-	80,02
2011	245,06	43,20	125,61
2012***	14,53	6,52	18,87
Total	1,670,00	49,72	523,97

*There are no UN reimbursements concerning UNIFIL, as the memorandum of understanding is still under negotiations.
**2010 values comprise troops employed, the activation of the 2nd Infantry Battalion of the Peacekeeping Force and resources assigned to humanitarian aid.
***Data computed up to June 2012.

Armed Forces' Role in Ensuring Law and Order

The participation of the Brazilian military in a Pacification Force for the Complexo do Alemão and Complexo da Penha — both low income suburban neighborhoods of the city of Rio de Janeiro — is another, of several, examples of the Armed Forces' work aiming to fulfill their constitutional mission.

This Pacification Force was created by the Ministry of Defense in 2010, by order of the President of the Republic, in order to cooperate with the Government of the State of Rio de Janeiro in the establishment of law and order, following illegalities committed by organized crime. The "Alemão-Penha" neighborhoods were occupied following coordinated action by the Army, Navy and the State of Rio de Janeiro's Military Police Force.

The Pacification Force, established under the authority of the Army's Eastern Command, acted to ensure the safety of the population until police personnel could be prepared to occupy Police Pacification Units (UPP) in the communities. Besides these operations, the military also undertook civic and social activities (ACISO)[49], with the aim of improving the quality of life of over 400 thousand dwellers in those neighborhoods.

[49] Concept in detail in Chapter 4.

Pacification Force Data

Force	Quantity of military personnel	Expenditures (R$ Millions)		
		2011	2012	Total
Navy	148	5,4	-	5,4
Army	1,800	198	135,4	333,4

The Ágata Operations are another recent example of Federal troops ensuring Law and Order. These operations are conducted in the borderlands, in partnership with the Ministries of Justice and Finance. They are a joint activities conducted by the Brazilian Armed Forces and they aim to combat trans-border and environmental crimes, in coordination with other federal and state agencies. The operations are prepared in accordance with the Strategic Border Plan, instated by Decree Nº 7,496 of June 8, 2011. The main objectives of this Plan are to: neutralize organized crime, reduce of crime levels, cooperate with neighboring countries and support the local population.

In 2011, Operations Agata-1, in the State of the Amazonas, Agata-2, in the States of Rio Grande do Sul, Paraná and Santa Catarina and Agata-3 in the States of Mato Grosso do Sul, Mato Grosso, Rondonia, Acre and Amazonas were carried out. In 2012, in continuation, Operation Agata-4 took place in the States of Amapá, Pará, Roraima and Amazonas.

Operation Agata General Data

	2011			2012	
	AGATA 1	AGATA 2	AGATA 3	AGATA 4	Total
Quantity of military personnel	3,044	8,705	7,146	8,494	27,389
Ships	5	6	10	7	28
Boats	50	60	123	57	290
Vehicles	43	64	203	65	375
Aircraft	23	29	47	24	123
Flight time	587	1,324	1,499	785	4,123
Resources (in R$ million)	21,4	21,4	21,4	15,1	79,30

CHAPTER 4

BRAZILIAN AIR FORCE, TOGETHER WITH INDIGENOUS PEOPLE OF THE XITEI TRIBE (STATE OF RORAIMA), RAISING A MAST FOR THE NATIONAL FLAG

DEFENSE AND SOCIETY

> "The fundamental priority of my government is to eradicate extreme poverty in Brazil. In this fight I rely on the Armed Forces. Their extensive experience in social assistance, developed all over the national territory, reaching the farthest and remotest regions, is of inestimable value to attain this prime goal."
>
> President Dilma Rousseff
> Brasilia, April 5, 2011

The speed of technological and social change has produced substantial transformation in traditional standards of political and human relationships. This has significantly affected international relations, the security of the state and its defense system. This new environment requires a high capacity for critical analysis, in order to understand the present context, anticipate future scenarios as well as identify and transform relevant data into state strategy, based on available means. Such long-term demands require a deep and stable relation between society and state.

The harmonious interaction between defense organizations and society generates greater dynamism in defense and security policy. This interaction contributes to the continuous improvement of the state's ability to identify and analyze national security and defense demands.

The implementation of the National Defense Policy requires the capacity to incorporate and process a wide range of interests and demands in the national and international spheres. Society must be involved in the moment of choosing priorities and strategies, as well as in monitoring and evaluating government action. The efficient management of the country's defense resources requires balance between the adequate use of available financial resources and the capabilities desired for the defense establishment. The quality of the implementation of the National Defense Policy reflects the administrative capacity of the government, as well as relations between state and society.

Ministry of Defense's Social Programs

The Ministry of Defense, including the Armed Forces, has created mechanisms and programs which contribute to the increase of social participation in defense and security issues.

Citizen-Soldier Project

The project aims to socially and professionally develop conscripted recruits[50] by complementing their civilian education and facilitating their admission into the job market. This initiative began in 2004 and covers the entire national territory. Already 100 thousand young people have benefitted from it. Courses are taught by institutions of good quality. They include introduction to entrepreneurship, ethics and citizenship. Courses are offered according to the demands of the local job market, and considering the preferences of the participants. The following areas, among others are prioritized: telecommunication, engine repair, food production, civil construction, graphic arts, sewing, textile production, electrical repair, commerce, public relations, transportation, information technology and health studies. Approximately 67% of participants enrolled in the Project are awarded professional employment upon completion of their military service.

Northern Border Program (Calha Norte)

Created by the Federal Government in 1985, the Northern Border Program was initially aimed at promoting the orderly and sustainable occupation and development of the region that lies north of the Amazon River. However, the program was recently extended to the Marajó Island (State of Pará) and to the Southern border of the rivers Solimões/Amazonas, up to the borders of the states of Rondônia and Mato Grosso. The accomplishment of the objectives of this program rely on several actions, such as the construction of highways, ports, bridges, schools, nurseries, hospitals, aerodromes, potable water wells and electric power grids. These actions are greatly beneficial to local communities.

The Northern Border Program is of great importance for increasing the presence of public services in an area both poor and vulnerable. It contributes to national defense and integration. The program spans approximately 30% of the national territory, where there are about 8 million people are located, including 46% of Brazil's indigenous population.

[50] The obligatory military service, established by the first Brazilian Constitution in 1824, is an integration space for all Brazilian social groups and their Armed Forces. The National Defense Strategy seeks to value the military service, stressing its republican and democratic nature. The military service is open to every citizen, with no class, race or religion distinction.

Besides budget resources directly transferred to the Armed Forces, the Northern Border Program relies on civilian agreements for resource allocation, involving the Ministry of Defense, and the region's states and municipalities.

The three Armed Services participate in the Northern Border as follows:

Navy:

- river navigation control and security; and
- assistance to poor communities in the region.

Army:

- implementation of basic infrastructure in the region's municipalities;
- establishment of military units;
- maintenance of highways;
- maintenance of small power stations; and
- maintenance of Special Border Platoons' infrastructure.

Air Force:

- establishment of military units;
- support through logistical air transportation;
- maintenance of aerodromes; and
- support for communities, with aeromedical evacuation.

The Northern Border Program is of political and strategic interest. It is a governmental and multi-sector program involving several public agencies that reaches a wide segment of the Brazilian population in need.

Armed Forces in Sports Program

The Armed Forces in Sports Program is developed by the Ministry of Defense together with other departments. Its general objective is to promote social integration through the practice of sports. Tutoring, disease prevention and general educational orientation are among the activities of the program. Efforts are concentrated on social inclusion, promotion of public spirit, insertion in the job market as well as physical, sports and leisure activities.

Currently, approximately 12 thousand children and adolescents between the ages of seven to seventeen are benefitting from this program. The Armed Forces provide: facilities; medical and odontological services; welfare assistance; coordinators; transportation; and auditors. The Ministry of Sports is responsible for offering sports equipment and paying

teachers and trainees; the Ministry of Social Development and Hunger Alleviation is in charge of food provision; and the Ministry of Education is responsible for the supply of educational material.

President Dilma Rousseff greets children participating in the Armed Forces in Sports Program

The Rondon Project

The Rondon Project is led by the Ministry of Defense. It aims to enable college students to participate in processes of local and sustainable development in Brazilian municipalities, which also strengthen public spirit. The Project was created in 1967 as a result of a sociology paper produced by students from the University of the State Rio de Janeiro (formerly University of the State of Guanabara) and the Army Command and Staff College.

The project grants selected municipalities the opportunity to receive professors and college students from different areas of study, who wish to contribute to the community and to collaborate with local leaders to improvement the wellbeing of locals and the efficiency of municipal administration.

Participants, so called "rondonistas", work to generate multipliers whenever possible — producers, public agents, teachers and local leaders — and perform actions with lasting effect for the local population, economy, environment and municipal administration.

College students in the Rondon Project assisting an Amazon community

Due to the project's vast reach, the Armed Forces' logistical support is indispensable. Transportation of large loads are undertaken by Air Force aircrafts. River transportation is provided by Brazilian Navy. Army units located in the areas of operation provide organization, lodging, food and local transportation, as well as the teams' security.

Year	Rondonistas	Assisted Municipalities
2005	312	19
2006	1,377	91
2007	1,933	128
2008	2,002	143
2009	1,756	116
2010	2,400	136
2011	2,860	141
2012	1,180	59
TOTAL	13,820	833

Source: Ministry of Defense — Rondon Project website.

Subsidiary and Complementary Actions

The Armed Services perform activities known as subsidiary and complementary actions, with the objective of contributing to national development and civil defense.

The Services act and participate directly with various segments of society. Examples include: the application of Army engineering to construct roads, railways, bridges and water reservoir; aeromedical evacuation by the Air Force in remote regions; and medical support provided by the Navy's hospital ships. The military also provides humanitarian support in the occurrence of major accidents and calamities, such as: aircraft crashes, shipwrecks, floods, earthquakes and long lasting droughts.

The military units of the Armed Forces are present in every region of the country and they actively interact with their local communities. Military personnel participate in a community's life by engaging in public events and by providing civic and social services, including public health campaigns and support during calamities. They also render services related to: inspection of restricted products; protection of human life; navigational security; airspace control; and search and rescue activities.

The employment of the Armed Forces contributes to speed up the Federal Government's response to contingencies. Further examples of subsidiary and complementary activities are listed below by Armed Service:

Navy:

- supervises compliance with waterway traffic safety legislation;
- controls professional maritime and port training, thereby contributing to the Merchant Navy professionals' training across the country;
- cares for human life at sea and in inland waters, through the Waterway Traffic Security System (ports authorities, maritime police stations and agencies), for navigation safety and for the control of water pollution by ships, drills and support facilities;
- attends to poor communities in the Amazon and the Pantanal region (State of Mato-Grosso), through Hospital Ships (NAsH). These are known as Hospital Operations for Riverine Communities (ASSHOP). The Hospital Ships are commonly referred to as "ships of hope" by riverine inhabitants;

- performs Civic and Social Activities (ACISO) in several of the country's poor communities, through the restoration of schools and shelters, medical and dental care, and blood donations to local health organizations; and
- participates in human aid operations, by assembling campaign hospitals, at home and abroad.

Navy hospital ship supporting a riverine community

Army:

- supervises the production and trade of restricted products;
- executes engineering works in several regions of the country, participating actively in the Growth Acceleration Program (PAC) of the Federal Government;
- offers support in situations of public calamities, social emergencies and public health campaigns;
- supports indigenous communities in the Amazon region, in the areas of health and education, through the Special Border Platoons;
- distributes water in the Northeastern region; and
- controls and inspects arms production and trade. This activity encompasses the manufacture, import, export, customs, trade and traffic of weapons, ammunitions and explosives.

Army assistance for victims of a natural disaster in the city of Nova Friburgo (State of Rio de Janeiro)

Air Force:

- constructs, through the Commission on Airports in the Amazon Region (COMARA), airports and airport facilities and paving as well as public roads in Amazon towns, thereby contributing to national integration since certain areas are only accessible by airplanes or helicopters;
- carries out Civic and Social Actions (ACISO) in poor communities by providing air transportation for medical doctors, dentists, nurses, other health assistants, equipment and medicine; and
- transports people, essential products and conducts aeromedical evacuations in communities that are poor or affected by natural disasters. Some of these activities are carried out by the National Air Mail (CAN), a program that, since 1931, contributes to the integration of the national territory with air paths that, currently, cover over 52 locations in the country.

Air Force support for Civil Defense.

Operation Mountains

Operation Mountains was an initiative by the Ministry of Defense to support Civil Defense in the city of Rio de Janeiro and the cities of the mountainous region of Rio de Janeiro State due to floods and land-slides, which occurred in January, 2011.

The Amy's Eastern Command was in charge of this operation, although officers from each of the Armed Services were also subordinated to this Command. The operational monitoring of federal troops was undertaken by the Chief of the Joint Staff.

During the operation, the Armed Forces were engaged in: clearing paths and removing wreckages; supporting Civil Defense in the distribution of donations; medical assistance; and transporting victims, emergency personnel and medical doctors.

Operation Mountains mobilized 1,200 federal military personnel.

In 2011, the Armed Forces also supported Civil Defense in the States of Goiás, Paraná, Santa Catarina and Rio Grande do Sul, in similar situations to that of Rio de Janeiro.

United Nations Conference on Sustainable Development

RIO + 20

During the period of June 13 to 22, 2012, the city of Rio de Janeiro served as the venue of the United Nations Conference on Sustainable Development. This event marked the 20th anniversary of the United Nations Conference on Environment and Development (UNCED), which was held in Rio de Janeiro in 1992, and the 10th anniversary of the World Summit on Sustainable Development (WSSD), held in Johannesburg in 2002.

The Conference was attended by approximately 120 heads of states and government. The Ministry of Defense, through the Joint Staff, was in charge of the security of: the authorities; the sites reserved for the events, Riocentro and Aterro do Flamengo; and the hotels, ports and airports in Rio do Janeiro.

The Army's Eastern Command was charged with implementing the Joint Staff's security plan. Besides the Land Force, the Navy, the Air Force as well as federal and state security agencies, including the Federal Police, the Brazilian Intelligence Agency (ABIN), state police and the Municipal Police of Rio de Janeiro also participated in the security effort.

The Conference Security Plan relied on troops especially trained for acting, preventing and reacting to terrorist attacks, including chemical and bacteriological threats. Futhermore, the Cyber Defense Center installed facilities in Riocentro in order to protect telecommunication systems from possible cyber-attacks.

Altogether, around 24 thousand professionals — including 15 thousand Armed Services personnel military — were mobilized in this operation. No incident worthy of record took place during the Conference.

Institutional Relations

Ministry of Defense and the Executive Branch

The Ministry of Defense, as part of the Executive Branch, interacts with other ministries in the formulation and implementation of public policies related to their constitutional and subsidiary responsibilities, through activities that benefit society.

Presented below, are some noteworthy activities carried out by the Ministry of Defense in partnership with other ministries, some of which have already been described in previous topics:

	Ministries	Areas of Cooperation
Ministry of Defense	Ministry of Agriculture, Livestock and Supply	Border surveillance to prevent the spread of diseases in Brazil.
	Ministry of Science, Technology and Innovation	National Space Program — Development of a Satellite Launching Vehicle.
	Ministry of Development, Industry and Foreign Trade	Implementation of the Policy on the Development of Biotechnology (PDB).
	Ministry of Education	Partnership with CAPES in the Program for the Support of Teaching and Scientific & Technological Research on National Defense (Pro-Defense).
	Ministry of Sports and Ministry of Social Development and Hunger Aliviation	Armed Forces in Sports Program — food, education and sports.
	Ministry of National Integration	Civil Defense — Response to disasters and support for reconstruction.
	Ministry of Justice	Strategic Plan for Borders — Integrated operations between state security agencies and the Armed Forces to prevent and suppress transnational crime.
	Ministry of Health	Vaccination campaigns, prevention and fight against Dengue Fever.
	Ministry of Science, Technology and Innovation, Ministry of Development, Industry and Foreign Trade, Ministry of Finance, Ministry of Justice and Ministry of Foreign Relations	Inter-ministerial Committee on Export Control of Sensitive Products — Export Control of dual-use chemicals, nuclear material and controlled biological agents.

Source: Ministry of Defense.

Ministry of Defense and the Legislative Branch

The Ministry of Defense's primary means of communication with the National Congress are its Congressional Affairs Office (ASPAR/MD) and the Congressional Affairs of each of the Armed Forces.

The Ministry of Defense interacts with the National Congress particularly through the Legislative Branch's two permanent commissions that deal specifically with the issue of National Defense: the House of Representatives' Commission on Foreign Affairs and National Defense (CREDN) and the Senate Commission on Foreign Affairs and National Defense (CRE)[51].

The Congress has the following constitutional duties in matters concerning or related to National Defense:

- testablish and alter the number of personnel in the Armed Forces (Art. 48);
- ratify international treaties, agreements or acts that result in heavy onus or commitments to the national treasury (Art. 49);
- authorize the President of the Republic to declare war, celebrate peace, allow foreign forces to transit national territory or to remain temporarily, except cases regulated by complementary law (Art. 49);
- authorize states of emergency and federal intervention, or interrupt any of those measures (Art. 49);
- approve initiatives of the Executive Branch concerning nuclear activities (art. 49); and
- approve multiannual plans, budget guidelines laws, annual budget laws, as detailed in chapter six.

Besides these responsibilities, the presidents of the House of Representatives and the Senate are members to the National Defense Council (Art. 91), a consultative body to the President of the Republic for issues concerning national sovereignty and the defense of democracy.

The continuous empowerment of the National Congress in defense issues contributes to the increase of interest and engagement of society in this area. It is Congress' duty, for instance, to review this National Defense White Paper.

[51] Since the establishment of the Ministry of Defense in 1999, the incumbent and past Ministers of Defense have participated in 53 public hearings and in three seminars organized by the permanent commissions of the National Congress.

Ministry of Defense and the Judicial Branch

The objective of the federal military courts is to judge military crimes. This body is comprised of 40 judges, distributed among 12 judicial districts spread across the national territory, as well as the Military High Court (STM), located in Brasília.

The Federal Constitution establishes that the Armed Forces are organized based upon hierarchy and discipline, and have as their mission the defense of the Homeland, the protection of the three branches of state, and by initiative of any of these branches, the promotion of law and order. The national legal framework provides a body of norms to ensure that military institutions achieve their essential purposes.

The Constitution is at the root of military criminal law. Chapter III of the Constitution refers to the Judiciary, listing the institutions that integrate that branch of the state, including the military courts and high courts (Art. 92, VI). The Constitution assigns to federal law the role of defining military crimes and to the military courts the competence of processing and judging compliance with these laws. (Art. 124). The Military Criminal Law is inscribed in the Military Criminal Code. The various roles of the Military High Court are provided in Art. 6th of Law № 8,457 of 1992 that regulates the military courts, in accordance with the Federal Constitution.

The military justice system is composed, in the first instance, by auditors and, in the second instance, by the Military High Court, which deals with military crimes committed by civilians and military personnel, but not with administrative infractions or indiscipline.

The Military High Court is composed by 15 permanent magistrates, nominated by the President of the Republic and subsequently approved by the Federal Senate. Of these fifteen magistrates, three are Flag Officers of the Navy, four are General Officers of the Army, and three are General Officers of the Air Force. All of these officers are in active service, within a special group, and exercise the highest rank of their respective military careers. The remaining five magistrates are civilians.

The Ministry of Defense maintains tight cooperation with electoral courts. The Armed Forces act during electoral periods, upon authorization from the Electoral High Court (TSE), due to requests by regional courts for the use of federal force in support of elections. Thus, exceptionally, during the electoral period around 15 thousand military personnel from the Armed Forces are convened to participate in operations in over 300 Brazilian municipalities, to reinforce security and to ensure the transportation of cargo, voting machines in particular, and professionals from the electoral courts to remote regions of the country.

Defense and the Human Rights

The Universal Declaration of Human Rights was adopted and proclaimed by resolution 217 A (III) of the United Nations General Assembly in December 1948. This document was conceived to be a common ideal to be sought by all nations. Signatories must promote the respect for the rights and freedoms expressed in the Declaration. The document also adopts progressive measures, of national and international nature, to ensure its universal and effective recognition and observance[52].

The 5th Article of the Brazilian Constitution adopts the principles listed in the Universal Declaration of Human Rights, with stress on the equality to all before the law, without distinction of any kind. It guarantees to all Brazilians and foreigners residing in the country the inviolability of the rights to life, liberty, equality and property[53].

The Universal Declaration of Human Rights and the Federal Constitution guarantee that human rights are respected when the Ministry of Defense, its military commands, and subordinated agencies undertake their various activities.

To guide the employment of the Armed Forces, the Ministry of Defense issues guidelines which set the rules of engagement — these are operational procedures or general rules of action, which guide the individual and collective conduct of the troops employed, including in non-conventional operations. The rules of engagement are prepared in accordance with each mission that the Armed Forces are called to. Legal procedures in force in the country are faithfully observed, which limit the military's freedom of action during self-defense and legitimate defense.

The Armed Forces constitutional employment in international armed conflicts is also based on the International Law of Armed Conflicts (DICA)[54].

The International Law of Armed Conflict is a group of international norms applied to armed conflicts, which for humanitarian reasons, limits the right of the parties in conflict to freely choose methods and means to be employed in the conduct of hostilities. It also protects people and property affected by these conflicts[55]. The International Law of Armed Conflicts derives from the Geneva Conventions, a group of laws which regulates the protection of victims of armed conflicts, including combatants and non-combatants[56].

[52] The Universal Declaration of Human Rights, 1948.

[53] The 30 articles of The Universal Declaration of Human Rights are expressed in the 78 items of 5th article.

[54] Other legal documents sustaining the Armed Forces: Law of Geneva, Law of Hague, Law of New York and the Military Statute.

[55] IDAC's basic principles are: Distinction, Limitation, Proportionality, Military Needs and Humanity. These principles' objective is to limit and assess, as much as possible, the war calamities, through the military needs conciliation with the requirements set by principles of humanitarian nature. Armed Conflicts Employment Manual (IDAC) in the Armed Forces, 1st Edition, EMCFA, Ministry of Defense, 2011.

[56] The first Convention of Geneva took place in 1864 and introduced what became called the humanitarian right. Other four

Support for human rights in Haiti (MINUSTAH)

The International Law of Armed Conflict refers to relations between states and applies only to situations of armed conflict. Human rights, on the other hand, are characterized by the principles of universality and indivisibility, and therefore apply in any situation. In this context, the state must respect civil and political rights, and promote social, economic and cultural rights as well. Both the International Law of Armed Conflict and the laws on human rights are based on the respect for the physical and moral integrity to the human being.

Among other factors, the growing participation of the Armed Forces in Peacekeeping Operations[57] aand in Operations of Law and Order have demonstrated the need to improve the study of human rights and the International Law on Armed Conflicts in the various educational institutions of the Navy, Army and Air Force.

Considering the importance of deepening studies on the subject and in accordance with the 3rd National Plan for Human Rights[58], the Ministry of Defense established guidelines

conventions were held in 1949, with the purpose to safeguard and protect the armed conflicts' victims.

[57] It is important to mark that the Brazilian Joint Center of Peacekeeping Operations has already a series of stages on the Human Rights theme. Moreover, the UN distributed its own guidelines for Peacekeeping operations conduction.

[58]The PNDH-3 represents a permanent dialogue between State and Society, securing transparency in all government spheres; Human Rights priority in internal policies and international relations; a laic State; the strengthening of the federative pact; universality, indivisibility and interdependence of civil, political, economic, social, cultural and environmental rights; a neat option for the sustainable development; respect to diversity, fight against inequality; hunger and extreme poverty eradication.

for the Armed Forces, in December 2011, for the implementation of a special Program on Human Rights. This program is to be held from 2012 on and it is mandatory for all military personnel appointed to Peacekeeping Missions, and Law and Order Operations. This program should also cover, as much as possible, to remaining Armed Forces officers and enlisted personnel in the various Military Organizations.

The Human Rights Program is scheduled to be taught in undergraduate military schools from 2013 on. It will also be adapted into the curriculums of the Armed Services' graduate schools. The Program therefore will contribute, along with other initiatives, towards increasing awareness and protection of human rights. It will also bring the Armed Forces closer to the Brazilian society as well as international treaties and conventions.

Defense and the Access to Information Act

On November 18, 2011, Law Nº 12,527 was sanctioned — the Access to Information Act — which regulates the constitutional right of citizens to obtain access to public information from federal, state and municipal offices of the Executive Branch, Congress (including the Court of Audit), the Judiciary and the Prosecutor General's Office, including offices in central administration, decentralized agencies and state owned enterprises.

The aforementioned Act treats access to information as a general rule, and confidentiality as an exception. It also alters the confidentiality periods and classification of documents[59]. The Ministry of Defense has adjusted the classification of all its documents according to the provisions of the new Act and has adopted measures in order to facilitate the access and consultation of data and documents under its responsibility, thus contributing to the consolidation of democracy and the strengthening of transparency policy.

The Citizen's Information Service (SIC) of the Ministry of Defense, inaugurated in May 2012, is part of this transparency effort. The Information Service, located in the ground floor of the Ministry building, is the sector responsible for providing guidance to people who are interested in procedures for consulting and accessing the Ministry's public information.

In addition to the Citizen's Information Service, the National Defense White Paper and the website of the Ministry of Defense all promote and publicize Defense information which is of general and collective interest.

[59] The Minister of Defense has directed that the reclassification of confidential documents, within the scope of the Ministry of Defense, should not result in the increase of confidentiality periods.

Defense and Academia

In a democratic society, academia plays an important role jointly with state institutions by producing knowledge and analysis that challenge established concepts.

The production of academic papers on National Defense has recently increased to a significant extent and has gained further importance with the creation of the Brazilian Association for Defense Studies (ABED).

Although some scholars have, individually, produced studies and research on themes related to the National Defense, there were no courses, programs and infrastructure that would allow for a more robust academic production.

The incentive to open academic space for critical reflection on defense issues and, consequently, the creation of institutional conditions necessary for related university activities has derived, in fair amount, from the flourishing of study and research on international relations. The awareness that the country is not immune to risks and threats, inherent to the relations between states, was reinforced and the integration of individual researchers was favored. In this context, new disciplines on Defense were created in International Relations and Political Sciences programs.

The Ministry of Defense has sought to empower this phenomenon. The National Defense Strategy has as one of its strategic actions the necessity to develop civilian experts on defense and to support programs and courses on National Defense. The objective is to promote further integration and participation of civilian sectors of the government in debates related to defense issues, as well as to foster effective participation of the Brazilian society, through the academic environment and institutes and entities linked to strategic

Brazilian Defense Studies Association (ABED)

The ABED was created in 2005 as a result of the joint efforts of a group of researchers from different regions and academic backgrounds. These researchers, all members of important institutions, shared a common concern for consolidating the related fields of: National Defense; National and International Security; Strategy; War and Peace; Civil-Military Relations; and Science and Technology. The objective of the Association is to promote the exchange of ideas, the debate of problems and the development of initiatives that are of common interest within the area of Defense Studies. The resulting intellectual production of this Association constitutes important technical material for supporting policy makers and the general public. The Association produces significant synergetic effects between academic sectors that study National Defense, thereby creating conditions for a renewal of national strategic thought.

defense issues. The Pandiá Calogeras Institute, a civilian institution, will have as its main mission the strengthening of relations with academia.

Some initiatives of the Ministry of Defense to improve research in the field of Defense are described below.

Pro-Defense Program

With the aim of contributing to the development of academic activities, the Coordination for the Development of Graduates (CAPES) and the Ministry of Defense jointly launched, in 2005, the Program for the Support of Teaching and Scientific & Technological Research on National Defense (Pro Defense Program). The objectives of Pro-Defense are as follows:

- timplement in Brazil academic cooperation networks in the area of National Defense;
- develop human resources at the master and doctorate levels;
- promote the exchange of knowledge within the Brazilian academic community;
- stimulate partnerships among colleges, strategic studies centers and military institutions of education and research; and
- promote dialogue on National Defense among civilian and military specialists.

PRO-DEFENSE	Public Notice I — 2005 (2006 — 2010)	Public Notice II — 2008 (2008 — 2012)
Projects registered/selected	42/11	23/16
Civilian Institutions	15	25
Military Institutions	10	18
Personnel Education	15 PhD 44 Master's degree	15 PhD 30 Master's degree (forecast)

Source: Ministry of Defense.

Strategy and Policy Studies Centers

Besides the civilian academic centers that deal with issues of policy and strategy, the Ministry of Defense also maintains several study centers:

- The War College's Strategic Studies Center;
- The Naval Academy Policy and Strategic Studies Center;

- The Marine Corps Studies Center;
- The Army Strategic Studies Center;
- The Army Command and General Staff College's Strategic Studies Center; and
- The Air Force University's Strategic Studies Center.

These centers contribute to the synergy between the Ministry of Defense, academia and other sectors of society through courses, symposiums, conferences, seminars, congresses and other activities related to the theme of National Defense.

Brazilian Antarctic Program (PROANTAR)

The scientific activities of the PROANTAR, already noted in chapter 2, are proposed and developed by scholars from universities and research institutions of different regions of Brazil. Researchers conduct investigations, through an interdisciplinary and inter-institutional manner, on various fields including: Earth Sciences, Atmospheric Sciences, Life Sciences and Technology. Projects include research on: environmental change in the Antarctic continent and its global impacts; environmental monitoring; and complementary studies on local fauna and botany, among others matters.

Oceanographic Support Ship Ary Rongel and Polar Ship Admiral Maximiniano operating in OPERANTAR

The research engages a great number of Brazilian scientists, from different areas of expertise and educational and research institutions, who develop their activities in the Antarctic continent, using as support base the facilities of the Antarctic Station Comandante Ferraz[60] and the Navy's ships (Oceanographic Support Ship Ary Rangel and Polar Ship Admiral Maximiano).

Academic Congress

The Academic Congress is an initiative dedicated to the academic interaction between students of officer cadet schools of the three Forces and university students from across the country. Annually, the Ministry of Defense publishes, in nation-wide notices, the prerequisites for higher education institutions to participate. The Congress is held in military schools and has an average duration of one week. It includes debates on issues of national interest as well as cultural and social activities.

Other Initiatives

Besides the above-mentioned activities, the Ministry of Defense seeks, through various means, to raise its degree of interactivity with society and to encourage research in the area of National Defense. The most recent example of such an initiative was the preparation process of this National Defense White Paper. Five national seminars were held, in different cities of the country, and one of international scope, in Rio de Janeiro. A competition was also held to select exceptional papers on National Defense by young university students from across the country.

Civilian Staff in the Ministry of Defense

The manpower of the Ministry of Defense's Central Administration is composed of 483 civilian and 680 military positions, 1,163 in total. The Ministry does not possess its own particular civilian staff. Its civilian positions are filled by 104 civilians from the extinct Armed Forces General Staff, 46 military reserve personnel hired for an indeterminate time period, 157 civil servants from other public agencies and 176 civil servants who are freely appointed to Senior Managerial and Advisory Offices (DAS), according to legislation in force.

With the aim of providing the Ministry with its own particular staff, due to the importance and peculiarity of its activities, the National Defense Strategy determined a study to create

[60] On February 25, 2012, the Antarctic Station Comandante Ferraz was partially destroyed by fire. The Provisional Act Nº 560 of March 7, 2012, announced by the President of the Republic, Dilma Rousseff, determined the recovery and reconstruction of the base with the aim of continuing the activities of PROANTAR.

a career of Defense Analyst, with professional requirements that are compatible with the activities of the Ministry. The bill for creating this career is currently being processed by the Ministry of Planning. These professionals, after being selected through open and competitive processes and having completed a specialization program on defense, will, in great part, take up positions in the Ministry of Defense. Some of them may be distributed to other ministries to develop projects and programs concerning National Defense.

It is worth noting that the majority of civil servants in the Ministry of Defense work in offices which are civilian in nature, these include: the Office of the Minister of Defense, the Office of Management, the Office of Defense Materiel, the Office of Education, Health and Sports; the Center for the Management and Operation of the Amazon Protection System, the Office of Legal Affairs, and the Office of Internal Audit. A small quantity of civil servants also works in the Joint Staff.

Defense and Industrial Development

The National Defense Strategy (END) regards the development of the national defense industry and technological autonomy as essential guidelines for the adequate supply of the Armed Forces and for the development of the nation itself.

The attendance of the equipment needs of the Armed Forces will prioritize the assimilation of advanced technologies by Brazilian nationals. The restructuring of the Brazilian defense industry is a direct consequence to this decision. Guideline Nº 22 of the National Defense Strategy determined the need to develop the nation's defense industry in order to achieve autonomy in technologies that are vital for national defense.

Within this context, the Ministry of Defense, through the Office of Defense Materiel has promoted means and participated in activities that favor the development of the Brazilian defense industry. Major initiatives are noted below:

1. Establishment of a Trade Promotion Center (NPC-MD)

Guideline Nº 1,116, approved by the Minister of Defense in April 2012, instituted the Trade Promotion Center. This Center has the purpose of undertaking measures aimed at the promotion and development of trade of Brazilian defense products, and at the attraction of investments and technologies, which may be adopted in the development of defense or dual use products.

2. Assessment of the Defense Industrial Base and promotion of exports

The Ministry of Defense and the Brazilian Agency for Industrial Development (ABDI) ae carrying out a complete assessment of the Defense Industrial Base in Brazil, with the objective of diagnosing the capabilities and potential of this important sector

of the national economy. This task is of fundamental importance for the establishment of incentive policies for the national industry. The Defense Industrial Base is currently comprised of approximately 500 companies.

Currently, a large segment of Brazilian exports are based on low technology products and are, consequently, of low aggregate value. Considering world military expenditure is around US$1.5 trillion and that Brazilian exports are around US$1 billion American dollars — equal to 0.067% of world total — the growth potential opened to the nation's Defense Industrial Base is considerable.

The Industrial Defense Base can change this situation, and may contribute to the increase of technological content in Brazilian exports. The Ministry of Defense, the Ministry of Development, Industry and Foreign Trade (MDIC) and the Brazilian Agency for Exports and Investments (APEX) are seeking market segments where the Brazilian defense industry may be competitive as well as supporting Brazilian companies in world fairs and other international events.

3. Regulatory frameworks for strengthening the defense industry

Guideline Nº 22 of the National Defense Strategy sets the necessity for establishing special legal, regulatory and tax frameworks to protect private national companies that manufacture defense products against commercial risks and to ensure the continuity of government purchases.

To fulfill this guideline, the Ministry of Defense is preparing regulatory frameworks according to the public interest and the demands for incentives from the National Defense Base. These include: the National Policy for the Defense Industry (PNID), which will guide procedures of the Office of Defense Materiel; Law Nº 12,598 of March 22, 2012; and the National Policy for the Exportation of Defense Products (PNEPRODE), which innovates by creating a Program for Supporting Exports.

4. Development of science and technology

The Ministry of Defense is acting together with the Ministry of Science, Technology and Innovation (MCTI) to maximize and optimize research efforts in military institutions, dedicated to science and technology, with the aim of developing state-of-the-art technologies for the nation's defense system.

Some defense projects are being funded by the Studies and Projects Funding Agency (FINEP) of MCTI, such as the SABER M60 radar, the development of permanent magnetic engines for naval propulsion and the project for the development of precursor fiber for the fabrication of carbon fiber.

5. Dialogue with Brazilian companies involved in the defense sector

National Board for Industrial Development

The Minister of Defense is maintains close relations with the National Board for Industrial Development, which presents proposals to the President of the Republic regarding policies and measures aimed at the promotion of national industrial development.

Such policies are focused on: infrastructure activities in support of production and trade; legislation which would improve competitiveness by industrial sector companies; and more consistent and lasting funding of entrepreneurial activities. The Board is therefore one more tool available for the promotion of the Defense Industrial Base.

ABIMDE and Industries Federations

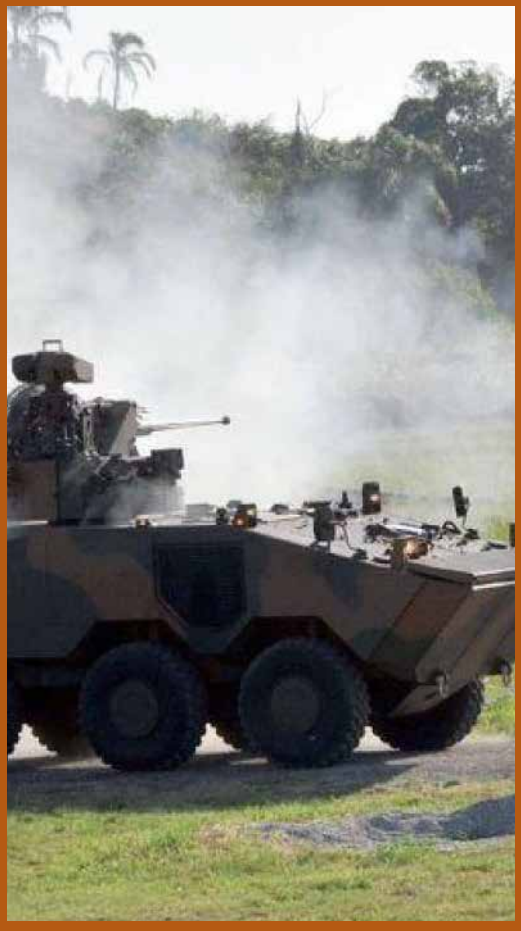
The Ministry of Defense has established fruitful relationships with national defense industries, through representative organizations, such as the Brazilian Association of Defense and Security Industries (ABIMDE) and the Industries Federation.

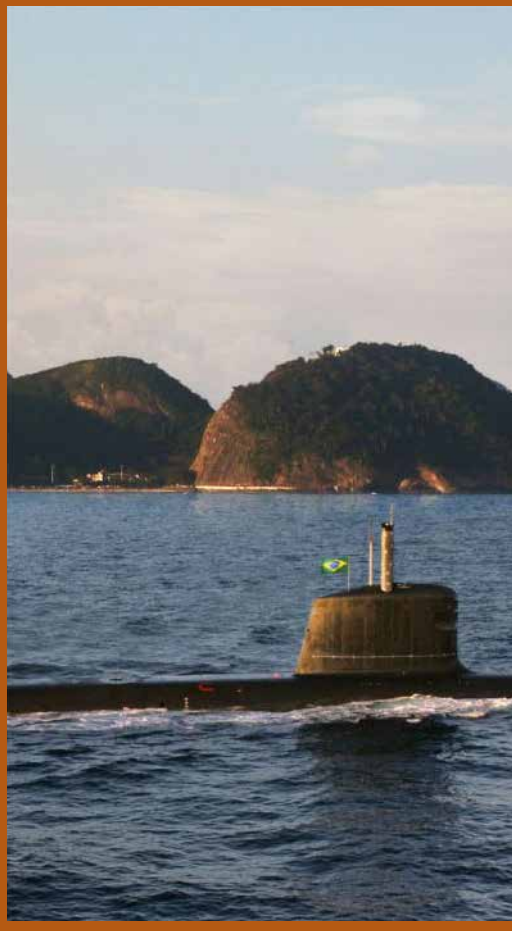
The Committee on the Defense Industry's Production Chain (COMDEFESA) of the Industries Federation of the State of São Paulo (FIESP) holds plenary sessions for the appreciation of matters, policies and legislation related to defense. The Committee's agenda of meetings is shared with the Office of Defense Materiel, which seeks mechanisms that may contribute to solving presented demands.

Much of the Ministry of Defense's interaction with the corporate sector is conducted through the ABIMDE. The Association is a non-profit, with the purpose of congregating, representing and protecting the interests of associated companies. Consequently, it contributes to the formulation of public policies within the Defense sector. Currently, the ABIMDE represents approximately two hundred companies.

Contact with the aforementioned organizations allows the Ministry of Defense to interact widely with national industry. In this manner, the Ministry can obtain a better understanding of the industry's potential and gather necessary knowledge for the appropriate direction of government industrial policies, as well as interact with foreign corporations interested in investing or celebrating partnerships in Brazil.

CHAPTER 5





STRATEGIC DEFENSE PROJECTS

DEFENSE TRANSFORMATION

> "We must conceive and approve mechanisms that will allow for predictability, stability and continuity of projects related to the equipment and technological development of the Armed Forces"
>
> Minister of Defense Celso Amorim
> Brasilia, August 8, 2011

The concept of transformation in the area of National Defense emerged in the decade of 1970, from discussions on the Evolution in Military Affairs (EAM) and the Revolution in Military Affairs (RAM), which pointed to the need to periodically break paradigms. By providing a better understanding of the limitations of current theories, the idea of transformation alters thought patterns, generates new concepts and capabilities. It enables one to respond innovatively to unexpected challenges. By aiding in the development of skills, it enables the fulfilment of new tasks and the execution of modern combat activities.

The effectiveness of a transformation process is proportional to the capacity of acquiring and applying state-of-the-art technology in the phases of research and development of new weapons systems and platforms. As may be observed in various examples available, this is a long-term process, and may extend for 20 years or more.

These changes require the development of new doctrines for the employment of troops, in order to make the military forces more apt to act in a multifaceted operating environment.

In the case of Brazil, defense transformation, besides enabling greater capacity of its Armed Forces, will create a range of opportunities for economic growth. This will occur through three means:

- Defense Deployment and Equipment Plan (PAED);
- management modernization; and
- reorganization of the Defense Industrial Base.

Virtual shipyard model — submarine base in Itaguai

Defense Deployment and Equipment Plan (PAED)

This Plan describes the strategic projects of the Armed Forces which aim to meet demands for new Defense capabilities.

The acquisition and deployment projects of the Plan require specific budgetary resources to be made viable. Hence, these projects should integrate the programmatic budgetary structures established in the successive Multiannual Plans of the Union (PPA), within a time frame of 20 years (2012 to 2031).

Some priority projects of the Armed Forces, directed by the Ministry of Defense, within PAED, are described below:

Brazilian Navy

The Navy, in order to increase Naval Power, in accordance with the guidelines of the National Defense Strategy, chose its priority strategic projects in a manner that would enable greater autonomy in terms of acquisition of means, in relation to the outside world. Thus, these projects have as one of their main objectives the strengthening of the Brazilian Defense Industrial Base, and thereby enabling it to design, develop and construct means and naval systems of high and medium complexity. The priority projects of the Navy in PAED are as follows:

Priority Projects of the Navy

Navy Prioritiries

1 – Recovery of Operational Capacity

2 – Navy Nuclear Program

3 – Development of the Navy's Core Capabilities

4 – Blue Amazon Management System

5 – 2nd Fleet Complex

5 – 2nd Marine Force

6 – Personnel

7 –Navigation Safety

1. Recovery of Operational Capacity

This project consists of the revitalization and modernization of the Navy's logistical and operational structures, including naval, naval aviation and amphibious means. It also includes the replenishment of conventional ammunition and maintenance of operational capacity.

2. Naval Nuclear Program (PNM)

The Naval Nuclear Program includes the development of the nuclear fuel cycle, the construction and approval of a Nuclear-Electric Energy Generation Laboratory (LABGENE); the construction of a prototype pressurized water reactor[62], which is the basis for the reactor of the first Brazilian Submarine with Nuclear Propulsion (SNBR); and the strengthening of the Navy's Technological Center in São Paulo (CTMSP).

The PNM and the Submarine Development Program (PROSUB) are closely linked. The success of the PROSUB depends on the development of the nuclear propulsion system through the Naval Nuclear Program.

[62] Pressurized Water Reactor (PWR).

3. Development of the Navy's Core Capabilities

The project is absolutely necessary, not only to modernize the Navy, but, also, to enable the gradual substitution of the naval, naval aviation and amphibious combat means, which have a deactivation deadline due to natural deterioration and to the endurance limit of these means. The lifecycle limits of materiel are already established, which makes compliance with the program all the more essential. The program therefore aims to expand the operational capacity of the Brazilian Navy. The following actions, within its scope, are noteworthy:

- The development of submarines (PROSUB), which includes the construction of four new conventional submarines and one nuclear propelled submarine, in addition to a shipyard and submarine base to support these units, as described in chapter 3;
- The acquisition of surface means (PROSUPER), which aims to develop the ability to design and build, in Brazil, five escort vessels, five ocean patrol vessels of 1.8 thousand tons and one logistical support vessel. Proposals submitted by interested shipyards are currently under analysis;
- The design and construction, in Brazil, of 27 patrol vessels of 500 tons, two of which have already been received and fiver others are under construction in the country, with expected delivery by 2014;
- The acquisition of amphibious means — one combat vehicle landing ship (NDCC) or one dock landing ship (NDD). The Amphibious Ship Procurement Program (PROANF) has initiated research aimed at obtaining, abroad, a design of an amphibious ship, approved and operated by other navies, for future construction in a national shipyard;
- The acquisition of aircraft carriers (PRONAE), which involves designing and building one unit for the First Fleet and another for the Second Fleet. The PRONAE is analyzing alternatives for developing the project nationally or with partnership abroad;
- The creation of marine battalions for riverine operations. Once the Manaus Battalion is established, the transformation of the Marine Group of Belem will be completed by 2017; and
- The recent acquisition of three ocean patrol vessels of 1.8 thousand tons that will be incorporated into the Navy by 2013.

4. Blue Amazon Management System (SisGAAz)

This system should be fully implementation by 2024. It will allow monitoring and control of the Brazilian jurisdictional waters and provide the following benefits:

- greater security for the Blue Amazon;
- increased efficiency in inspection and search & rescue operations in the Blue Amazon, and greater interagency operations (Federal Police, Brazilian Institute of the Environment and Renewable Natural Resources etc); and
- dual (civilian and military) employment structure, which may be applied to pollution prevention, meteorology, control of scientific research at sea, control of national genetic heritage, prevention and combat of illicit traffic, and security and defense of the pre-salt area.

5. 2nd Fleet Naval Complex & 2nd Marine Force (2nd FFE)

The National Defense Strategy established specific guidelines for the installation of a fleet in the North/Northeast Regions of the country, in the closest possible location to the mouth of the Amazon River. For the implementation of this project, which is still under study, it will be necessary to establish an entire industrial and logistical infrastructure in the region to receive the new fleet. Project completion is scheduled for 2031.

6. Personnel

Refers to the expansion of sectors of the Navy linked to the agencies of the System for Naval Education, Healthcare and Social Assistance. It also refers to the construction of residences for naval personnel, in order to address the needs resulting from the increase of the Naval Force's personnel numbers.

7. Navigation Security

This project calls for the expansion of Navy's presence in the Amazon, in the Midwest and in border areas. It also favors the intensification of surveillance in large river basins, as well as the creation and expansion of military organizations linked to the Waterway Traffic Security System (SSTA)[63], and the increase of naval means to support these activities. Full implementation is scheduled for 2031. The project's goals are noted below:

- create and elevate the rank of captaincies, stations and fluvial agencies;
- increase the presence of Waterway Traffic Security System organizations in the Amazon basin and the Paraguay-Paraná basin; and
- build fluvial and hydrographic ships and patrol boats.

[63] SSTA is composed of Port Authorities, Naval Stations and Naval Agencies, either riverine or maritime, which have the purpose of acting to safeguard human life, to promote navigation security, both in the open sea and in inland waterways, and in the prevention of hydro pollution by embarkations, platforms or their support facilities, as well as to contribute to the guidance, coordination and control of activities related to the Merchant Navy and similar organizations.

Forecasted Project Conclusion Dates and Estimated Global Value

Project	Project Duration (Forecast)*	Estimated Global Value (in R$ million)
1. Recovery of Operational Capacity	2009 — 2031	5,372,30
2. Naval Nuclear Program (PNM)	1979 — 2031	4,199,00
3. Development of the Navy's Core Capabilities	2009 — 2047	168,020,80
4. Blue Amazon Management System (SisGAAz)	2011 — 2033	12,016,60
5. 2nd Fleet Complex & 2nd Marine Force	2013 — 2031	9,141,50
6. Personnel	2010 — 2031	5,015,60
7. Navigation Security	2013 — 2031	245,10

*Some projects, due to their complexity, exceed the programmed period of the PAED and others were already in progress prior to the implementation of the PAED. Values depend on the approval of the federal government.

In order to attend to the requirements of the National Defense Strategy, in addition to the priority projects mentioned, the Navy will need to increase its military and civilian personnel.

Law № 12,216 of 2010 allows an increase of the existing number of personnel up to 2020. For 2030, studies established the need for an increase of approximately 80% of current numbers.

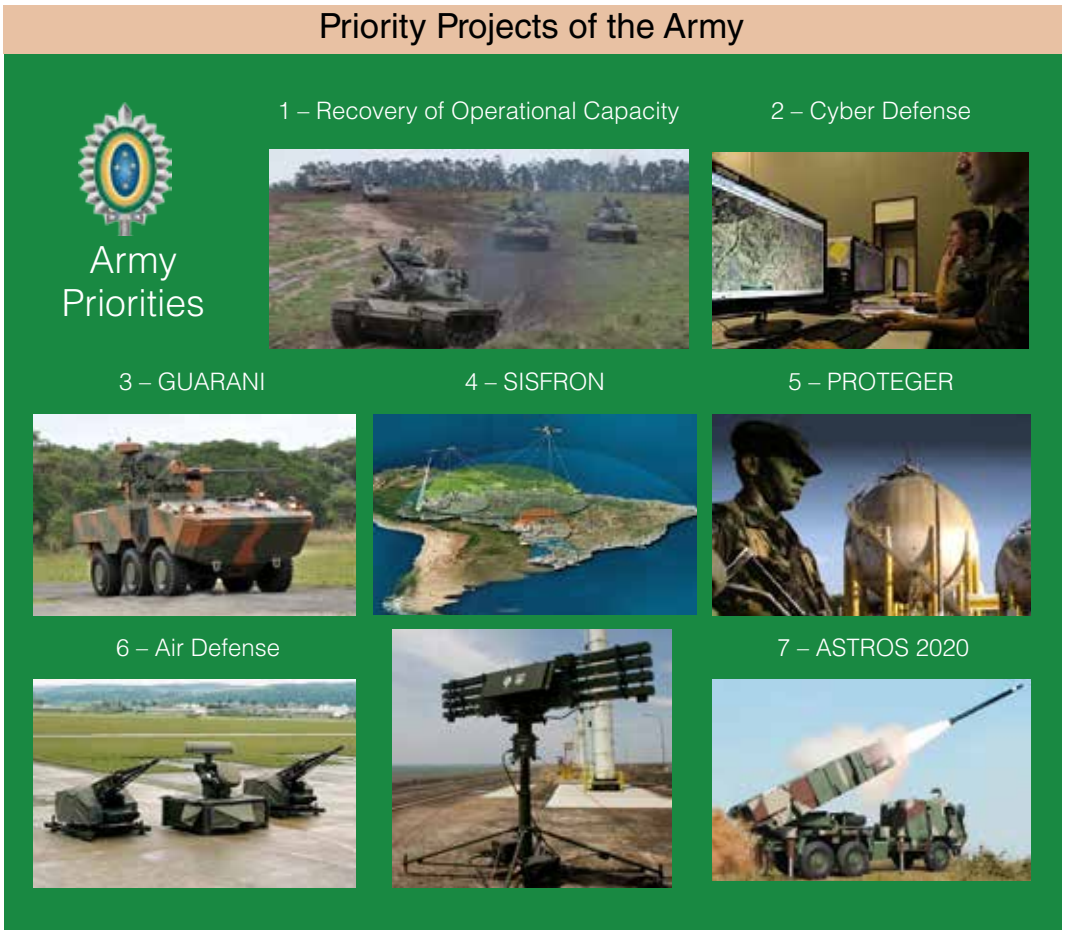
Existing (2012)	Authorized (2020)	Advocated in the National Defense Strategy (2030)
65,528	80,507	115,370

Regarding civilian personnel, the Navy currently employs 48% of the authorized total. The same studies established the need for an increase to 21,020 by 2030.

Existing (2012)	Authorized (2012)	Advocated in the National Defense Strategy (2030)
6,666	12,917	21,020

Brazilian Army

The priority strategic projects of the Army aim to provide brigades with equipment, armaments, means of transportation and supplies in a quantity that is compatible with the demand and the desired level of modernization. These projects should endow the Land Force with the ability to be employed, effectively, in operations of external defense, in operations of law and order, in subsidiary actions in support of civil defense and environmental protection, and in the security of major events. The Army defined the following priority projects:



1. Recovery of Operational Capacity

The Project includes:

- modernization and revitalization of the Army's aviation assets; combat vehicles M60, Leopard 1A1; and armored vehicles M113, Urutu and Cascavel;
- acquisition of fluvial vessels, vehicles, field artillery materiel; individual armament technologically superior to that which is currently utilized; and ammunitions, armaments and equipment of collective use; and
- acquisition of the new IA2 assault rifle, developed and produced in Brazil by IMBEL[64], which meets the Joint Operational Requirements (ROC) of the Armed Forces approved by the Joint Staff.

[64] IMBEL — Brazilian War Materiel Industry, the country's oldest factory of defense products.

2. Cyber Defense

As mentioned on Chapter 3, the Army was assigned primary responsibility over the cybernetic strategic sector, which involves a series of ad hoc measures, of deployment and equipment to allow the consolidation of the sector. The capacity to preserve the integrity of strategic structures that may be the target of cyber-attacks of different modalities is very importance to the country. Some short term actions envisioned for the cyber defense are listed below:

- construction of the permanent headquarters of the Cyber Defense Center and the acquisition of the supporting infrastructure;
- acquisition of equipment and training of human resources;
- acquisition of cyber defense hardware and software solutions; and
- implementation of infrastructure projects of the Cyber Sector to increase the ability to respond to threats.

3. Guarani Project

The Guarani Project consists of the implementation of the New Family of Armored Wheeled Vehicles (NFBR) of the Brazilian Army. The Project intends to provide mechanized units with new armored vehicles, which incorporate the most recent trends and technological developments. In the context of the National Defense Strategy, the project contributes to the acquisition of new capabilities, strengthening the Brazilian industry with the acquisition of dual-use technology.

The Project calls for the acquisition of 2,044 Brazilian designed Guarani personnel carrier armored vehicles, over a period of 20 years. The new armored vehicles already passed evaluation tests and the Brazilian Army received its first unit in June of 2012.

The Guarani Project also includes several subprojects, among which the following stand out: Research and Development, Integrated Logistic Support (SLI), Nationalization of Ammunition, Professional Development, Infrastructure, Command and Control, Simulation, Doctrine and Management.

The NFBR includes a medium subfamily — reconnaissance, personnel transportation, mortar, rescue, command post, radio unit, fire coordination unit, workshop and ambulance — and one light subfamily — reconnaissance, anti-tank, mortar light, radar, command post and advanced observation.

Guarani Armored Vehicle

4. Integrated Border Monitoring System (SISFRON)

The SISFRON is a monitoring system that is integrated with other similar systems and which will raise the capacity of command and control of the Land Force, allowing for the reduction of response time against possible threats in areas of interest, with special attention to the Amazon Region. Currently, the project is in the bidding stage for the implementation of a first module based on the 4th Mechanized Cavalry Brigade in Dourados (State of Minas Gerais).

5. Integrated Strategic Land Structures Protection System (PROTEGER)

The PROTEGER is a complex System, composed of Land Force units, aimed at protecting Strategic Land Structures (EETer). These structures are defined as facilities, services, goods and systems, which — if disrupted or destroyed in total or in part — could generate significant damage to the security of the state and society in general.

The relevance of the system is evident considering that 90% of strategic structures are on land and account for 56% of the energy grid and 96% of the country gross domestic product.

The system will cooperate with other agencies through prevention, warning and protection activities intended to minimize risks resulting from natural or human causes, such as sabotage, terrorism and organized crime.

Benefited by capillarity and the presence of the Brazilian Army and by its mobilizable reserve throughout the national territory, the PROTEGER will be integrated with other security systems in the country and, under supervision of the Ministry of Defense, will be executed the Land Operations Command.

6.Anti-aircraft Defense System

This project aims to modernize the air defense system of the Army, in order to meet the requirements of the Brazilian Aerospace Defense System (SISDABRA). The anti-aircraft artillery units will be retrofitted with modern means and sensors and assisted by an integrated logistics system to support equipment during their life cycle.

7. ASTROS 2020 Missiles and Rockets Defense System

The ASTROS 2020 is a defense system that aims to address a specific strategic demand of the Brazilian Army that consists of providing the Land Force with fire support of elevated capacity to dissuade, through the national development of a missile with a range of up to 300 km. The Army will have two Groups of Missile and Rocket Launchers.

Forecast of Projects Completion and Estimated Global Value

To fulfill the priority strategic projects established by the Army in the Deployment and Equipment Plan, it will be necessary to increase military and civilian personnel in the next 20 years.

Projects	*Time Period (Forecast)	Estimated Global Value (R$ millions)
1. Recovery of Operational Capacity	2011 — 2022	11,426.80
2. Cyber Defense	2010 — 2023	895.40
3. Guarani	2011 — 2034	20,865.70
4. Integrated Border Monitoring System (SISFRON)	2011 — 2023	11,992.00
5. Integrated Strategic Land Structures Protection System (PROTEGER)	2012 — 2031	13,230.60
6. Anti-aircraft Defense System	2010 — 2023	859.40
7. ASTROS 2020 Missiles and Rockets Defense System	2011 — 2023	1,146.00

*Some projects, due to their complexity, exceed the programmed period to the PAED and others were already in progress prior to the implementation of the PAED. Values depend on the approval of the federal government.

Currently, the number of authorized personnel for the Army, by the Law Nº 7,150 of 1983, is 296,334 military. In terms of strategic planning, the increase of current numbers is estimated to be approximately 20 thousand more military personnel, due to the following initiatives:

- transformation of the Motorized Infantry Brigades[65] into Mechanized Infantry Brigades[66];
- creation of one more Jungle Infantry Brigade[67];
- implementation of the SISFRON and of cyber sector activities; and
- replacement of personnel in the various systems of the Army.

Of the 20 thousand, 13.1 thousand would be temporary military personnel and 6.9 thousand would be career military personnel.

Existing (2012)	Authorized (2012)	Advocated in the National Defense Strategy (2030)
204,744	296,334	223,344

The Army has received authorization for 12.619 civilian personnel positions. Of these, 7.312 have already been occupied, 5.307 are still vacant. By 2030, the total number of civilian personnel in the Army should be increased to 22 thousand.

Existing (2012)	Authorized (2012)	Advocated in the National Defense Strategy (2030)
7,312	12,619	22,000

Brazilian Air Force

The Brazilian Air Force is continuously focused on its constitutional mission to maintain the sovereignty of the Brazilian airspace for the defense of the homeland. It bases itself on the objectives defined by National Defense Strategy — priority of aerial surveillance, airpower and joint operational mobility. The Air force, privileging indigenous solutions, established strategic projects aimed at institutional development and the strengthening of means through three major axes: organizational, scientific-technological and operational. The priority strategic projects of the Air Force are listed below:

[65] Motorized Infantry Brigades: major operational unit, endowed with wheeled vehicles, non-armored, intended to transport personnel and equipment.
[66] Mechanized Infantry Brigades: major operational unit, endowed with wheeled armored vehicles, with more combat power, in support of troops. Will be furnished with new GUARANI vehicles.
[67] Jungle Infantry Brigade: major operational unit dedicated to combat in the Amazon Region, with emphasis on border protection.

Priority Projects of the Air Force

1. Air Force Organizational and Operational Management

The objectives of this project are to ensure integration among the strategic areas involved; execute the Air Force's strategic management; increase the efficiency of internal processes and systems; and adapt aeronautical and airport infrastructure. Among the actions planned, the following stand out:

- adaptation of air bases and expansion of alternative runways;
- merger and redistribution of logistics and administrative organizations; and
- transference of air units to the North and Midwest regions.

2. Recovery of Operational Capacity

In a modern Air Force, the management of projects demands a constant process of performance evaluation and selection of alternatives to replace, modernize, develop or revitalize aircraft and their systems, in order to strengthen and maintain the operational capacity of the Force. This process is conventionally termed Recovery of Operational Capacity, and it observes international efficiency standards adopted by modern Air Forces.

This project involves training and instruction of pilots, replenishment of weapons stocks and technological upgrading of aircraft, including:

- the fighters AMX and F-5 — projects A-1M and F5-M;
- maritime patrol P-95 — Project P-3-BR;
- transportation and refueling — projects KC-130 and C-95M;
- reconnaissance — Project R-99; and
- airborne early warning and control — Project E-99.

3. Airspace Control

The Brazilian Airspace Control System (SISCEAB) is based on a civil/military ambivalence and is the outcome of the integration of resources. It provides the necessary infrastructure to monitor and management Brazilian airspace, in order to ensure the continuity of general air traffic management, military operational traffic and aerospace defense, throughout the Brazilian territory.

The increase of air traffic in general, and particularly in the terminal regions require the implementation of new technologies to support the safe and efficient operation of the country's air transport. Some actions involve the modernization of the Aerospace Defense Operations Center (CODA) and the adaptation of aircraft to the new satellite control and navigation system CNS/ATM[68].

[68] CNS/ATM — A program of international scope program for modernizing air traffic control. The acronym CNS stands for Communications, Navigation and Surveillance. ATM stands for Air Traffic Management.

4. Air Force Operational Development

This project has the objectives of optimizing processes, systems and operational activities, as well as supplying operational equipment to the Air Force. It is imperative that the Air Force possesses a dissuasive military capacity, which is effective, credible and apparent in order to defend the values and assets of the nation.

- FX-2 — acquisition of 36 multirole fighters to replace the Mirage 2000 aircraft. The evaluation phase for the selection process has been concluded, and the initiative is now awaiting the government's decision to proceed;
- HX-BR — acquisition of 50 medium-sized helicopters EC-725 (H-36), produced in Brazil by HELIBRAS. The project is in the initial phase of aircraft distribution to the three Armed Services (16 for the Navy, 16 for the Army, 16 for the Air Force and 2 for the Presidency of the Republic);
- AH-X — acquisition of 12 attack helicopters AH-2 Sabre (MI-35). Six units are already in operation in the Air Force. The delivery of six others and a flight simulator has been scheduled;
- H-60 — acquisition of 16 medium-sized Black Hawk helicopters to replace the UH-1H, which are being deactivated due to obsolescence. 14 aircraft have been received, the last two should be delivered in the short term;
- KC-X2 — acquisition of two large transportation and aerial refueling, aircrafts for the purpose of replacing the KC-137 (Boeing 707). The initiative is in the selection phase, under the responsibility of the Air Force Department of Aerospace Science and Technology;
- VU-Y — acquisition of 10 transport aircraft, privileging national industry, to replace the VU-35 aircraft (Lear-jet) of the Special Transportation Group (GTE) and the EC-93 (HS-800) of the Special Flight Inspection Group (GEIV), which are used in assessment of radio navigation equipment (flight inspection). Currently under study;
- RPA — Remotely Piloted Aircraft, also referred to as UAV (Unmanned Aerial Vehicle). Two units have been acquired for doctrinal development. The 1st Squadron of the 12th Aviation Group (1st/12nd) has been created for the operation of these means;
- The national industry has begun to develop a national model in partnership with an international company, with a technological transference contractual clause; and

- CL-X — 2nd Lot: acquisition of six medium CASA 295 aircraft, three for transportation squadrons and three for search and rescue units. The acquisition is in progress under the responsibility of the Air Force Department of Aerospace Science and Technology.

5. Air Force Scientific and Technological Development

This project aims at investing in capacities that ensure technological independence in the production of aerospace defense means. Other objectives to be pursued are the development of data link technology and the necessary capacity to allow the Air Force to operate in network, both internally and jointly. Among other activities, the project encompasses the development of the following aircraft:

- R-X, for aerial reconnaissance missions;
- E-X, for airborne early warning and control;
- I-X, for flight inspection;
- F-XBR, multirole fighter to replace the main combat aircraft currently in operation; and
- UAV, to be developed for common use by the three Forces, which are currently developing together the necessary Joint Operational Requirements (ROC).

6. Strengthening of the Brazilian Aerospace and Defense Industry

This project aims to strengthening the integration between the aerospace and defense industry, and the Ministry of Defense. It also aims to contribute to the competitiveness of products offered by that sector in internal and foreign markets.

This project is nationally oriented. In this sense, the development and production of a National Aircraft for Transportation and Refueling (KC-390) is noteworthy. Said aircraft will open export opportunities for the country and permit the duplication of the industrial facilities of EMBRAER, a Brazilian company, in the interior of São Paulo State.

7. Development and Construction of Aerospace Equipment

The space activities, within the Space Activities National Program (PNAE), seek the use of the outer space as a means of support for defense initiatives. Besides developing satellite launching vehicles, the Air Force, jointly with other areas of the Ministry of Defense, including the other two Armed Services, will set necessary requirements for the development of geostationary satellites for safe telecommunications and meteorology, in order to ensure effective command and control with national means.

The project aims to develop launching vehicles (as noted in chapters 2 and 3), promote launching campaigns and optimize the necessary infrastructure for rendering these services.

8.Support for Air Force Military and Civilian Personnel

Within the realm of the military profession, the maintenance of morale and determination, specifically for combat conditions, does not grow spontaneously. Therefore, actions that promote well-being and maintain morale are important, especially those pertaining to supplies for subsistence that support routine in the barracks, in times of peace or during crisis and conflict. Therefore, this project aims to provide better conditions for the human capital in the Air Force, in order to fully fulfill the Air Force's mission. The following actions are worthy of note:

- increase the availability of the military housing;
- modernize the nutritional management of the Air Force; and
- optimize the health and social assistance programs of the Air Force.

9. Modernization of Training Systems

The increase of the number of military personnel in the Air Force will demand an increase of personnel to be trained in military schools. Therefore, it is important that these institutions are adequately prepared to provide teaching and support activities in a manner that is efficient and of a high standard.

Among the activities encompassed in this project, the following stand out: the enlargement of educational infrastructure in general and the creation of facilities for training pilots in the physically hostile environment of a combat aircraft cabin.

Forecast of Project Completion and Estimated Global Value

In order to meet the priority strategic programs set by the Air Force in its Deployment and Equipment Plan there will be a need for increasing the quantity of military and civilian personnel in the next 20 years.

Projects	Time Period (Forecast)*	Estimated Global Value (in R$ million)
1. Air Force Organizational and Operational Management	2010 — 2030	5,689.00
2. Recovery of Operational Capacity	2009 — 2019	5,546.70
3. Airspace Control	2008 — 2030	938.30
4. Air Force Operational Development	2009 — 2030	55,121.00
5. Air Force Scientific and Technological Development	2008 — 2033	49,923.90
6. Strengthening of the Aerospace Industry and Brazilian Defense	2009 — 2030	11,370.20
7. Development and Construction of Aerospace Equipment	2015 — 2030	To be determined in the PNAE
8. Support for Air Force Military and Civilian Personnel	2010 — 2030	3,229.60
9. Modernization Training Systems	2010 — 2028	352.00

*Some projects, due to their complexity, exceed the planned term for the PAED and that others were already underway before the PAED's implementation. Values depend on the approval of the federal government.

Currently, the authorized number of military personnel for the Air Force, pursuant to Law Nº 11,320 of 2006, and further amendments, is 80,937. To meet requirements of the National Defense Strategy, studies have shown that it is necessary to increase this number to 105,000 by 2030.

Existing (2012)	Authorized (2012)	Advocated in the National Defense Strategy (2030)
69,093	80,937	105,000

The Air Force has been granted 9,664 offices, of which 6,291 are currently occupied and the remaining 3,373 are vacant. The number of civil servants is projected to increase to over 22 thousand by 2030.

Existing (2012)	Authorized (2012)	Advocated in the National Defense Strategy (2030)
6,291	9,664	22,255

Ministry of Defense Central Administration

In the Deployment and Equipment Plan, the Central Administration of the Defense Ministry directly manages six projects. Of these, four are allocated to the Joint Staff and two to the Center for the Management and Operation of the Amazon Protection System. The projects are as follows:

- Military Communication System by Satellite (SISCOMIS);
- Secure Military Communication System (SISTED);
- Development of the Defense Logistics and Mobilization System (SISLOGD);
- Modernization of Air Defense and the Defense of Strategic Structures[69];
- Modernization of the Amazon Protection System; and
- Amazon Cartography.

Positive Effects of the PAED's Implementation

When the projects inserted in the Deployment and Equipment Plan are completed, the country will be more prepared to face challenges to national defense. Projects in this Plan will benefit the Brazilian society and the Defense Industrial Base in various ways. Some identified gains are listed below:

1. In the military field

- Elevation of the country's dissuasive power and consequent avoidance of hostile actions by other states;
- Greater possibility for cooperation with neighboring Armed Forces; and
- Contribution to the prevention and fight against new threats, as well as the fight against drug trafficking, gun smuggling, border transgressions and organized crime.

[69] The Modernization of Air Defense and the Defense of Strategic Structures project includes the following sub-projects: Modernization of the Air Defense and Coastal Artillery School and the Air Defense of Strategic Structures. The project differs from the Army's Air Defense System project, which aims to supply anti-aircraft defense to military units in a Combat Zone (ZC) in a Theater of Operations (TO).

2. In the political field

- Strengthened national capacity to act autonomously in the international arena, with reduced vulnerabilities to external pressures;
- Greater integration between government departments and agencies, facilitated through more effective coordination and control throughout the territory;
- Increased capacity to control and secure river traffic, and to protect human life, in attendance of international agreements; and
- Environmental preservation and repression of environmental offenses.

3. In the economic field

- Industrial job opportunities in areas of cutting-edge technology;
- Energy supply from the construction of nuclear power plants with pressurized water reactors of 11 MW, capable of illuminating cities with 20,000 inhabitants;
- Radiopharmaceutical production; and
- Strengthened national industry, generating jobs and raising human capital levels in all areas of science and technology, especially those related to shipbuilding, aeronautics and automotive industries, electronics and information technology.

4. In the scientific and technological field

- Capacity to design, develop and manufacture systems, materials and components as well as nuclear and conventional equipment, with use of dual technology;
- application of information technology and communications to activities such as distance health services and education;
- Integration of universities and military research and technology institutes and centers in the development and assimilation of sensitive technology;
- Development of national industry through technology transference;
- Nationalization of systems, equipment and components;
- Development of ships, aircrafts and armored vehicles of high complexity, allowing the design and construction of national projects in the country; and
- Creation of a new regional industrial complex, in the future location of the Second Fleet, including the development of the shipbuilding industry and civil construction as well as the expansion of high and medium-technology companies and a substantial increase in commerce.

5. In the social field

- expansion of state services in poor communities;
- Greater capacity to contribute to the security of urban centers;
- Increased capacity to provide security to major events; and
- Contribution to quality of life and increased security in smaller and remote cities.

Modernization of Management

In order to improve the national defense system, formalize a policy for sustainable defense and integrate the three Forces, the Ministry of Defense is implementing a strategic management process, termed Strategic Planning System (SISPED), which will indicate the direction to be followed by all components of the Ministry. This System will also analyze the area of National Defense from various angles and define its direction by means of vectors and goals which may be monitored.

The Strategic Planning System will indicate out long-term goals and strategies of transformation. It will therefore be a guide to help visualize the goals that need to be achieved.

The ultimate purpose of the System is the creation of future conditions for obtaining and constantly improving the operational capabilities of the Forces, in order to ensure permanent readiness.

Defense Industrial Base (BID)

The Defense's Industrial Base (BID) is a set of industries and companies organized under Brazilian law that participate in one or more of the phases of research, development, production, distribution and maintenance of defense products. A competitive and consolidated defense industry generates high-level jobs and encourages technological development with productive links to other sectors of industry.

The productive sector of defense possesses the following specific characteristics: the need for large-scale production and high expenditures on research and development; a long time frame for project maturation; a short life cycle of materials; and the existence of a market heavily influenced by government procurement and exports; and the presence of highly competitive institutions.

The Defense Industrial Base, alone, does not possess the conditions or capacity to meet the supply demands of military products and services. The national capacity will only be fulfilled if the entire infrastructure of science, technology and innovation is well adequately activated and integrated.

The country's science, technology and innovation infrastructure, which is dedicated to the production and supply of military technology, is much broader than the defense industry. Its components must act in a concatenated and integrated manner in activities of teaching, basic research, applied research, development, evaluation, design, manufacturing, services and logistics.

The Defense Industrial Base has represented, for three decades, an important economic sector of the country, with relevant contributions to the balance of trade and the opening of new markets for innovative and high quality products. Until the promulgation of Provisional Measure Nº 544 of 2011, which originated Law Nº 12,598 of March 22, 2012, government policies for the sector were not compatible with the growth of the Brazilian economy, nor with the equipment needs of the Armed Forces.

The commerce of defense products is restricted and highly regulated. Several countries develop industrial and technological policies aimed at their respective defense industries and government procurement is guided not only by technical and economic matters, but also by geopolitical interests. This aspect engenders the curtailment and restriction of transferences of various products and technologies from countries that possess these goods to those that lack them.

The Brazilian Defense Industrial Base is responsible for 0.1% of all world exports of conventional weapons, as shown in the table below, which presents Brazil in the 27th position among countries that most export weapons.

President Dilma Rousseff during the promulgation of Law Nº 12,598 of March 22, 2012

Law 12,598 of March 22, 2012

This law establishes special rules for the procurement and development of defense products and systems, and for the promotion of the Brazilian Defense Industrial Base.

The law contemplates: the government's central administration; institutions that manage special funds; agencies; public foundations; state, private and mixed companies; state producers of defense products; and other agencies controlled directly or indirectly by the Union, the states, the Federal District and the municipalities of Brazil.

The following definitions are adopted by this law:

I - Defense Product (PRODE) - every good, service, product or information, including weapons, ammunition, means of transportation and communications, uniforms and materials for individual or collective use in defense activities, with the exception of those that are assigned to administrative use;

II - Defense Strategic Product (PED) - all defense products that are of strategic importance for national defense, due to their technological content, scarcity or indispensability;

III - Defense System (SD) - interrelated or interactive set of defense products that serves a specific purpose;

IV - Strategic Defense Company (EED) - any legal entity accredited by the Ministry of Defense. These companies will have access to special tax schemes and funding for programs, projects and activities related to national defense goods, referred to in item I of Art. 8, and defense strategic products, in accordance with law;

V - Innovation - introduction of novelty or improvement in the productive environment, which result in new defense products;

VI - Compensation - all and any practices agreed by the parties, as a condition for the purchase of goods, services or technology, with the intention of generating technological, industrial or commercial benefits, as established by the Ministry of Defense;

VII - Compensation agreement - legal instrument which formalizes the commitment and the obligations of the supplier to compensate purchases;

VIII - Scientific and Technological Institution (ICT) - agency of the public administration, which has the institutional mission, among others, of performing activities of basic or applied research in the scientific or technological fields;

IX - Brazilian partners or shareholders - Brazilian individuals, either native or naturalized, residing in Brazil or abroad, private institutions or investment funds or clubs, organized in accordance with Brazilian law; and

X - Foreign partners or shareholders - individuals or private institutions, investment funds or clubs and any other institution not contemplated in item IX.

The Brazilian Defense Industrial Base is responsible for 0.1% of all world exports of conventional weapons, as shown in the table below, which presents Brazil in the 27th position among countries that most export weapons.

Brazil Among the Top Conventional Weapons Exporters in 2011

Rank	Exporting Country	Percentage of World Exports*
1	United States	33.3
2	Russia	26.3
3	France	8.1
4	China	4.5
5	Germany	4.0
6	United Kingdom	3.6
7	Italy	3.5
8	Spain	3.1
9	Sweden	2.3
10	Netherlands	1.8
27	Brazil	0.1

Source: *Stockholm International Peace Research Institute (SIPRI)*.

*Based on the Trend Indicator Values (TIV) of SIPRI. The TIV considers unit cost estimates of weapons production and not sales figures. More information: www.sipri.org.

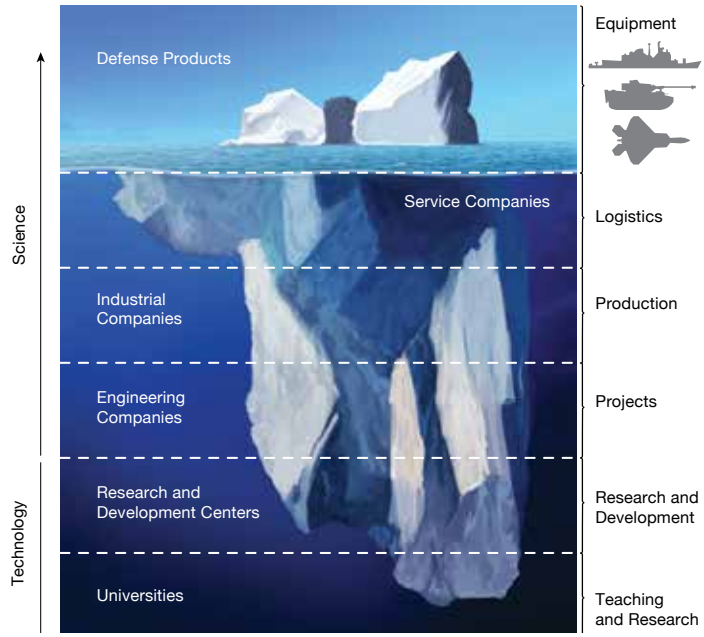
Regarding the internal market, the Defense Industrial Base has managed to meet the increasing demands of the Brazilian Armed Forces and this has kept imports of such products at reduced levels.

The recovery and strengthening of the Defense Industrial Base are goals outlined in the National Defense Strategy. Besides the purpose of providing items and systems necessary to the Armed Forces, the industrial base will also function as an inducer of technological innovations with civilian applications, given the dual character of products.

The integration of programs and activities between the Ministry of Defense and the Ministry of Science, Technology and Innovation (MCTI) has intensified in recent years, with coordinated actions to promote priority projects that contemplate important technological innovations and that are inducers of the Defense Industrial Base.

The joint efforts and initiatives in military and civilian research institutes, universities and technology centers result in the strengthening of the entire Defense Industrial Base.

The Armed Forces offer, in terms of science, technology and innovation, valuable contributions for raising the level of technological autonomy of the country. The Forces maintain centers of excellence, particularly in applied research, which have been fundamental for scientific and technological achievements that have occurred in Brazil.



Source: Wikipedia article on Iceberg's free of copyright
Site: http://en.wikipedia.org/wiki/File:Iceberg.jpg. Photomontage: Uwe Kils.

Defense Scientific Iceberg

Recently, a political-institutional framework was established under the guidance of the National Defense Policy, with the aim of developing an industrial base that meets national needs, and that is consistent with the scale of the Brazilian economy and its international ambitions.

The creation of the Office of Defense Materiel[70] in the Defense Ministry is included in this framework of fostering and promoting the Defense Industrial Base.

Since 2011, the Greater Brazil Plan has given continuity to the Productive Development Policy (PDP), the National Defense Industry Policy (PNID) and the National Defense Strategy. It reconciles the needs of industrial development with the requirements of national defense.

[70] Department of Defense Products — competencies and responsibilities described in chapter 3.

The following are the main objectives of these policies with regard to the Defense Industrial Base.

Documents	Main Goals
National Defense Policy — PND (2012)	• stimulate state investments in advanced technological sectors; • promote the continuous modernization and supply of the Armed Forces with emphasis on support for science and technology for the development of the Defense Industrial Base; • develop the Defense Industrial Base with a focus on achieving autonomy in critical technologies; • ensure that the industrial sector contributes to ensure that the needs of defense products are supported by technology under national domain; • ensure the development of the Defense Industrial Base, including the domain of dual technology use, in order to attend the supply of defense products; and • promote the integration of the defense industry in South America to ensure mutual benefit as well as training and technological autonomy.
National Defense Strategy — END (2012)	• strengthen three sectors of strategic importance: space, cyber and nuclear; and • enable the industry of defense materiel to achieve autonomy in essential technologies.
National Defense Industry Policy — PNID (2005)	• strengthen the Defense Industrial Base; • raise general awareness about the need for the country to have a strong Defense Industrial Base; • gradually reduce external dependence on strategic defense products, by developing and producing these items internally; • expand the capacity of the Armed Forces to acquire strategic defense products from the national industry; • improve the technological quality of strategic defense products; • increase the international competitiveness of the Brazilian Defense Industrial Base; and • improve the capacity of industrial mobilization in the Defense Industrial Base.
Productive Development Policy — PDP (2008) Greater Brazil Plan (2011)	• relieve investments and exports; • expand and simplify the financing of investment and exports; • increase resources for innovation; • improve the regulatory framework for innovation; • stimulate the growth of small and microbusinesses; • strengthen trade protection; • create special schemes for adding value and technology in supply chains; and • create detailed regulations based on the law on government procurement in order to stimulate production and innovation in the country.

Source: Federal Government

Currently, a significant part of the companies that comprise the Defense Industrial Base originated from great military projects that begun in the 1970s and 1980s, or were formed by companies that embraced these projects later on. Recently new large companies have entered the defense sector, through merges with smaller companies that are traditionally part of the Defense Industrial Base. The most important sectors of this industry are noted in the table below:

Sectors	Products
Light weapons, ammunition and explosives	Pistols, revolvers, rifles, carbines, machine guns, mortars, ammunition of various calibers and military and industrial explosives.
Non-lethal weapons	Non-lethal ammunition and launchers, non-lethal grenades, sprayers, rockets and flares.
Heavy weapons and ammunition	Mortars, ammunition for mortars, cannons and howitzers, rockets and missiles.
Electronic systems and command and control systems	Radars and sensors, communications equipment and data transmission, man/machine interface terminals and integrated command, control, communications, and intelligence (C3I) systems.
Military naval equipment	Patrol boats, corvettes, submarines and various military vessels.
Military terrestrial equipment	Utility vehicles and medium wheeled armored personnel carriers.
Military aerospace equipment	Military aircraft, drones, missiles, satellites, satellite launching vehicles and sounding rockets.
Nuclear propulsion	Fuel cycle project and nuclear-electric energy generation project.

Source: Ministry of Defense.

The prospect of expanding demand for strategic defense products offers an excellent opportunity to develop and strengthen the Defense Industrial Base. There are, however, challenges highlighted in Greater Brazil Plan and the National Defense Strategy that requires monitoring:

- increase investments in research, development and innovation;
- expand participation in domestic and foreign markets; and
- strengthen the supply chain in Brazil.

Science, Technology and Innovation

Sharing or curtailing scientific and technological knowledge is a political decision that directly interferes in trade negotiations between countries, including negotiations of defense products.

To attend the guidelines of the National Defense Strategy, the Ministry of Defense, in coordination with other ministries and representatives of the business and academic communities, develops actions to integrate the existing science and technology systems in Brazil.

Significant savings of resources and efforts may be achieved if there is greater integration among research and development institutions of the Armed Forces, not only in the implementation of projects that are of common interest, but also in exploring new opportunities in science and technology.

Greater participation of the civilian scientific community in military projects, including the possibility of transfer of budgetary resources from the Ministry of Defense to civilian science and technology institutions can also streamline the management of projects that are of interest to the Ministry.

The interaction between civilian and military research institutions, universities and companies is essential to integrate entrepreneurial efforts in creating centers of advanced technology in various areas. In Brazil, the technological centers are directly linked to planning processes involving government, universities and companies, with particular emphasis on state incentives for technological development. The Technological Center of São José dos Campos, which focuses on the field of space, can be considered an example of synergy in the sector of science and technology.

CHAPTER 6

REPRESENTATION OF THE REPUBLIC IN A BANKNOTE.

DEFENSE ECONOMICS

> "Economic and social development, and sovereign foreign policy are not viable without an affirmative defense policy."
>
> President Dilma Rousseff
> Brasilia, April 5, 2011

Brazil has become a more equitable country, with lower levels of social exclusion and inequality. It has also grown stronger economically and acquired greater influence in the international arena. These changes imply greater responsibilities for security and defense in the global strategic environment.

National defense is of interest to society and is related to the main objectives of national development. As noted in previous chapters, Brazil needs an efficient defense system to protect its extensive territory, inestimable wealth and vast population.

The proper operation of the defense sector requires, in turn, an adequate allocation of budget resources, as well as efficient management. This chapter will present budgetary statistics and explain the main peculiarities of the Brazilian federal budget, particularly in the area of defense. All historical data is present in real terms, i.e. considering inflation.

Defense Budget

General Rules

Complementary Law Nº 97 of 1999, amended by Complementary Laws Nº 117 of 2004 and Nº 136 of 2010, established four general rules for the defense budget:

- tthe Ministry of Defense's budget will contemplate priorities defined in the National Defense Strategy;
- the Ministry of Defense's budget will distinguish sums allocated to the Navy, Army and Air Force;
- the budget proposals of the Armed Services will be prepared jointly with the Ministry of Defense, which will consolidate them; and
- The Navy, Army and Air Force will manage, individually, their respective allocated budgetary resources.

Brazilian law adopts the principles of budgetary unity and universality. The unity principle determines that there must only be one budget, i.e. each member of the Brazilian federation (Union, states, Federal District and municipalities) must prepare a single budget. Hence, the defense budget is part of the Union's General Budget. The universality principle determines that the budget law of each member of the federation must contain all revenues and expenditures of every branch of state.

The Budget Process

The defense budget process, as part of the Union budget process, follows three main phases. In the first phase, the Executive branch prepares a bill which establishes a four year multiannual plan, in which all programs related to defense are inserted. This plan also sets objectives, goals, initiatives and indicators for each program. The President of the Republic is responsible for sending this bill to the National Congress, which, in turn, revises the document, approves it and returns it for presidential sanction. The current multiannual plan, called "More Brazil Plan", comprises the period from 2012 to 2015.

In a second phase, the President of the Republic, on a yearly basis, sends to the National Congress a bill on budget guidelines, which directs the preparation and the execution of the annual budget law. The Congress is also responsible for appreciating and approving this bill, and then returning it for presidential sanction.

In the last phase, the Ministry of Defense and other organs of the Union detail the actions to be taken within their respective programs in an annual budget bill. These actions can be of three types according to the official budget classification:

- projects: actions with a defined conclusion date;
- activities: actions which do not have a defined date of conclusion; and
- special operations: actions which do not generate products, such as debt payments.

The annual budget bill estimates revenues and authorizes expenses in detailed form and in accordance with the budget guidelines law and the multiannual plan. It is the responsibility of the President of the Republic to send to the National Congress, for amendment and approval, the annual budget bill, which subsequently returns for presidential sanction.

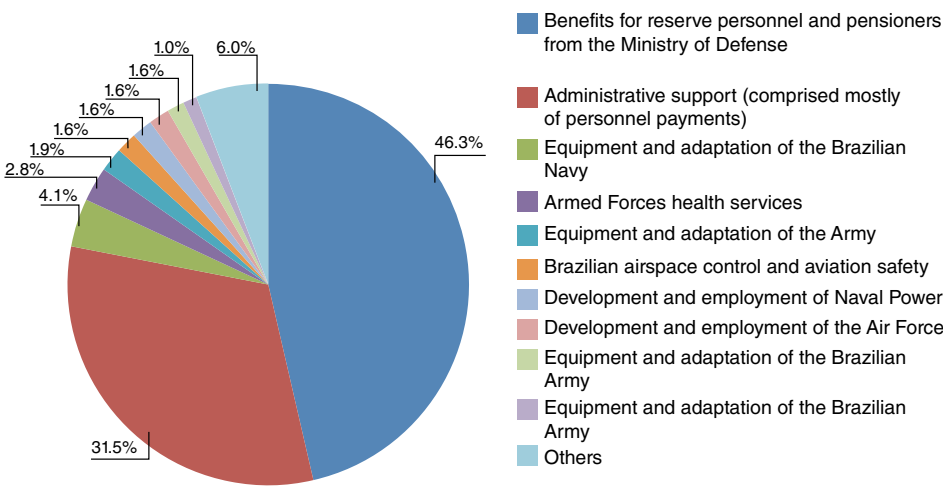
Defense Budget Principles

An efficient National Defense system requires large scale and long term investments, such as those applied on submarines, armored vehicles and aircraft. These materiel have a limited service life, due to natural decay and technological advances. Thus, they must be renewed periodically and, preferably, on pre-scheduled dates. Consequently, the allocation of budgetary resources to the Ministry of Defense must, ideally, contemplate the following three principles:

- stability — resources allocated to the Ministry of Defense should not, in principle, be subject to drastic oscillations. Such practice contributes to the long term maintenance of defense projects, avoiding delays and possible losses of personnel, who are often developed along with projects;
- regularity — resource disbursement should occur in a systematic manner, to permit the fulfillment of planned time schedules; and
- predictability — this principle grants security to the long term planning of large scale projects, thereby assuring that resources are disbursed in a stable and regular manner.

Defense Budget Programs

The following chart shows the Ministry of Defense's main programs in 2011, in proportion to the Ministry's total expenditure in that year.



Source: Senate — SIGA Brasil.

2011 Budgetary programs of the Ministry of Defense

The chart shows that the largest part of the resources allocated to the Ministry of Defense is assigned to the payment of benefits for reserve personnel and pensioners (46.3%) and for administrative support (31.5%), which includes, among other expenses, the payroll of active duty personnel. By contrast, in 2011, the total amount spent on investment and maintenance of equipment and training was 10.8%[71].

Defense Expenditures

International Scope

A comparison between the defense budgets of different countries permits a better understanding of scale and how financial resources are applied. However, it must be noted that there is a lack of uniformity in international budget rankings. A country may include certain expenditure in its budget (for instance technological development), while another may not. Brazil, in particular, includes expenditure on benefits for reserve personnel and pensioners in its defense budget. The exclusion of these expenses would represent a 46% decrease in the 2011 budget of the Ministry of Defense and similar values for the previous years.

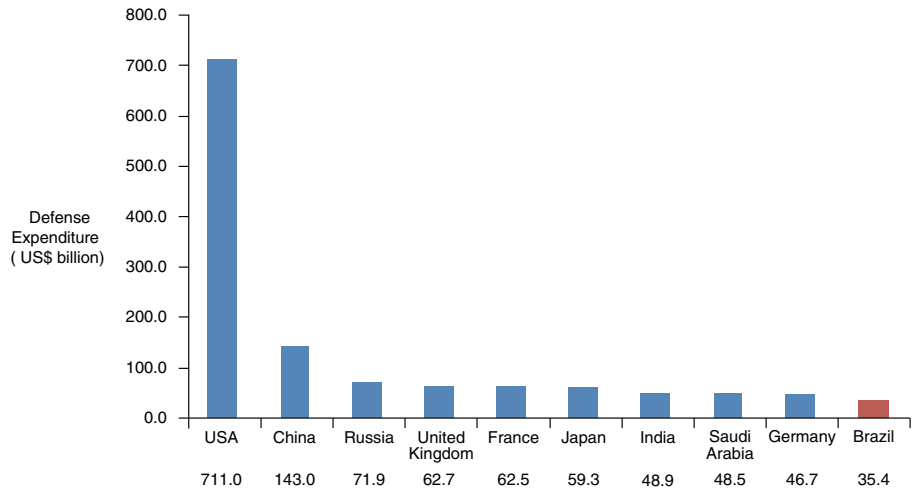
In the comparisons presented below, defense expenditure data was derived from the Stockholm International Peace Research Institute (SIPRI) in Sweden. The analysis is meant to demonstrate the financial situation of the Brazilian Defense Ministry compared to similar sectors in other countries.

In 2011, Brazil ranked tenth among countries with the largest defense expenditures in the world. However, the previous remark regarding spending on reserve personnel and pensioners, which may significantly misrepresent the country's actual position, should be considered. It also must be noted that Brazil is the country with the smallest defense expenditure among the BRICS nations, except for South Africa, which did not expend enough to figure among the top ten spenders[72].

Among these top ten nations, Brazil was the sixth country that most increased its defense expenditure in the last decade. However, again, it may be noted that this growth was inferior to the that of the other BRICS nations. For example, there is a sharp discrepancy in the growth in expenditure of Brazil (19%) and China (170%) in this period.

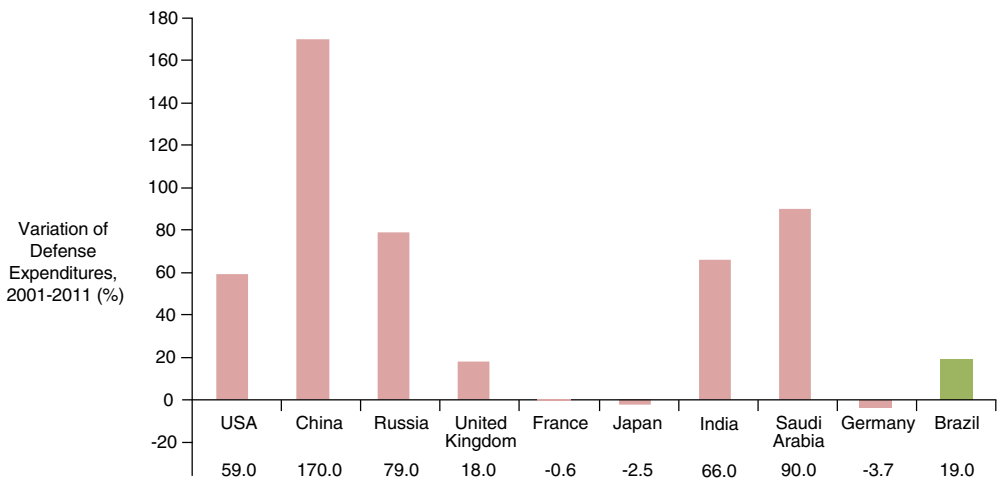
[71] Obtained through the sum of the percentage of re-equipment and adaptation of the Navy and Air Force plus preparation and employment of the three Forces.

[72] Saudi Arabia's budget values include spending with public security and may therefore be overestimated.



Source: SIPRI.

2011 Ten countries with the highest defense expenditures in the world



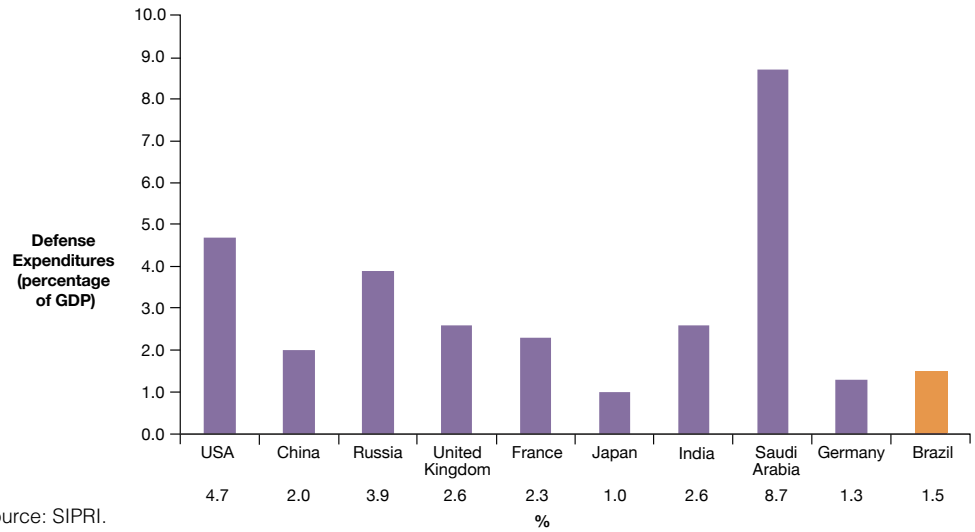
Source: SIPRI.

Variation of defense expenditures from 2001 to 2011

Still considering the ten countries with the largest defense expenditures in 2011, Brazil ranked eighth in terms of spending in relation to Gross Domestic Product (GDP)[73].

[73] GDP represents the total (in monetary values) of all goods and services produced in a country.

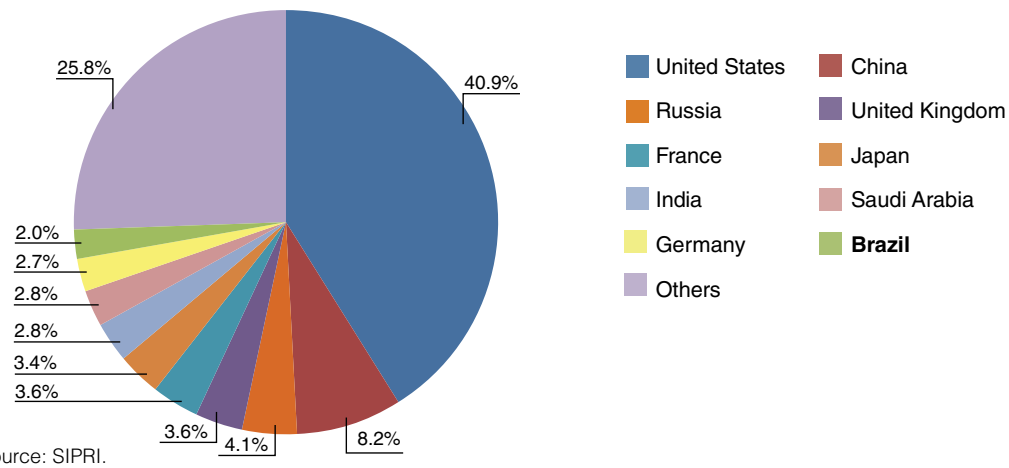
It is likewise noted that the above mentioned value is inferior to that of the other BRICS countries, not considering South Africa.It is also important to point out that Brazil's defense expenditure represents 2.0% of the worlds' total defense spending in 2011, as demonstrated



Source: SIPRI.

Defense expenditures in proportion to GDP

in the chart below. This chart makes evident that almost half of global expenditures on defense belong to the United States of America and that the defense expenditures of the BRICS, not including South Africa, corresponds to 17.1% of total global spending in the sector.

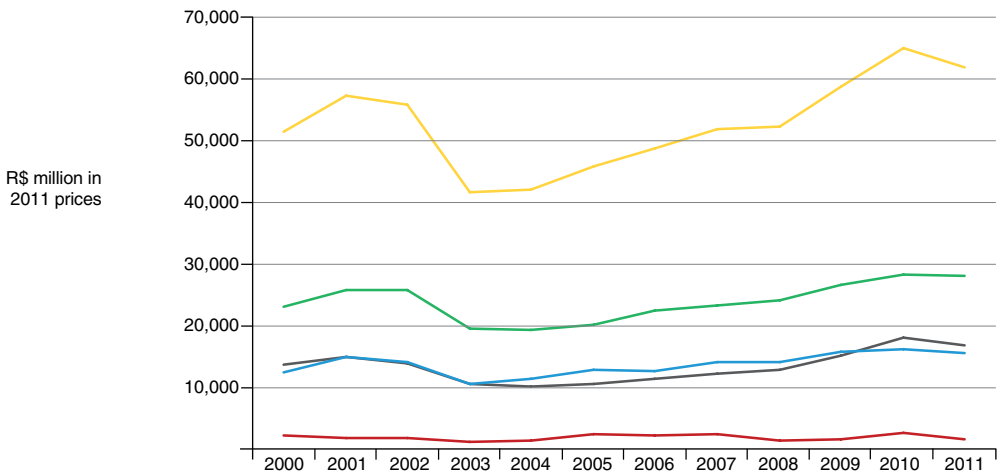


Source: SIPRI.

World defense spending (%)

National Scope

The Ministry of Defense's budget execution suffered a progressive reduction from 2000, reaching its lowest level in 2003. From then on, there was a process of gradual recovery until 2010, as shown in the following chart. In 2011, there was a slight fall, due to financial restraining measures imposed by the macroeconomic environment. The differences in the budget execution between the Armed Forces and the Ministry of Defense's Central Administration[74] reflects their respective differences and peculiarities, particularly concerning the number of personnel of each, as described in chapter 3.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ministry of Defense	51,323	57,262	55,715	41,522	42,037	45,872	48,646	51,744	52,297	58,757	64,917	61,788
Central Administration	2,126	1,724	1,765	1,097	1,399	2,335	2,184	2,372	1,271	1,517	2,596	1,567
Navy	13,716	14,966	13,968	10,430	10,017	10,498	11,334	12,110	12,775	15,062	17,971	16,740
Army	23,081	25,708	25,821	19,507	19,291	20,198	22,457	23,225	24,090	26,492	28,218	27,974
Air Force	12,401	14,864	14,162	10,488	11,329	12,842	12,671	14,037	14,162	15,687	16,133	15,507

Source: SIAFI.

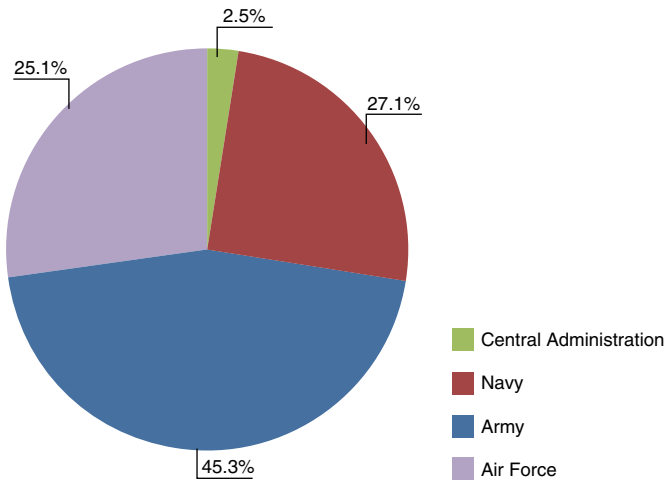
Ministry of Defense's Expenditures

The newest Annual Budget Law (LOA), in its Volume IV, allocates R$ 64,794,765,301 to the Ministry of Defense in 2012[75].

[74] The expression "Central Administration" includes the organizational structure described in chapter 3, as well as the War College (ESG), the Armed Forces Hospital (HFA) and the Civil Aviation Secretariat (SAC), which, in March 2011, was transferred to the Presidency of the Republic.

[75] The 2012 Annual Budget Law (LOA) is available in www.planejamento.gov.br.

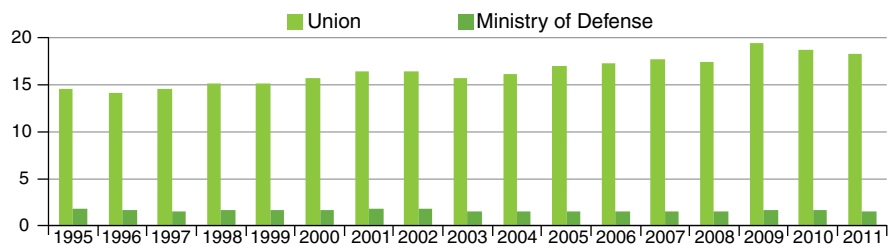
The proportions of expenses, in the Union liquidated budget, of the three Armed Forces and the Central Administration of the Ministry of Defense, in 2011, are presented in the following chart.



Source: SIAFI.

Ministry of Defense's Expenditures in 2011

It is important to note that the recovery of the budget execution of the Ministry of Defense, previously mentioned, is less accentuated when one considers spending in proportion to GDP. This is due to the fact that defense spending did not closely follow the evolution of the Union's primary expenses[76] compared to GDP, which from 1995 to 2011 increased from 14.59% to 18.27%. In the same period, defense spending compared to GDP decreased from 1.79% to 1.48%.



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Union	14.59	14.13	14.50	15.12	15.19	15.65	16.39	16.35	15.71	16.12	16.91	17.34	17.74	17.35	19.43	18.72	18.27
Ministry of Defense	1.79	1.63	1.55	1.64	1.57	1.64	1.82	1.74	1.46	1.43	1.45	1.46	1.46	1.48	1.62	1.57	1.48

Sources: SIAFI and Banco Central.

Union and Ministry of Defense's primary expenses – percentage of GDP

[76] Primary expenses, also known as non-financial expenditures, correspond to the combination of expenses that enable the provision of public services to society, excluding financial expenses. These include expenses with personnel, maintenance and investment. Such expenses may be of mandatory or discretionary nature.

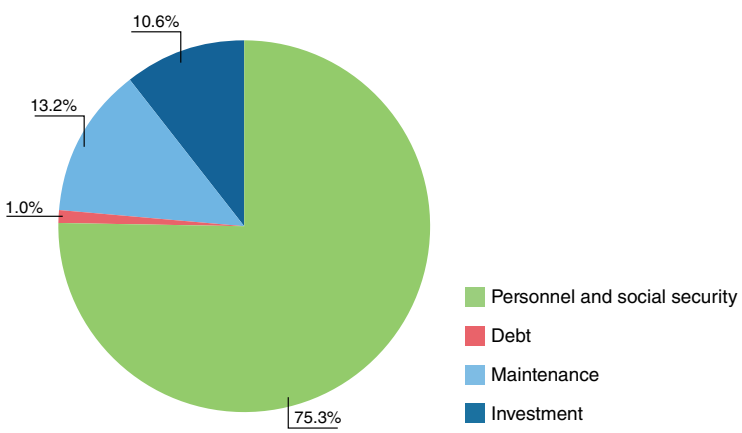
The following types of expense are included in the Brazilian defense budget:

- personnel and social security — payment of active duty and reserve personnel and pensioners, including their respective social security benefits;
- maintenance — national defense spending on the maintenance of means, food, uniforms, fuel, lubricants, ammunition for light weapons, transportation, training and other administrative expenses;
- investment — acquisition and modernization of defense materiel and equipment, including aircrafts, helicopters, ships, combat vehicles, heavy weaponry, large scale facilities, light weapons, among others; and
- debt payment.

Of these various types of expenditure, spending on personnel and social security represent the largest.

Current investments are far below the level required to support the priority projects of the Ministry of Defense. As shown in chapter 5, in order to carry out a defense transformation, along the indicated lines, it is necessary to substantially increase this type of expenditure. Spending in maintenance must also rise, due to higher demands imposed by the acquisition of new equipment.

In the personnel chart, presented below, it should be noted that the Army requires the largest amount of budgetary resources, since it possesses the largest quantity of personnel, as demonstrated in chapters 3 and 5. On the other hand, the Navy and Air Force, in the last decade, have maintained a similar level of expenditure on human resources, due to



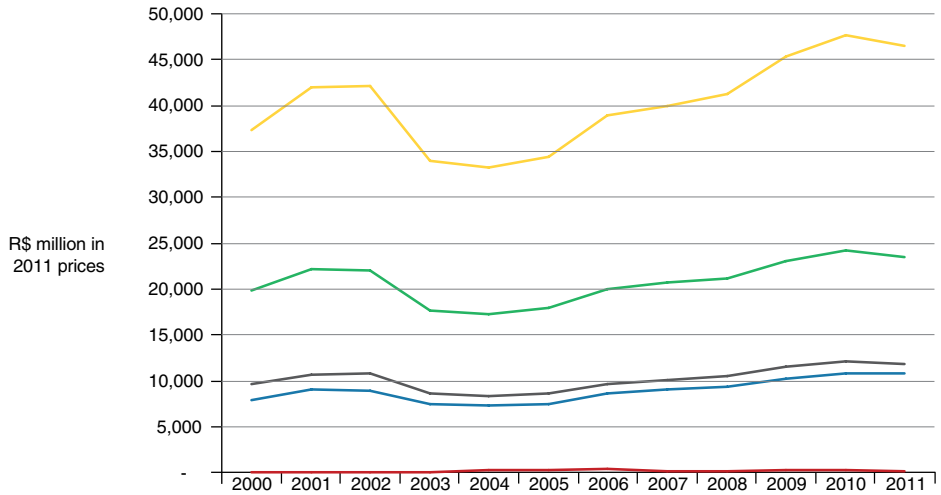
Source: SIAFI.

Ministry of Defense's expenditures in 2011*

*The 2012 LOA provides for the Ministry of Defense R$ 9,147,077,183 for expenses like investment. This represents an increase of R$ 2,363,708,524, compared with the budgetary allocation of the 2011 LOA.

their similar numbers of personnel. Considering the guidelines set by the National Defense Strategy, there should be a future trend of increasing personnel expenditures by the Navy, due to the creation of a 2nd Fleet in the Northern region of the country.

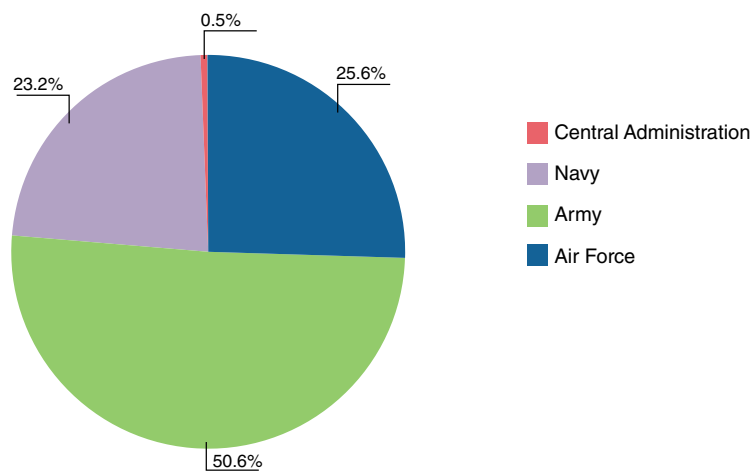
Since 2003, the Ministry of Defense's spending on maintenance, has gradually increased, following a rise in investments. In last decade, the three Armed Services have



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ministry of Defense	37,391	41,956	42,115	33,938	33,227	34,469	38,893	39,921	41,325	45,325	47,599	46,522
Central Administration	94	107	142	103	312	323	470	153	232	312	396	252
Navy	9,645	10,665	10,913	8,653	8,353	8,687	9,730	10,047	10,511	11,624	12,214	11,929
Army	19,795	22,152	22,068	17,728	17,286	17,968	20,047	20,696	21,210	23,121	24,210	23,541
Air Force	7,857	9,034	8,992	7,454	7,276	7,492	8,647	9,026	9,372	10,267	10,779	10,799

Source: SIAFI.

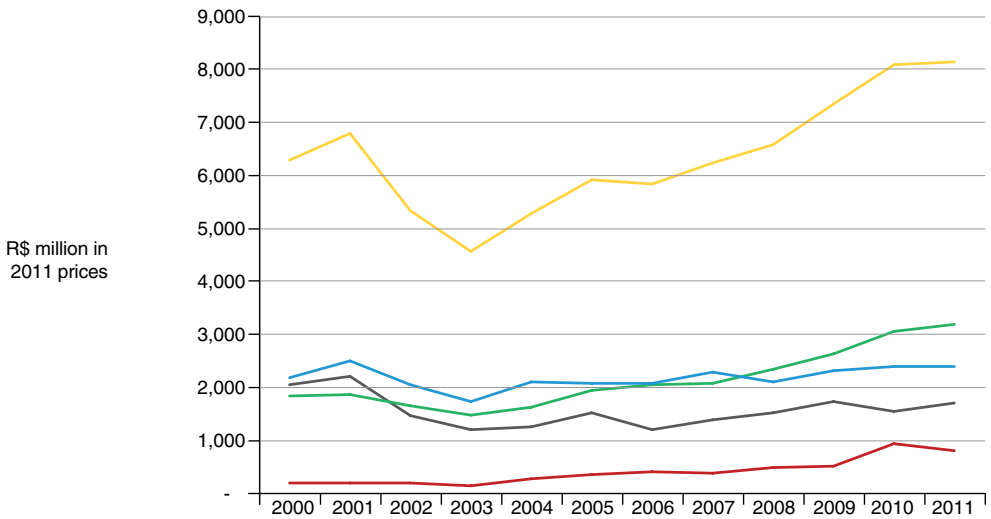
Ministry of Defense's expenses with personnel and social security



Source: SIAFI.

Ministry of Defense's expenses with personnel and social security in 2011

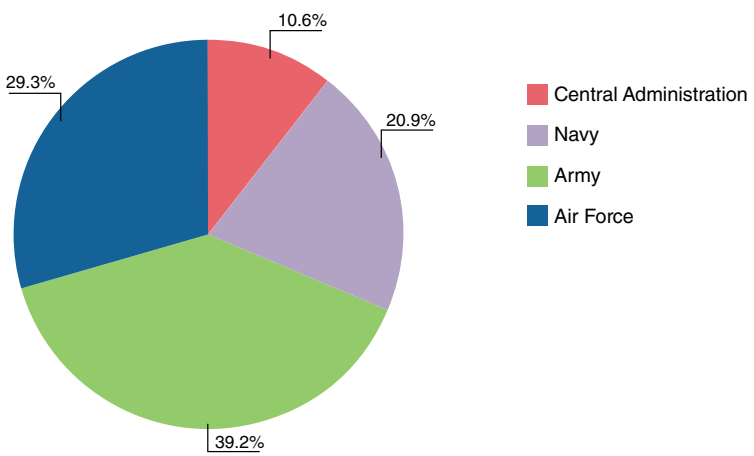
alternated for the position of highest spender in this category. In that same period, the Central Administration kept a similar level of expenditure, only experiencing a significant increase in 2010.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ministry of Defense	6,275	6,798	5,338	4,564	5,283	5,908	5,830	6,234	6,579	7,346	8,086	8,139
Central Administration	193	209	190	143	279	361	419	386	487	521	936	810
Navy	2,045	2,222	1,465	1,214	1,262	1,533	1,203	1,387	1,533	1,728	1,538	1,699
Army	1,851	1,858	1,642	1,478	1,628	1,942	2,052	2,076	2,341	2,642	3,056	3,194
Air Force	2,186	2,509	2,040	1,729	2,115	2,072	2,083	2,293	2,093	2,306	2,396	2,386

Source: SIAFI.

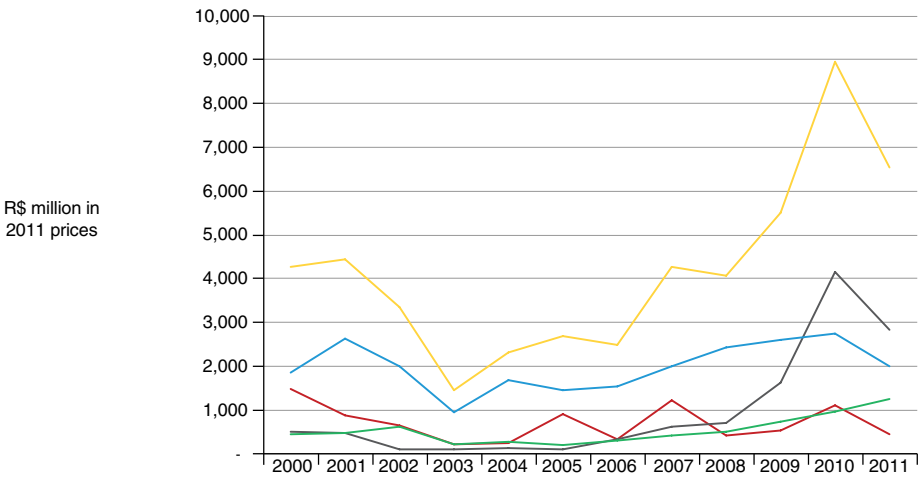
Ministry of Defense's expenses with maintenance



Source: SIAFI.

Ministry of Defense's expenses with maintenance in 2011

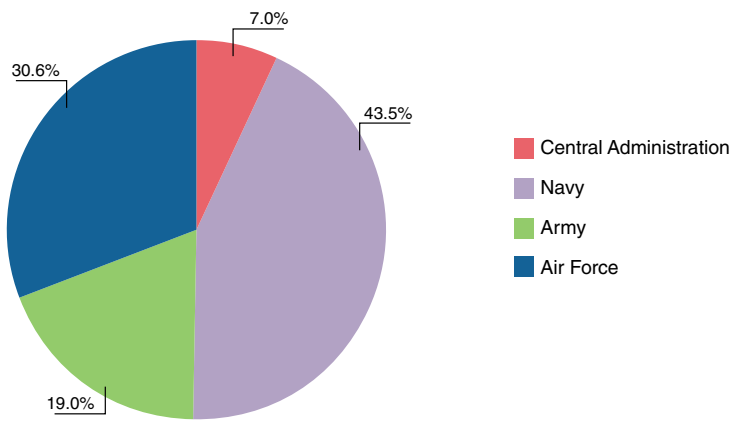
Levels of investments vary significantly among the Armed Forces. The Navy's budget has increased substantially from 2008, due especially to the submarine program, which includes spending on nuclear propulsion. The Army's investment requires special attention, as it is at a very low level in spite of some increases in previous years. The Air Force's investment has undergone a slight rise in the last five years, although it has also decreased in 2011.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ministry of Defense	4,278	4,434	3,348	1,442	2,307	2,680	2,488	4,267	4,076	5,511	8,956	6,534
Central Administration	1,489	865	654	207	241	917	335	1,229	426	535	1,104	454
Navy	509	465	91	87	123	105	318	632	710	1,638	4,165	2,840
Army	439	482	611	201	267	198	292	412	517	725	952	1,239
Air Force	1,841	2,622	1,992	947	1,677	1,460	1,542	1,993	2,424	2,613	2,736	2,001

Source: SIAFI.

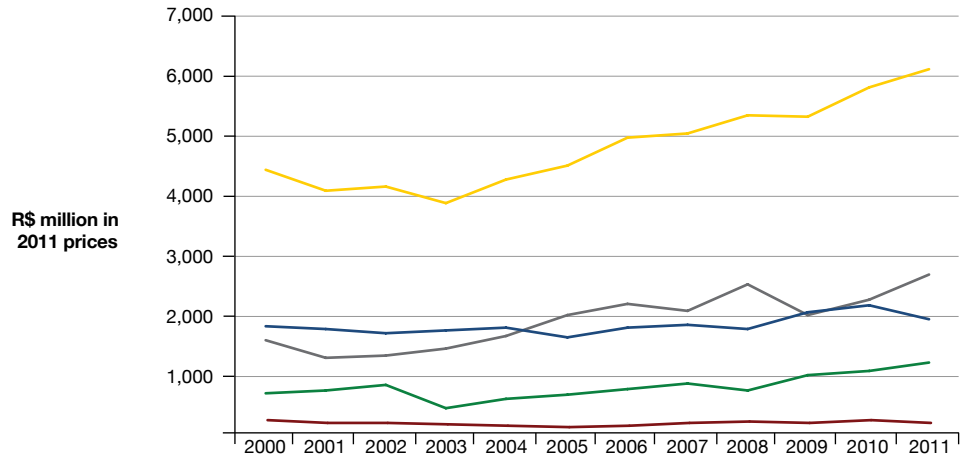
Ministry of Defense's investments



Source: SIAFI.

Ministry of Defense's investments in 2011

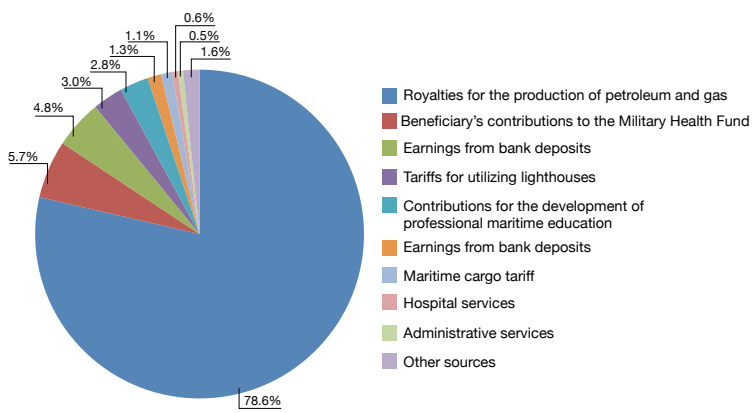
The resources assigned to the Ministry of Defense derive exclusively from the federal budget. Notwithstanding, the Armed Forces have raised income from different sources, all of which are fully collected by the National Treasury.



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Ministry of Defense	4,436	4,089	4,159	3,893	4,293	4,522	4,982	5,060	5,348	5,333	5,826	6,108
Central Administration	252	189	193	167	150	125	148	188	215	191	240	205
Navy	1,615	1,322	1,366	1,472	1,685	2,031	2,212	2,110	2,550	2,030	2,298	2,705
Army	732	770	873	485	637	705	792	891	790	1,038	1,094	1,238
Air Force	1,837	1,807	1,726	1,769	1,821	1,662	1,829	1,870	1,793	2,075	2,195	1,960

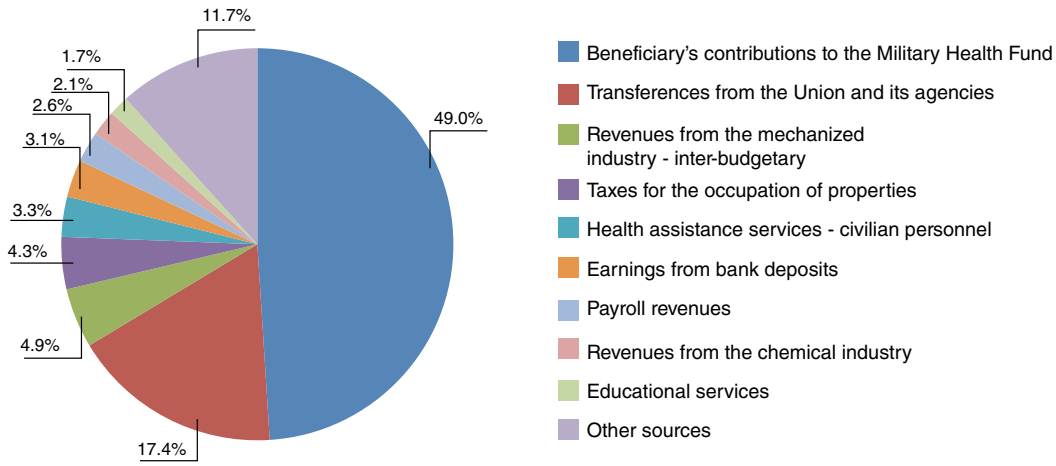
Source: SIAFI.

Tax revenues of the Ministry of Defense



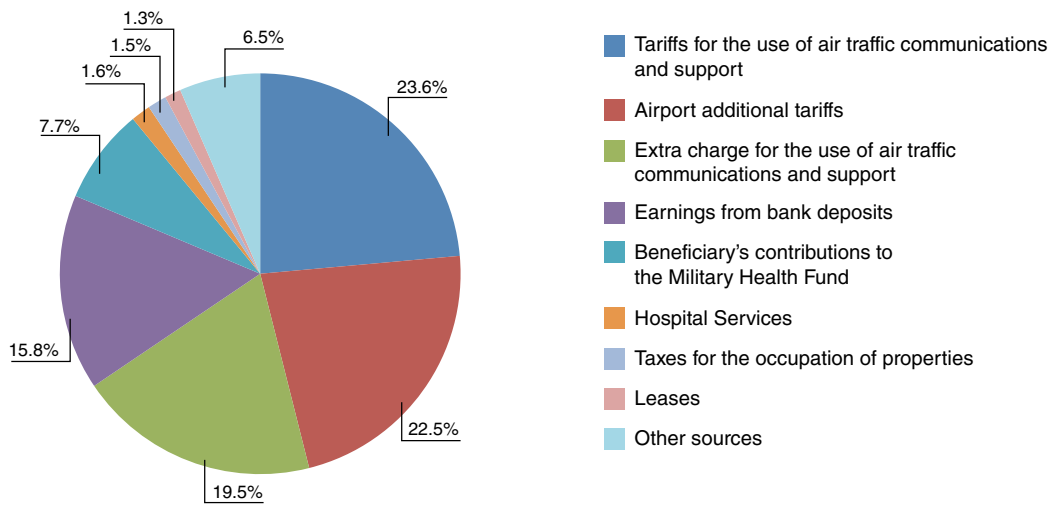
Source: SIAFI.

Navy's sources of revenue in 2011



Source: SIAFI.

Army's sources of revenue in 2011



Source: SIAFI.

Air Force's sources of revenue in 2011

The Union possesses, as previously mentioned, a multiannual budgetary plan[77]. It is a medium term plan , of only four years, which is subject to several annual adjustments, including restrictions, mostly due to external crises.

Although the defense budget has slightly recovered in the last seven years, there is still much to be done.

Brazilian defense spending has not risen proportionately to the economic growth experienced by the country. It is essential that society perceives expenses on national defense as necessary investments for socioeconomic development, for the protection of natural resources and for the defense of national sovereignty.

Not having Armed Forces in full readiness is a risk, and could result in higher costs for the nation in future. Despite its peaceful tradition, Brazil cannot be seen as a defenseless and disarmed nation. National Defense is a type of insurance which the Brazilian state should continually renew, in accordance with the principles of stability, regularity and predictability, so as to ensure a national environment that is favorable to full economic and social development.

[77] Medium term from the budgetary perspective. From the Ministry of Defense's viewpoint, the multiannual plan is considered a short term document.

ANNEX

ANNEX I

Personnel

2012 Military Personnel

Classification	Existing
Navy Personnel	65,528
Navy Officers	8,669
Navy Enlisted Personnel	56,859
Corporals	14,140
Seamen	17,205
Army Personnel	204,744
Army Officers	23,445
Army Enlisted Personnel	181,299
Corporals	25,832
Privates	109,883
Air Force Personnel	69,093
Air Force Officers	9,708
Air Force Enlisted Personnel	59,385
Corporals	3,945
Airmen	30,231
Total	**339,365**

Notes:
Numbers do not include cadets.
Numbers of enlisted personnel include all ranks. Numbers of seamen, privates, airmen and corporals are noted separately.

2012 Military Personnel by Location

Location	Existing	% of Total	Population per Sailor or Soldier
Navy			
1st Naval District (1º DN)	46,110	73.97%	848,000
2nd Naval District (2º DN)	2,613	3.33%	6,157
3rd Naval District (3º DN)	3,195	3.47%	8,545
4th Naval District (4º DN)	2,789	4.05%	6,434
5th Naval District (5º DN)	2,596	3.23%	10,549
6th Naval District (6º DN)	1,838	2.66%	2,983
7th Naval District (7º DN)	2,751	4.37%	3,617
8th Naval District (8º DN)	1,168	1.50%	35,319
9th Naval District (9º DN)	2,468	3.76%	2,522
Army			
Amazon Command (CMA)	27,015	12.40%	536
Eastern Command (CML)	46,935	23.64%	833
Northeastern Command (CMNE)	25,325	11.81%	2,096
Western Command (CMO)	14,071	6.70%	390
Planalto Command (CMP)	22,789	11.01%	437
Southern Command (CMS)	51,407	25.39%	533
Southeastern Command (CMSE)	17,201	9.05%	2,398
Air Force			
I Regional Air Command (I COMAR)	4,107	5.88%	3,353
II Regional Air Command (II COMAR)	8,721	13.16%	5,208
III Regional Air Command (III COMAR)	22,496	32.27%	1,691
IV Regional Air Command (IV COMAR)	12,251	17.47%	3,436
V Regional Air Command (V COMAR)	6,767	10.02%	3,951
VI Regional Air Command (VI COMAR)	9,094	12.92%	1,342
VII Regional Air Command (VII COMAR)	5,657	8.28%	1,014

Source: IBGE, population count in 2010, published in the Federal Official Gazette 11/04/2011. Note: no cadets are computed.

2012 Military Personnel in Peacekeeping Missions

Country	Function	Quantitative
Ivory Coast	Military Observer	1
	Advisor	3
	Liaison Officer	3
Cyprus	Advisor	1
Haiti	Advisor	20
	Troop member	2,076
	Police Officer	3
Liberia	Advisor	2
	Military Observer	2
Western Sahara	Observer	10
Sudan	Observer	3
	Policemen	7
	Firemen	2
	Advisor	2
East-Timor	Observer	3
	Policemen	16
Lebanon	Advisor	15
	Union Frigate	252
Syria	Observer	11
Guinea-Bissau	Police Officer	1
Peru and Ecuador	Monitor	4
Colombia	Monitor	7
Grand Total		**2.444**

2012 Military Attachés Abroad

Military Personnel	Existing
Attachés	64
Deputy Attachés	9
Assistant Attachés	63
Subtotal	136
Representatives in International Organizations and their assistants	39
Total	**175**

2012 Civilian Personnel in the Ministry of Defense

Careers/Plan	Navy	Army	Air Force	War College	Armed Forces Hospital	Central Administration	Total
General Plan of Offices in the Executive Branch (PGPE)	3,220	5,189	2,691	30	260	122	11,512
Science and Technology Careers	411	405	1,971	-	-	-	2,787
Military Technology Career	2,769	914	597	-	-	-	4,280
Technical Education Career	111	688	275	-	-	-	1,074
University Education Career	119	70	227	-	-	-	416
Federal Primary and High School Education Career Plan	27	46	129	-	-	-	202
Air Defense and Air Traffic Control Group	-	-	371	-	-	-	371
Careers and Offices Plan of the Armed Forces Hospital	-	-	-	-	1,479	-	1,479
Public Employment — subject to private sector regulations (Decree Nº. 6,657 of 2008)	2	-	30	-	208	-	240
Maritime Court (Judges)	7	-	-	-	-	-	7
Total	**6,666**	**7,312**	**6,291**	**30**	**1,947**	**122**	**22,368**

Note: table does not include political appointments and civilian careers with smaller numbers.

Defense Equipment

2012 Fleet Resources

Type	Class	Nº
Aircraft carrier	São Paulo	1
Frigate	Niterói	6
Frigate	Greenhalgh	3
Corvette	Inhaúma	4
Corvette	Barroso	1
Submarine with diesel-electric propulsion	Tupi	4*
Submarine with diesel-electric propulsion	Tikuna	1
Submarine rescue ship	Felinto Perry	1
Combat vehicles landing ship	Garcia D'Avila	1
Combat vehicles landing ship	Almirante Saboia	1
Dock-landing ship	Ceará	1
Tanker	Almirante Gastão Motta	1
Tanker	Marajó	1
Training ship	Brasil	1
Sailing ship	Cisne Branco	1

*Four more submarines with diesel-electric propulsion will be acquired by 2016. A submarine with nuclear propulsion will be acquired by 2022.

2012 Fleet Aviation Resources

Type	Name	Nº
Fighter	AF-1/AF-1A Skyhawk	23
Anti-submarine helicopter	SH-3A/B Sea King	5
Multipurpose helicopter	AH-11A Super Lynx	12
Training helicopter	IH-6B — Bell Jet Ranger	16
General purpose helicopter	UH-14 Super Puma	6
General purpose helicopter	UH-15 Super Cougar	1*
General purpose helicopter	UH-12/13 Esquilo	15
Multipurpose helicopter	MH-16 — Sea Hawk	4**

*One aircraft received out of a total of 16 acquired.
**Four aircrafts about to be received.

2012 Naval Districts' Resources

Type	Class	Nº
Corvette	Imperial Marinheiro	2
Ocean Patrol Ship	Amazonas	1
Patrol Ship	Grajaú	12
Patrol Ship	Macaé	2
Patrol Ship	Piratini	6
Patrol Ship	Bracuí	4
River Patrol Ship	Pedro Teixeira	2
River patrol ship	Roraima	3
Monitor	Parnaíba	1
Dispatch transport river boat	Piraim	1
River transport ship	Paraguassu	1
River logistics support ship	Potengi	1
Oceanic tug	Triunfo	3
Oceanic tug	Almirante Guilhem	2
Minesweeper	Aratu	6
Auxiliary ship	Pará	1
Hospital ship	Oswaldo Cruz	2
Hospital ship	Doutor Montenegro	1
Hospital ship	Tenente Maximiano	1
Hospital ship	Soares de Meirelles	1
Hydro-oceanographic ship	Amorim do Valle	1
Beacon ship	Faroleiro Mário Seixas	1
Beacon ship	Comandante Varella	4
Research dispatch ship	Aspirante Moura	1
Training dispatch ship	Aspirante Nascimento	3

2012 Naval Districts' Aviation Resources

Type	Name	Nº
General purpose helicopter	UH-12/13 Esquilo	11

2012 Marine Corps Resources

Type	Name	Nº
Tracked armored vehicle	SK-105 Kuerassier	18
Tracked armored vehicle	M-113	30
Tracked amphibious armored vehicle	AAV-7A1/LVTP-7	26
Wheeled armored vehicle	Piranha IIIC	18
Anti-aircraft artillery	L/70 BOFORS 40mm	6
Artillery	L-118 Light Gun (Towed 105mm)	18
Artillery	M-114 (Towed 155mm)	6
Artillery	K6A3 (Mortar 120mm)	6
Infantry	Mortar M-60 BRANDT (60mm)	103
Infantry	Mortar 81mm	26
Light weapon	RBS-56 Bill (Anti-car Missile)	18
Light weapon	Surface-to-Air Missile MISTRAL	8

2012 Hydro-Oceanographic and Beaconing Resources

Type	Name	Nº
Polar ship	Almirante Maximiano	1
Oceanographic ship	Antares	1
Oceanographic support ship	Ary Rongel	1
Hydro-oceanographic beaconing ship	Almirante Graça Aranha	1
Hydrographic ship	Sirius	1
Hydro-Oceanographic ship	Amorim do Valle	2
Hydro-Oceanographic ship	Cruzeiro do Sul	1

2012 Army Resources

Type	Name	Nº
Armored Vehicle	Leopard1A1	128
Armored Vehicle	Leopard1A5	250
Armored Vehicle	M60 Patton A3 TTS	91
Armored Vehicle	M-41B/C	112
Armored Vehicle	EE-9 Cascavel	409
Armored Vehicle	EE-11 Urutu	213

Type	Name	Nº
Armored Vehicle	M113BR	584
Armored Vehicle	VBTP-MR Guarani	4*
Artillery Material	M108 105mm	72
Artillery Material	M109 155mm	40
Artillery Material	M114 155mm	92
Artillery Material	L118 105mm	36
Artillery Material	M101 105mm	320
Artillery Material	Astros II	20
Artillery Material	Oerlikon 35mm	38
Artillery Material	Bofors 40mm L/70	24
Combat Support	Morteiro 120 mm	60
Helicopter	Eurocopter Cougar	8
Helicopter	Fennec/Esquilo	32
Helicopter	Black Hawk	4
Helicopter	Eurocopter Pantera	32
Helicopter	Caracal/EC-725	1**

*2,040 vehicles.to be acquired in future.
**One aircraft received from a total of 16 acquired.

2012 Air Force Resources

Type	Name	Nº
Interceptor fighter	F-2000 B/C Mirage 2000	12
Multimission fighter	F-5 EM/FM Tiger II	57
Air-surface/reconnaissance fighter	A-1	53
Flight testing aircraft	AT-26 Xavante	2
Advanced training/light attack aircraft	A-29 Super Tucano	95
Training aircraft	T-27 Tucano	101
Transport/aerial refueling aircraft	KC-137/Boeing 707	4
Transport/aerial refueling/earch and rescue aircraft	KC-130 Hércules	2
Transport/search and rescue aircraft	C-130 Hércules	20
Transport/search and rescue aircraft	C-105 A Amazonas	12
Transport aircraft	C-99/Embraer 145	8
Transport aircraft	C-97 Brasilia	20
Transport aircraft	C-98/A Caravan	29
VIP transport aircraft	VC-99 B/C Legacy/E-135	8
Presidential aircraft	VC-1/Airbus A-320	1

Type	Name	Nº
Presidential aircraft	VC-2/Embraer 190	2
Transport/reconnaissance aircraft	VU/R-35/Learjet 35	7
Transport/reconnaissance/maritime patrol/ search and rescue aircraft	C-95 Bandeirante	86
Maritime patrol aircraft	P-3 AM	5*
Aerial control and early warning/ reconnaissance aircraft	E/R 99/Embraer 145	8
Aerial inspection aircraft	IU-93A	4
Attack helicopter	AH-2 Sabre	6**
Flight testing helicopter	H-55 Esquilo bi-reator	4
Training helicopter	H-50 Esquilo	24
Transport/search and rescue helicopter	H-60 Black Hawk	10
Transport/search and rescue helicopter	H-1H	24
Transport/search and rescue helicopter	H-34 Puma	10
Transport/search and rescue helicopter	H-36/EC-725	1***
VIP transport helicopter	VH-35	2

*5 aircraft received from a total of 9 acquired.
**6 aircraft received from a total of 12 acquired.
***1 aircraft received from a total of 16 acquired.

Defense Budget

Budget Allocated to the Ministry of Defense (R$ Million in 2011 Prices)

Legal Document	2006	2007	2008	2009	2010	2011
Annual Budget Law (LOA)	49,187	52,050	49,835	58,871	64,035	61,402
Annual Budget Bill (PLOA)	47,941	50,569	49,835	59,754	63,137	60,230

Note: the Annual Budget Bill is prepared by the Executive branch and sent to the National Congress which applies amendments that may raise budget values. The Annual Budget Bill is transformed into the Annual Budget Law after congressional approval and presidential sanction.

Budgetary Expenditure by Organization (R$ Million in 2011 Prices, Liquidated)

Organization	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Administration	2,126	1,724	1,765	1,097	1,399	2,335	2,077	2,215	1,014	1,181	2,197	1,442
Central Administration (except funds)	2,053	1,615	1,630	996	1,287	2,212	1,938	2,088	893	1,037	1,993	1,225
Fund of the Ministry of Defense	9	6	3	10	5	5	5	4	1	2	1	1
Fund of the Armed Forces Hospital	51	90	121	84	99	110	127	117	115	136	196	209
Fund of the Military Service	13	13	10	8	9	7	7	7	6	6	8	7
Civil Aviation Agency	-	-	-	-	-	-	107	156	257	336	399	125
Central Administration (Civil Aviation Agency)	2,126	1,724	1,765	1,097	1,399	2,335	2,184	2,372	1,271	1,517	2,596	1,567
Navy	13,716	14,966	13,968	10,430	10,017	10,498	11,334	12,110	12,775	15,062	17,971	16,740
Navy — Central	12,523	13,663	13,345	10,024	9,408	9,993	10,752	11,392	12,257	14,451	17,404	16,327
Maritime Court	2	3	2	-	-	-	-	-	-	-	-	-
Inter-Ministerial Commission for Maritime Resources	17	10	6	5	8	9	29	28	74	117	22	16
Naval Fund	1,106	1,215	571	364	543	429	478	589	361	401	424	304
Fund for the Development of Professional Maritime Education	68	75	44	38	58	66	75	101	83	93	104	81
Fund for the Construction of Houses for the Navy	-	-	-	-	-	-	-	-	-	-	16	11
Army	23,081	25,708	25,821	19,507	19,291	20,198	22,457	23,225	24,090	26,492	28,218	27,974
Army — Central	22,436	25,062	25,127	18,981	18,657	19,549	21,702	22,470	23,154	25,366	27,101	26,839
Osorio Foundation	8	8	8	7	8	8	10	11	11	11	12	11
Army Fund	637	638	686	519	626	641	744	744	772	899	898	925
Brazilian Arms Industry	-	-	-	-	-	-	-	-	154	215	207	199
Air Force	12,401	14,864	14,162	10,488	11,329	12,842	12,671	14,037	14,162	15,687	16,133	15,507
Air Force — Central	9,928	12,967	12,504	9,297	9,712	11,356	10,989	12,395	12,458	13,905	13,973	13,686
Air Force Real State Financing Fund	22	30	13	5	9	13	11	12	8	12	5	2
Air Force Fund	2,309	1,731	1,554	1,103	1,469	1,392	1,635	1,630	1,695	1,771	2,155	1,818
Aviation Fund	142	136	91	82	140	81	36	-	-	-	-	-
Ministry of Defense	51,323	57,262	55,715	41,522	42,037	45,872	48,646	51,744	52,297	58,757	64,917	61,788

Expenditure by Type of Expense (R$ Million in 2011 Prices, Liquidated)

Type of Expense	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Personnel and social security charges	37,391	41,956	42,115	33,938	33,227	34,469	38,893	39,921	41,325	45,325	47,599	46,522
Debt	3,379	4,074	4,915	1,578	1,219	2,816	1,435	1,322	317	575	276	592
Interests and debt payments	797	874	1,248	741	604	1,828	461	231	66	379	113	226
Debt redemption	2,582	3,200	3,667	837	615	987	975	1,091	251	197	163	367
Maintenance*	6,275	6,798	5,338	4,564	5,283	5,908	5,830	6,234	6,579	7,346	8,086	8,139
Investments	4,278	4,434	3,348	1,442	2,307	2,680	2,488	4,267	4,076	5,511	8,956	6,534
Investments	4,277	4,388	3,344	1,422	2,305	2,191	2,418	3,476	3,982	5,506	8,952	6,531
Financial investments	-	46	4	20	3	489	70	790	94	5	4	4
Total	**51,323**	**57,262**	**55,715**	**41,522**	**42,037**	**45,872**	**48,646**	**51,744**	**52,297**	**58,757**	**64,917**	**61,788**

*Other current expenses

Personnel and Social Security Services Expenditure (R$ Million in 2011 Prices, Liquidated)

Department	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Administration	94	107	142	103	312	323	458	102	110	133	165	179
Civil Aviation Agency	-	-	-	-	-	-	12	51	122	179	231	73
Central Administration + Civil Aviation Agency	94	107	142	103	312	323	470	153	232	312	396	252
Navy	9,645	10,665	10,913	8,653	8,353	8,687	9,730	10,047	10,511	11,624	12,214	11,929
Army	19,795	22,152	22,068	17,728	17,286	17,968	20,047	20,696	21,210	23,121	24,210	23,541
Air Force	7,857	9,034	8,992	7,454	7,276	7,492	8,647	9,026	9,372	10,267	10,779	10,799
Ministry of Defense	37,391	41,956	42,115	33,938	33,227	34,469	38,893	39,921	41,325	45,325	47,599	46,522

Debt Expenditure (R$ Million in 2011 Prices, Liquidated)

Department	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Administration	350	543	779	644	568	734	888	511	-	-	-	-
Civil Aviation Agency	-	-	-	-	-	-	-	-	-	-	-	-
Navy	1,516	1,614	1,498	476	279	173	83	45	20	71	54	272
Army	996	1,216	1,499	100	111	90	65	41	23	4	-	-
Air Force	517	700	1,138	357	261	1,818	399	725	274	501	222	320
Ministry of Defense	3,379	4,074	4,915	1,578	1,219	2,816	1,435	1,322	317	575	276	592

Maintenance Expenditure (R$ Million in 2011 Prices, Liquidated)

Department	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Administration	193	209	190	143	279	361	419	386	487	521	936	810
Civil Aviation Agency	-	-	-	-	-	-	73	92	126	148	159	51
Central Administration + Civil Aviation Agency	193	209	190	143	279	361	492	478	613	669	1,095	860
Navy	2,045	2,222	1,465	1,214	1,262	1,533	1,203	1,387	1,533	1,728	1,538	1,699
Army	1,851	1,858	1,642	1,478	1,628	1,942	2,052	2,076	2,341	2,642	3,056	3,194
Air Force	2,186	2,509	2,040	1,729	2,115	2,072	2,083	2,293	2,093	2,306	2,396	2,386
Ministry of Defense	6,275	6,798	5,338	4,564	5,283	5,908	5,830	6,234	6,579	7,346	8,086	8,139

Investment Expenditure (R$ Million in 2011 Prices, Liquidated)

Department	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Administration	1,489	865	654	207	241	917	313	1,216	417	527	1,095	453
Civil Aviation Agency	-	-	-	-	-	-	22	14	9	8	9	1
Central Administration + Civil Aviation Agency	1,489	865	654	207	241	917	335	1,229	426	535	1,104	454
Navy	509	465	91	87	123	105	318	632	710	1,638	4,165	2,840
Army	439	482	611	201	267	198	292	412	517	725	952	1,239
Air Force	1,841	2,622	1,992	947	1,677	1,460	1,542	1,993	2,424	2,613	2,736	2,001
Ministry of Defense	4,278	4,434	3,348	1,442	2,307	2,680	2,488	4,267	4,076	5,511	8,956	6,534

Tax Revenue (R$ Million in 2011 Prices)

Budget Unit	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Central Administration	57	50	46	37	29	34	33	35	29	26	48	45
Civil Aviation Agency	195	139	148	130	121	90	116	153	186	164	191	160
Central Administration + Civil Aviation Agency	252	189	193	167	150	125	148	188	215	191	240	205
Navy	1,615	1,322	1,366	1,472	1,685	2,031	2,212	2,110	2,550	2,030	2,298	2,705
Army	732	770	873	485	637	705	792	891	790	1,038	1,094	1,238
Air Force	1,837	1,807	1,726	1,769	1,821	1,662	1,829	1,870	1,793	2,075	2,195	1,960
Ministry of Defense	4,436	4,089	4,159	3,893	4,293	4,522	4,982	5,060	5,348	5,333	5,826	6,108

ANNEX II

Defense Deployment and Equipment Plan (PAED)

The following tables present the priority projects and subprojects contained in PAED, by institution. The acronym GEV, in these tables, refers to Global Estimate Value in millions of reais, for the period 2012-2031, for each project. These values still require Federal Government approval. Start and end dates are preliminary predictions. Equipment projects are noted with the mark (E). Deployment projects are noted with the mark (D). The list of projects and subprojects does not necessarily reflect an order of prioritization. Some projects/subprojects have dual entry as projects/subprojects of equipment and deployment.

Priority Projects and Subprojects of the Central Administration

Nº	Project/Subproject	Start	End	GEV
1	Project Military Satellite Communications System (SISCOMIS) (E)	2004	2031	369.0
	Subproject SISCOMIS Expansion and Maintenance	2013	2031	
	Subproject Expansion of the Defense Operational Network	2013	2031	
2	Project Secure Military Communications System (SISTED) (E)	2004	2031	217.4
	Subproject Implementation and Maintenance of the Tactical Data Link System (SISTED)	2013	2031	
3	Project Development of the Logistics and Defense Mobilization Information System (SISLOGD) (E)	2012	2023	7.7
	Subproject Development of the Logistics and Defense Mobilization Information System	2012	2014	
	Subproject Implementation of the Logistics Coordination Center	2012	2013	
	Subproject Development of Interoperability Solution between SIGLD and other systems			
	Subproject Development of Logistics and Defense Mobilization Decision Support System — SADLogMD	2016	2023	
4	Project Modernization of Air Defense for Strategic Structures (E)	2012	2023	4,000.0
	Subproject Modernization of Costal and Anti-Aircraft Artillery School			
	Subproject Modernization of Anti-Aircraft Defense of Critical Structures	2012	2023	
5	Project Modernization of the Amazon Protection System (E)	2012	2023	752.6
	Subproject Extension of Building Infrastructure in Brasilia	2012	2023	

Nº	Project/Subproject	Start	End	GEV
	Subproject Satellite Telecommunications			
	Subproject Environmental and Territorial Monitoring			
	Subproject Climate Monitoring			
6	Project Amazon Cartography System (E)	2012	2023	1,004.5
	Subproject Terrestrial Cartography			
	Subproject Geological Cartography			
	Subproject Nautical Cartography			

Priority Projects and Subprojects of the Navy

Nº	Project/Subproject	Start	End	GEV
1	Project Navy Nuclear Program (D)	1979	2031	4,199.0
	Subproject Nuclear Reactor Prototype Construction	1979	2015	
	Subproject Research for Development of Nuclear Fuel Cycle	1979	2031	
	Subproject Operation and Maintenance of the Navy Technological Center in São Paulo (CTMSP)	1979	2031	
	Subproject Decommissioning of Facilities Related to Nucleo-electric Energy Generation	2015	2030	
2	Project Development of the Navy's Core Capabilities (D)	2009	2047	10,112.1
	Subproject Creation of a Military Organization for the Marine Corps	2012	2023	
	Subproject Restructuring of a Marine Corps Military Organization	2013	2031	
	Subproject Expansion of a Marine Corps Military Organization	2013	2023	
	Subproject Construction of Marine Corps Science, Technology and Innovation Laboratories	2012	2014	
	Subproject PROSUB-1 — Construction of Submarine Base and Shipyard	2009	2016	
	Subproject Creation of Tabatinga Naval Station	2013	2015	
	Subproject Elevation of Rio Grande Naval Station to the category of Naval Base	2013	2023	
	Subproject Elevation of Rio Negro Naval Station to the category of Naval Base	2013	2023	
	Subproject Expansion and Modernization of Naval Bases	2013	2031	
	Subproject Expansion of São Pedro da Aldeia Naval Air Base (BAeNSPA)	2014	2023	
	Subproject Expansion of Navy Logistics Centers (CeIM)	2014	2023	
	Subproject Expansion of Rio de Janeiro Navy Supply Base (BAMRJ) and Construction			
	Subproject Creation and Expansion of Helicopter Squadrons	2013	2023	
	Subproject Expansion of mooring docks of the Port Authority of São Paulo (CPSP) in Santos	2013	2017	
	Subproject Increase Communications Capacity of General Fixed Service Networks	2013	2031	

Nº	Project/Subproject	Start	End	GEV
	Subproject Creation of Navy Radio Station in Manaus	2013	2031	
	Subproject Satellite Communications Tactical Network (SATCOM)	2013	2031	
	Subproject Acquisition of Cryptological Resources for the Navy	2013	2031	
	Subproject Creation of Organizational Structure for the Defense and Attack of Computer Networks (Cyberspace)	2013	2031	
	Subproject Acquisition and Maintenance of Softwares for Communications Infrastructure and Information Technology (IT)	2013	2031	
	Subproject Creation of Redundant Support Structure for Information Technology (IT) of the Navy	2013	2031	
	Subproject Revitalization and Modernization of the Navy Arsenal in Rio de Janeiro (AMRJ)	2013	2017	
	Subproject Revitalization and Modernization of the Center for Systems Maintenance of the Navy (CMS)	2013	2017	
	Subproject Modernization of Navy Simulators	2012	2031	
	Subproject Modernization of Radio Direction Finding Station of the Navy in Belem	2012	2017	
	Subproject Modernization of Management Supply System of the Navy — SINGRA	2013	2016	
	Subproject Modernization of the Rio de Janeiro Naval Base (BNRJ)	2013	2031	
	Subproject Recovery of Infrastructure of the Navy's Restaurants	2013	2017	
3	Project 2nd Fleet Complex & 2nd Amphibious Force **(D)**	2013	2031	9,141.5
	Subproject Construction of the 2nd Fleet Base	2013	2025	
	Subproject Commands and Instruction Centers of 2nd Fleet	2016	2025	
	Subproject 2nd Fleet Marine Force (2nd FFE)	2016	2025	
	Subproject Construction of Supply Base for the 2nd Fleet	2016	2024	
	Subproject Construction of Military Housing and Expansion Area for the 2nd Fleet	2016		
	Subproject Construction of Missile and Ammunition Center for the 2nd Fleet (2016 — 2024).	2016	2024	
	Subproject Construction of Air Fleet Arm Base and Air Command for the 2nd Fleet	2016	2024	
4	Project Blue Amazon Management System (SisGAAz) **(D)**	2011	2033	12,016.6
	Subproject Development, Integration and Implementation of SisGAAz	2011	2033	
5	Project Navigation Security **(D)**	2013	2031	245.1
	Subproject Promotion (in Rank) of Captaincies, Precincts and Agencies of the Maritime Traffic Security System (SSTA)	2013	2031	
	Subproject Promotion (in Rank) of the Fluvial Agency of Juazeiro	2014	2015	
	Subproject Creation of Captaincies, Precincts and Agencies of the SSTA	2014	2031	
	Subproject Elevation of Fluvial Agency Tefé (State of Amazonas) to the category of Captaincy and its expansion	2013	2031	

Nº	Project/Subproject	Start	End	GEV
6	Personnel Project — Our Greatest Asset (D)	2010	2031	5,015.6
	Subproject Expansion and Modernization of Centers and Schools of the Naval Education System (SEN), except those of the Marine Corps	2010	2023	
	Subproject Expansion of Marine Corps Instruction Centers	2013	2023	
	Subproject Expansion of Navy Personnel Selection Service	2010	2015	
	Subproject Expansion of the Naval War College (EGN)	2010	2023	
	Subproject Expansion of Naval Hospital Marcilio Dias (HNMD)	2010	2023	
	Subproject Expansion of Health Units	2013	2023	
	Subproject Construction of a Naval Polyclinic in Campo Grande (State of Rio de Janeiro)	2013	2013	
	Subproject Construction of a Naval Hospital in Manaus	2014	2031	
	Subproject Construction of a Naval Polyclinic in Penha (State of Rio de Janeiro)	2013	2015	
	Subproject Construction of Navy Staff Integrated Assistance Centers for (N-SAIPM)	2012	2031	
	Subproject Acquisition of Naval Housing (PNR)	2012	2031	
7	Project Recovery of Operational Capacity (RCO) (E)	2009	2025	5,372.3
	Subproject Modernization of Naval Resources	2012	2025	
	Subproject Recovery of the Operational Capacity of Fleet Naval Resources	2011	2015	
	Subproject Recovery of the Operational Capacity of Naval District Resources	2012	2015	
	Subproject Recovery of the Operational Capacity of Hydro-Oceanographic Resources	2012	2015	
	Subproject Recovery of the Operational Capacity of the Navy Supply System (SAbM)	2012	2015	
	Subproject Modernization of Naval Aviation Resources	2012	2015	
	Subproject Modernization of Marine Corps Resources	2009	2015	
	Subproject Replenishment of Ammunition	2012	2016	
	Subproject Recovery of the Operational Capacity of Anti-aircraft Defense Systems	2013	2023	
8	Project Development of the Navy's Core Capabilities (E)	2009	2047	168,020.8
	Subproject Hydro-Oceanographic Research Ship (NPHo)	2012	2012	
	Subproject Conventional Submarines (S-BR)	2016	2031	
	Subproject Nuclear Propulsion Submarine (SN-BR)	2016	2047	
	Subproject Aircraft Carriers (NAe)	2013	2033	
	Subproject Multipurpose Ships (NPM)	2013	2031	
	Subproject Escort Ships (NEsc)	2013	2043	
	Subproject Sweeping Ship (NV)	2013	2023	
	Subproject Minesweepers (NCM)	2016	2031	
	Subproject Logistics Support Ship (NApLog)	2013	2029	
	Subproject Submarine Rescue Ship (NSS)	2013	2023	
	Subproject Oceanic Tugboat (RbAM)	2013	2031	

Nº	Project/Subproject	Start	End	GEV
	Subproject Floating Dikes (DFl)	2013	2027	
	Subproject Hospital Ship (NH)	2026	2031	
	Subproject General Cargo Landing Vessels (EDCG)	2013	2031	
	Subproject Vehicle and Material Landing Vessels (EDVM)	2013	2023	
	Subproject Support Transport Ships (NTrA)	2013	2028	
	Subproject River Patrol Ships (NPaFlu)	2013	2026	
	Subproject River Transport Ships (NTrFlu)	2013	2025	
	Subproject River Logistics Support Ships (NApLogFlu)	2016	2022	
	Subproject River Tugs (RbFlu)	2013	2018	
	Subproject Hospital Ships (NAsH)	2013	2029	
	Subproject 200 ton Patrol Ships (NPa 200t.)	2012	2023	
	Subproject Hydro-Oceanographic Ships (NHo)	2013	2023	
	Subproject Hydro-Oceanographic Lighthouse Ships (NHoF)	2017	2021	
	Subproject Hydro-Oceanographic Beacon Ships (NHoB)	2016	2023	
	Subproject Hydro-Oceanographic River Ships (NHoFlu)	2013	2023	
	Subproject Hydro-Oceanographic River Beacon Ships (AvHoFlu) and Hydro-Oceanographic Beacon Ships (AvHo)	2013	2023	
	Subproject Oceanographic Support Ship (NApOc) and Polar Ship (NPo)	2024	2032	
	Subproject Training Ship (NvIn)	2018	2026	
	Subproject Amphibious ship	2012	2014	
	Subproject PROSUPER-1 — NEsc	2013	2023	
	Subproject PROSUPER-1 — NApLog	2014	2019	
	Subproject PROSUPER-1 — NPaOc (90m)	2013	2030	
	Subproject NPaOc (90m)	2014	2030	
	Subproject NPaOc (90m)	2012	2014	
	Subproject 500 ton Patrol Ship (50 m)	2009	2025	
	Subproject NPa 500t (50 m)	2023	2029	
	Subproject PROSUB-1 — Conventional Submarines (S-BR)	2010	2025	
	Subproject PROSUB-1 — Nuclear Propulsion Submarine (SN-BR)	2009	2025	
	Subproject Intercept and Attack Aircraft (AF)	2021	2032	
	Subproject Advanced Aerial Warning Aircraft (AEW)	2013	2024	
	Subproject Aerial Refueling and Administrative Transportation Aircraft (COD/ReVo)	2010	2031	
	Subproject Maritime Surveillance Aircraft (AnvVigMar)	2016	2024	
	Subproject Multipurpose Helicopters (HME)	2009	2031	
	Subproject Multipurpose Midsize Helicopters (UHM)	2011	2031	
	Subproject Multipurpose Small Helicopters (UHP)	2016	2032	
	Subproject Training Helicopters (IH)	2014	2025	
	Subproject Onboard Unmanned Aerial Vehicles (VANT- Onboard)	2016	2027	
	Subproject Tracked Amphibious Vehicles (CLAnf)	2016	2026	

Nº	Project/Subproject	Start	End	GEV
	Subproject Combat Vehicles (CC)	2013	2028	
	Subproject Wheeled Armored Vehicles for Personnel Transportation (VBTP SR)	2012	2028	
	Subproject Tracked Armored Vehicles for Personnel Transportation (VBTP SL)	2016	2028	
	Subproject Marine Corps Operative Vehicles (VtrOp)	2013	2028	
	Subproject Field Artillery Batteries	2013	2028	
	Subproject Multiple Rocket Launcher Battery (LMF)	2012	2015	
	Subproject Light Weapons and Mortars (ALM)	2013	2028	
	Subproject Marine Corps Air Defense Systems (SisDefAAe)	2013	2023	
	Subproject Electronic Warfare Systems (SisGE)	2013	2028	
	Subproject Communications Equipment	2013	2028	
	Subproject Combat Motorboats	2013	2028	
	Subproject Engineering and Modulated Bridge Equipment (PntMod)	2016	2028	
	Subproject Marine Corps Unmanned Aerial Vehicles (VANT-CFN)	2013	2028	
	Subproject Air Defense Systems for Sensitive Points of the Navy	2013	2023	
	Subproject Structuring of the Navy's Nuclear, Biological, Chemical, Radiological and Explosives Defense System (SisDefNBQRE)	2013	2023	
	Subproject Combat Equipment	2013	2023	
	Subproject Torpedoes and Mines	2012	2031	
	Subproject Missiles, Rockets, Bombs and Decoys	2012	2031	
9	Projeto Blue Amazon Management System (SisGAAz) **(E)**	2013	2024	79.0
	Subproject Unmanned Aerial Vehicle — SisGAAz	2013	2024	
10	Project Navigational Security **(E)**	2012	2031	387.7
	Subproject Support Vessels	2013	2024	
	Subproject Vessels for SSTA	2013	2023	
	Subproject Vessels for SAbM	2012	2031	

Priority Projects and Subprojects of the Army

Nº	Project/Subproject	Start	End	GEV
1	Project Expansion of Operational Capacity (D)	2011	2035	96,107.8
	Subproject Implementation and Adaptation of Military Organizations in Amazonia	2011	2035	
	Subproject Implementation and Adaptation of Military Organizations in the Western Command	2011	2035	
	Subproject Implementation and Adaptation of Military Organizations in other Area Commands	2011	2035	
2	Project Capacity to Act Outside National Territory (D)	2011	2035	274.9
	Subproject Preparation of Units to Serve in Peacekeeping Missions or as an Expeditionary Force	2011	2035	
3	Project Structure to Support Training and Professional Development (D)	2011	2035	80.3
	Subproject Adaptation of the Training and Professional Development of Staff	2011	2035	
4	Project Military Family Support Structure (D)	2011	2035	66.4
	Subproject Adaptation of Military Family Support Structure in the Fields of Education, Health, Housing, Social Work, Pastoral Care and Leisure	2011	2035	
5	Project Recovery of Land Force Operational Capacity — RCO (E)	2012	2022	11,426.8
	Subproject Recovery and Acquisition of Operational Vehicles, Artillery Equipment and Vessels	2012	2022	
	Subproject Recovery of Aircraft in the Army Aviation and Training	2012	2022	
	Subproject Replenishment Individual Equipment of the Present combatant — Project COBRA	2012	2022	
	Subproject Replenishment of Stocks of Ammunition, Weapons and Collective Equipment, Fuels and Lubricants and Operational Food	2012	2022	
6	Project Cybersecurity Protection System — Cyber Defense (E)	2011	2035	839.9
	Subproject Implementation of the Planning and Execution Structure for Cybersecurity	2012	2023	
	Subproject Implementation of Scientific Research Structure in Cybernetics	2012	2015	
	Subproject Implementation of the Technological Support Structure and Development of Cyber Systems	2012	2015	
	Subproject Adaptation of the Training, Preparation and Operational Employment Structure to the Needs of the Cyber Sector	2012	2015	
	Subproject Implementation of the Cyber Defense Center (CDCyber), with the capacity to evolve into the Cyber Defense Command of the Armed Forces, and the creation of the National School of Cyber Defense	2012	2023	
	Subproject Software Defined Radio Development — RDS	2012	2035	
7	Project New Family of Wheeled Armored Vehicles of National Origin — GUARANI (E)	2011	2034	20,855.7

Nº	Project/Subproject	Start	End	GEV
	Subproject Acquisition of Command, Control and Simulation Systems and Doctrine, Preparation and Employment Systems Development	2011	2034	
	Subproject Transformation of Motorized Infantry Brigades in Mechanized Infantry Brigades and Modernization of Mechanized Cavalry Brigades	2011	2034	
	Subproject Expansion of the Research and Development System, Commercialization of Vehicles — promotion of nationalization of ammunition and development of a weapons system	2011	2034	
	Subproject Adaptation of Infrastructure for Installation of Military Organizations, Implementation of Logistics Support System and Development of Environmental Protection Initiatives	2011	2034	
	Subproject Development of a Personnel Development Management System	2011	2020	
8	Project Integrated Border Monitoring System — SISFRON **(E)**	2011	2035	11,992.0
	Subproject Development and Implementation of the Sensing and Decision Support System	2012	2035	
	Subproject Execution and Maintenance of Infrastructure Construction	2012	2021	
	Subproject Development and Implementation of the Operations Support System	2012	2021	
9	Project Integrated Strategic Land Structures Protection System — PROTEGER **(E)**	2012	2035	13,230.6
	Subproject Protection of Strategic Structures on Land	2012	2035	
	Subproject Expansion of the Army Aviation's Operational Capacity	2012	2035	
	Subproject Army Training for the Protection of Major Events	2012	2031	
	Subproject Army Training for Actions in Support of Public Security	2012	2023	
	Subproject Army Training for Actions in Support of Civil Defense	2012	2031	
	Subproject Adaptation of an Infantry Brigade to Protect Strategic Structures on Land — Pilot Project	2012	2031	
10	Project Air Defense System **(E)**	2010	2023	859.4
	Subproject Management, Documentation and Development of Technologies of the Air Defense System	2010	2023	
	Subproject Acquisition of Air Defense Systems of Low and Medium Altitude	2012	2023	
	Subproject Acquisition of Military, Logistics and Education Infrastructure	2013	2023	
11	Project Missiles and Rockets System ASTROS 2020 **(E)**	2011	2023	1,146.0
	Subproject Acquisition of a Missiles and Rockets System ASTROS 2020	2012	2023	
	Subproject Adaptation of Supporting Infrastructure	2013	2023	
12	Project Expansion of Operational Capacity **(E)**	2011	2023	2,158.9
	Subproject Restructuring of Armored Forces	2011	2014	
	Subproject Structuring Strategic Forces	2011	2023	

№	Project/Subproject	Start	End	GEV
13	Project Information Systems of the Army (E)	2011	2031	1,069.5
	Subproject Restructuring of the Operational Information System	2011	2031	
	Subproject Restructuring the Army Logistics System	2011	2031	
	Subproject Restructuring of the Command, Control and Information Technology System of the Army	2011	2031	
	Subproject Restructuring of the Army Doctrine System	2011	2031	
14	Project Army Science, Technology and Innovation System (E)	2011	2035	47,923.1
	Subproject Acquisition of Defense Products in the Areas of Simulation, Command and Control, Weapons, Ammunition, Equipment and Engineering	2011	2035	
	Subproject Development and Acquisition of the System for the Individual Combatant of the Future — Project FUTURE SOLDIER	2011	2035	

Priority Projects and Subprojects of the Air Force

№	Project/Subproject	Start	Fim	GEV
1	Project Air Force Organizational and Operational Management (D)	2010	2030	5,689.0
	Subproject Restructuring of Facilities	2010	2030	
	Subproject Logistics	2014	2022	
2	Project Support for Air Force Military and Civilian Personnel (D)	2010	2030	3,229.6
	Subproject Operational Mobility	2012	2027	
3	Project Modernization of Training and Post-Training of Human Resource Systems (D)	2010	2028	352.0
	Subproject Education Infrastructure	2010	2028	
	Subproject Human Centrifuge	2014	2015	
4	Project Recovery Operational Capacity (E)	2009	2019	5,546.7
	Subproject Aircraft Modernization Underway (A-1, F-5, P-3A, KC-130, C-95, E-99 e R-99)	2009	2017	
	Subproject Recovery of Aircraft Availability	2012	2015	
	Subproject Recovery of Operational Readiness of Pilots	2012	2015	
	Subproject Replenishment of Stock Armaments	2012	2019	
5	Project Airspace Control (E)	2008	2030	938.3
	Subproject Adaptation of Aircrafts to the New System of Communications, Navigation and Surveillance/Management of Air Traffic (CNS/ATM)	2014	2023	
	Subproject Detection and Control	2008	2030	
6	Project Air Force Operational Development (E)	2009	2030	55,121.0
	Subproject Multimission Fighter (F-X2)	2013	2026	
	Subproject Presidential Transport Heavy Aircraft (VC-X2)	2013	2014	
	Subproject Medium Multipurpose Helicopter (H-XBR/EC-725)	2009	2017	
	Subproject Cargo and Refueling Heavy Aircraft (KC-X2)	2013	2016	

Nº	Project/Subproject	Start	Fim	GEV
	Subproject Command and Control Cell Unit	2013	2015	
	Subproject Transport, Flight Testing and Inspection Aircraft	2013	2028	
	Subproject Search and Rescue Aircraft	2015	2016	
	Subproject Maritime Patrol Aircraft	2016	2028	
	Subproject Reconnaissance Aircraft/UAV	2012	2024	
	Subproject Rotorcraft	2012	2026	
	Subproject Training Aircraft	2016	2025	
	Subproject Land Security	2011	2023	
	Subproject Weapons Systems	2009	2030	
7	Project Aeronautics Scientific-Technological Training **(E)**	2008	2033	49,923.9
	Subproject Research and Development	2012	2031	
	Subproject Products of Interest to Defense in Information Technology	2008	2030	
	Subproject Aircraft Development	2018	2033	
8	Project Strengthening of Brazilian Aerospace and Defense Industries **(E)**	2009	2030	11,370.2
	Subproject National Transportation and Refueling Aircraft (KC-390)	2009	2024	
	Subproject Future Modernization of Aircraft	2016	2030	
9	Project Development and Construction Aerospace Equipment **(E)**	2015	2030	0.0
	Subproject Military Satellite	2015	2030	

APPENDIX

GLOSSARY

Civic Social Action (ACISO) — Activities carried out by the Armed Forces with the purpose of providing assistance and support to communities, develop citizens' civic and community spirit, inside the country and abroad, in order to solve immediate and pressing problems.

Legal Amazon — the region comprising the States of Acre, Amapá, Amazonas, Pará, Rondônia and Roraima and part of the States of Mato Grosso, Tocantins and Maranhão. It has a total surface area of approximately 5,2 million square kilometers, corresponding to around 61% of the Brazilian territory. It was established with the objective of defining the geographic borders of the political region entitled to financial subsidies, for the purpose of promoting regional development.

Preparation — Set of measures for ensuring full or partial military readiness, especially regarding instruction, training, personnel, materiel or logistics, so that employment may be executed at any moment.

Notice to Mariners — The "Notice to Mariners" is a periodical publication, issued as leaflets, with the main purpose of supplying mariners and users in general with data for updating Brazilian nautical maps and publications, pursuant to Rule 9 of Chapter V of the International Convention for the Safety of Life at Sea (SOLAS/74).

Command and Control Centre — Center of operations conceived to enable links between a military command structure and its superiors and subordinates.

Singular Command — Operational Command constituted of elements of only one Armed Service, to which they are directly subordinated. It is the same as Independent Command.

Curtailment — Restriction of foreseen expenses in the annual budget imposed by Presidential Decree to on spending organizations. While the budget figures are under curtailment, no hiring of services or purchase of products may occur with such resources.

United Nations Convention on the Law of the Sea (UNCLS) — The UNCLS was held in 1982 and ratified by Brazil on December 22, 1988, together with an interpretative statement that other states have no right to carry out maneuvers or exercises in its Exclusive Economic Zone (ZEE) without its consent. Within its ZEE and Continental Platform (PC), Brazil affirms its exclusive right to build, authorize and regulate the operation and use of any type of facility or

structure, with no exception, regardless of nature or purpose. Among the duties set forth by the Convention, those concerning the preservation of the maritime environment and the control — in administrative, technical and social terms — of ships under Brazilian flag are noteworthy.

Defense military doctrine — Part of the military doctrine that covers general rules for organization, preparation and employment of the Armed Forces in activities related to the country's defense. It is directly related to the protection of the country's sovereignty, territorial integrity, heritage, and national interests.

Armed Forces Elasticity — The capability to speedily increase the Armed Forces' dimensions whenever circumstances require, by mobilization the country's human and material resources.

State of defense — A defense measure by the state and its democratic institutions, enacted by the President of the Republic, to preserve or readily establish, within certain and restricted locations, the public order or social peace whenever they are threatened by serious or imminent institutional instability or affected by nature calamities of large scale.

State of siege — A defense measure by the state and its democratic institutions, enacted by the President of the Republic, after authorization by the National Congress, in cases of serious commotion of national repercussion when it is clear that measures taken during a state of defense have been innocuous or when a state of war is declared or when a response is organized against foreign armed aggression.

Nation-State — A delimited territory composed of a government and a population of cohesive ethnic-cultural composition.

Strategic and Political Stature — A nation's set of attributes which are perceived and acknowledged by other countries and which define the nation's relative level of participation and influence in the international arena.

Strategic Structures — Facilities, services, goods and systems which, if interruption or destroyed, in total or in part, could cause serious impact of social, economic, environmental or international nature on the security of the state and of society.

Evolution in Military Affairs (EAM) — Significant advancement in military technology. Nevertheless, also interconnected with obsolete operational concepts and technological organizational structures.

Budget Execution — Utilization of consigned credits from the Union's General Budget and additional credits, with the aim of realizing subprojects and/or underlying activities managed by budgetary organizations.

Armed Forces Flexibility — A necessary quality of a military force for it to organize itself in order to fulfill a specific mission. It allows the force to meet different phases of a plan or order of operations, and to adapt to various situations which may present themselves during combat or assigned missions.

Singular Force — Generic name given to one of the Armed Forces: Navy, Army and Air Force.

IBAS Forum — A trilateral initiative by India, Brazil and South Africa, developed for the purpose of promoting South-South Cooperation. Established in June 2003, IBAS is a coordination mechanism between the three emerging countries, three multiethnic and multicultural democracies, which are determined to redefine their positions in the community of nations, to unite their voices on global issues and

to contribute to the construction of the new international framework. This movement is opened to concrete cooperation and partnership projects with less developed countries.

Commercial G-20 — Group of developing countries which represents 60% of the world's rural population, 21% of agricultural production, 26% of exports and 18% of imports. The group is composed of 23 countries from three continents — Argentina, Bolivia, Brazil, Chile, China, Cuba, Egypt, Ecuador, Guatemala, India, Indonesia, Mexico, Nigeria, Philippines, Pakistan, Peru, Paraguay, South Africa, Thailand, Tanzania, Uruguay, Venezuela and Zimbabwe — and stands for the ambitious fulfillment of the three pillars of the agriculture mandate of the Doha Round, i.e. market access (tariff reductions), elimination of export subsidies and reduction of subsidies for internal support (especially in production).

Financial G-20 — Group established in 1999 with the purpose of gathering systemically important developed and developing countries, with a view towards economic and financial cooperation. Members of the G-20 include: Argentina, Australia, Brazil, Canada, China, European Union (European Commission and Presidency of the European Council), France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, United Kingdom, United States of America. Members of the G-20 discuss new proposals for growth and economic stability models, aimed at correcting large international macroeconomic imbalances. The intensification of coordination and data exchange on national macroeconomic management will result in a more stable and predictable international economy.

Negative security assurance — An assurance, through international agreement, by a nuclear weapon state that it will not use nuclear weapons against a non-nuclear weapon state.

Competency-Based People Management — Training guided by the development of a set of knowledge, skills and attitudes which are necessary for the performance of duties. It aims at fulfilling an institution's objectives.

Transnational crime — Crimes divided into two main fields: crimes against a person, comprising drug trafficking, weapons and ammunitions trafficking, people trafficking and migrant smuggling; and financial crimes, such as money laundering and corruption. Notably, it also includes cyber-crime, which evidences the global reach and growing technical complexity of criminal activities.

Interoperability — Capability of national or allied military forces to effectively operate, according to the established command structure, in the execution of a strategic or tactical mission, of combat, logistics, or during exercises.

Strategic chart — Visual representation of the strategic objectives of an institution and its inter- and intra-organizational relations.

Fissile Material — Material capable of supporting a nuclear fission chain reaction.

Military Observers Mission Ecuador — Peru (MOMEP) — Mission established on March 10, 1995, by the "definition of procedures agreed by the parties and guaranteeing countries of the 1942 Rio de Janeiro Protocol", with the objective of solving the border conflict between Peru and Ecuador. It lasted for approximately four years and four months and was successfully concluded on June 30, 1999.

Mercy Missions — Mission involving the rescue of patients in serious health conditions in areas of difficult access.

Joint Operation — Operation involving the coordinated employment of elements from more than one singular force, with interdependent

or complementary purposes, without the appointment of a single command at the considered hierarchical level.

Peacekeeping Operations — Peace operation, which develops through Naval, Land or Air Force units, provided by member states, for peacekeeping and the international security.

Military Operations Other Than War — Armed Forces Operations which rely on military power but that do not involve actual combat, except in special circumstances when such power is applied in a limited way. There may even be cases when the military does not exercise the main role.

Maritime Power — National power projection, resulting from the integration of resources which a nation possesses for the utilization of the sea and its interior waters. It may be applied as a political and military instrument or as an economic and social development tool aimed at achieving and maintaining national objectives.

Military Power — Expression of national power predominantly constituted of military resources available to a nation to promote, under state guidance, through dissuasion or by violence, the achievement or maintenance of national objectives.

Aerospace Military Power — The segment of aerospace power which comprises the Air Force, its bases and command and control, logistics and administrative structures, as well as its adjudicated land and naval resources and other means linked to the military aerospace power mission and subject to some sort of guidance, command or control by an aerospace military authority.

Land Military Power — The part of the land power capable of acting on land and in certain limited areas of interior waters of interest to land operations, as well as, in airspace to a limited extent. It comprises the Land Force, including its own aerial and fluvial resources, its command and control logistics and administrative structures as well as adjudicated resources by naval and aerial military powers and other means, linked to the mission of the Army and subject to some sort of guidance, command or control by a land military authority.

National Power — Capability of the people and resources which constitute a nation, to act according to the national will, in order to reach and maintain national objectives. It is expressed in five fields: political, economic, psychosocial, military and scientific-technological.

Naval Power — The part of the Maritime Power capable of acting militarily at sea, in interior waters and certain limited land areas and airspace, of interest to naval operations. It comprises the Naval Force, including its naval, amphibious and naval aviation resources, its bases, support points and its command and control, logistics and administrative structures as well as adjudicated resources by land and aerospace military powers, and other means, linked to the Navy's mission and subject to some sort of guidance by a naval authority.

Projection of power over land — A basic task of the Naval power, which encompasses a wide sphere of activities and may include naval and naval aviation bombing and amphibious operations. This task may also involve land attacks with missiles, from naval and naval aviation units. Actions may have one or more of the following purposes: reduce enemy power by destroying or neutralizing important objectives; conquer ing strategic areas to lead a naval or air war, or enable the start of a land campaign; deny the enemy the use of a captured area; support land operations; safeguard human life or rescue people or material of interest.

Projection of national power — Process through which a nation peacefully increases its influence in the international stage, through the use of the resources of national power.

Readiness — Capability to act fast in any operational environment in a previously defined strategic area.

Recruit — Young person conscripted into military service.

Revolution in military affairs (RAM) — Great change in the nature of war, resulting from the employment of new technologies. The concept encompasses changes in doctrine, in operational employment and in the structures of military organizations.

Dual Technology — Refers to discoveries initially assigned to military applications, but which are later used by civilians.

Military Technology — Scientific, empirical and intuitive knowledge, as well as skills, experience and organization required to produce, deploy and employ goods and services for military purposes.

The Antarctic Treaty — Treaty signed on the December 1st, 1959, as a result of the Conference of Washington. It has been in force since June 23,1961. The adoption of the Antarctic Treaty was only possible due to the continent's demilitarization and the skillful solution provided in its Article IV for territorial questioning. Based on an agreement essentially motivated by strategic and security considerations, it was possible, along the years, to develop a network of international rules and conventions for the use and preservation of natural resources. It was also possible, through the Protocol of Madrid, to develop a wide legal framework for environmental protection, which designates Antarctica as "a natural reserve, devoted to peace and science". One of the treaties greatest merits, which aptly reflects its historical importance, was the creation of a peace and cooperation space devoted to scientific research, a unique example of interaction among states.

Union of South American Nations (UNASUL) — International organization which has the objective of promoting regional integration based on interests that converge around the consolidation of the region's identity and its social and economic development. The following countries integrate UNASUL: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela.

LIST OF ACRONYMS AND ABBREVIATIONS

AC — Acre
AL — Alagoas
AP — Amapá
AM — Amazonas
BA — Bahia
CE — Ceará
DF — Distrito Federal
ES — Espírito Santo
GO — Goiás
MA — Maranhão
MT — Mato Grosso
MS — Mato Grosso do Sul
MG — Minas Gerais
PA — Pará
PB — Paraíba
PE — Pernambuco
PI — Piauí
PR — Paraná
RJ — Rio de Janeiro
RN — Rio Grande do Norte
RS — Rio Grande do Sul
RO — Rondonia
RR — Roraima
SC — Santa Catarina
SP — São Paulo
SE — Sergipe
TO — Tocantins

ABACC — Agência Brasileiro-Argentina de Contabilidade e Controle de Materiais Nucleares

ABDI — Agência Brasileira de Desenvolvimento Industrial

ABED — Associação Brasileira de Estudos da Defesa

ABIMDE — Associação Brasileira das Indústrias de Materiais de Defesa e Segurança

ABIN — Agência Brasileira de Inteligência

ACISO — Ações cívico-sociais

ACS — Alcantara Cyclone Space

ADESG — Associação de Diplomados da Escola Superior de Guerra

AEW — Subprojeto Aeronaves de Alarme Aéreo Antecipado

AF — Subprojeto Aeronaves de Interceptação e Ataque

AFA — Academia da Força Aérea

AIEA — Agência Internacional de Energia Atômica

AIOP — Assessoria de Inteligência Operacional

AJB — Águas Jurisdicionais Brasileiras

ALM — Subprojeto Armas Leves e Morteiros

AMAN — Academia Militar das Agulhas Negras

AnvVigMar — Subprojeto Aeronaves de Vigilância Marítima

APEX — Agência Brasileira de Promoção de Exportações e Investimentos

ASOCEA — Assessoria de Segurança Operacional do Controle do Espaço Aéreo

ASPAER — Assessoria Parlamentar do Comandante da Aeronáutica

ASPAR/MD — Assessoria Parlamentar do Ministério da Defesa

ASPLAN — Assessoria de Planejamento Institucional do Ministério da Defesa

ASSHOP — Assistência hospitalar à população ribeirinha

AvHo — Subprojeto Aviso Hidro-oceanográficos

AvHoFlu — Subprojeto Avisos Hidro-oceanográficos Fluviais

BACS — Base Almirante Castro e Silva

BASIC — Brasil, África do Sul, Índia e China

BID — Base Industrial de Defesa

BNDO — Banco Nacional de Dados Oceanográficos

BNRJ — Base Naval do Rio de Janeiro

BRICS — Brasil, Rússia, Índia, China e África do Sul

C Log — Comando Logístico

CA — Corpo da Armada

CAAML — Centro de Adestramento Almirante Marques de Leão

CAE — Chefia de Assuntos Estratégicos

CAEPE — Curso de Altos Estudos de Política e Estratégia

CAM — Corpo Auxiliar da Marinha

CAN — Correio Aéreo Nacional

CAP — Curso de Aperfeiçoamento de Oficiais da Aeronáutica

CAPES — Coordenação de Aperfeiçoamento de Pessoal de Nível Superior

CAS — Curso de Aperfeiçoamento de Sargentos

CASNAV — Centro de Análise e Sistemas Navais

CASOP — Centro de Apoio a Sistemas Operativos

CBERS — Satélite Sino-Brasileiro de Recursos Terrestres

CC — Carros de Combate

CCEM — Curso de Comando e Estado-Maior

CCEMSP — Centro de Coordenação de Estudos da Marinha em São Paulo

CCIEx — Centro de Controle Interno do Exército

CComSEx — Centro de Comunicação Social do Exército

CCOPAB — Centro Conjunto de Operações de Paz do Brasil

CCSM — Centro de Comunicação Social da Marinha

CDB — Convenção sobre a Diversidade Biológica

CDCiber — Centro de Defesa Cibernética

CDS — Conselho de Defesa Sul-Americano

CECOMSAER — Centro de Comunicação Social da Aeronáutica

CEMOS — Curso de Estado-Maior para Oficiais Superiores

CENIPA — Centro de Investigação e Prevenção de Acidentes Aeronáuticos

CENSIPAM — Centro Gestor e Operacional do Sistema de Proteção da Amazônia

CEPE — Centro de Estudos Político-Estratégicos

CFN — Corpo de Fuzileiros Navais

CFO/QC — Curso de Formação de Oficiais do Quadro Complementar

CFOAV — Curso de Formação de Oficiais Aviadores

CFOINF — Curso de Formação de Oficiais de Infantaria da Aeronáutica

CFOINT — Curso de Formação de Oficiais Intendentes

CFRA — Corpo Feminino da Reserva da Aeronáutica

CGCFN — Comando-Geral do Corpo de Fuzileiros Navais

CHLOG — Chefia de Logística

CHM — Centro de Hidrografia da Marinha

CHOC — Chefia de Operações Conjuntas

CIAA — Centro de Instrução Almirante Alexandrino

CIAAN — Centro de Instrução e Adestramento Aeronaval Almirante José Maria do Amaral Oliveira

CIAAR — Centro de Instrução e Adaptação da Aeronáutica

CIAER — Centro de Inteligência da Aeronáutica

CIAMA — Centro de Instrução e Adestramento Almirante Attila Monteiro Aché

CIASC — Centro de Instrução Almirante Sylvio de Camargo

CIAvEx — Centro de Instrução de Aviação do Exército

CIAW — Centro de Instrução Almirante Wandenkolk

CICFN — Centro de Instrução do Corpo de Fuzileiros Navais

CIEx — Centro de Inteligência do Exército

CIGAR — Centro de instrução de Graduados da Aeronáutica

CIM — Corpo de Intendentes da Marinha

CINDACTA — Centro Integrado de Defesa Aérea e Controle de Tráfego Aéreo

CIOpGLO — Centro de Instrução de Operações de Garantia da Lei e da Ordem

CIOpPaz — Centro de Instrução de Operações de Paz

CISET — Secretaria de Controle Interno

CJCACEx — Consultoria Jurídica Adjunta do Comando do Exército

CLA — Centro de Lançamento de Alcântara

CLAnf — Carro Lagarta Anfíbio

CLBI — Centro de Lançamento da Barreira do Inferno

CLPC — Comissão de Limites da Plataforma Continental

CMA — Comando Militar da Amazônia

CMBP — Cooperação Militar Brasileira no Paraguai

CMEM — Centro de Manutenção de Embarcações Miúdas

CMiD — Conselho Militar de Defesa

CMilA — Comandos Militares de Área

CML — Comando Militar do Leste

CMNE — Comando Militar do Nordeste

CMO — Comando Militar do Oeste

CMP — Comando Militar do Planalto

CMS — Comando Militar do Sul

CMSE — Comando Militar do Sudeste

CNS/ATM — Sistema de Comunicações, Navegação e Vigilância/Gerenciamento do Tráfego Aéreo

CNUDM — Convenção das Nações Unidas sobre o Direito do Mar

CNUMAD — Conferência das Nações Unidas sobre Ambiente e Desenvolvimento Sustentável

COBEN — Comissão Binacional de Energia Nuclear

COBRA — Programa Combatente Brasileiro

COD/ReVo — Aeronaves de Reabastecimento em Voo e Transporte Administrativo

CODA — Centro de Operações de Defesa Aeroespacial

COLOG — Comando Logístico

COMAR — Comando Aéreo Regional

COMARA — Comissão de Aeroportos da Região Amazônica

COMDEFESA — Comitê da Cadeia Produtiva da Indústria de Defesa

ComDiv-1 — Comando da Primeira Divisão da Esquadra

ComDiv-2 — Comando da Segunda Divisão da Esquadra

ComDN — Comandos dos Distritos Navais

ComemCh — Comando em-Chefe da Esquadra

ComFFE — Comando da Força de Fuzileiros da Esquadra

ComForAerNav — Comando da Força Aeronaval

ComForS — Comando da Força de Submarinos

ComForSup — Comando da Força de Superfície

COMGAP — Comando Geral de Apoio

COMGAR — Comando Geral de Operações Aéreas

COMGEP — Comando Geral do Pessoal

ComOpNav — Comando de Operações Navais

CONJUR — Consultoria Jurídica

COPUOS — Comitê para o uso Pacífico do Espaço Exterior

COTER — Comando de Operações Terrestres

CPAB — Convenção para a Proibição de Armas Biológicas e Toxínicas e sua Destruição

CPAQ — Convenção para a Proibição de Armas Químicas e sua Destruição

CPEA — Curso de Política e Estratégia Aeroespaciais

CPEM — Curso de Política e Estratégia Marítimas

CPO — Comissão de Promoções de Oficiais

CPOR — Centro de Preparação de Oficiais da Reserva

CPPN — Comitê Permanente de Política Nuclear

CRE — Comissão de Relação Exteriores do Senado

CREDN — Comissão de Relações Exteriores e de Defesa Nacional da Câmara dos Deputados

CSG — Centro Espacial Guianês

CSM — Corpo de Saúde da Marinha

CSUPE — Curso Superior de Política e Estratégia

CTA — Centro Técnico Aeroespacial

CTBT — Tratado sobre a Proibição Completa dos Testes Nucleares

CTEX — Centro Tecnológico do Exército

CTMSP — Centro Tecnológico da Marinha em São Paulo

DAS — Direção e Assessoramento Superior

DCT — Departamento de Ciência e Tecnologia

DCTA — Departamento de Ciência e Tecnologia Aeroespacial

DE — Divisões de Exército

DEC — Departamento de Engenharia e Construção

DECEA — Departamento de Controle do Espaço Aéreo

DECEx — Departamento de Educação e Cultura do Exército

DEPENS — Departamento de Ensino da Aeronáutica

DGMM — Diretoria-Geral do Material da Marinha

DGN — Diretoria-Geral de Navegação

DGPM — Diretoria-Geral do Pessoal da Marinha

DHN — Diretoria de Hidrografia e Navegação

DICA — Direito Internacional dos Conflitos Armados

DN — Distrito Naval

DNOG — Divisão Naval em Operações de Guerra

DPC — Diretoria de Portos e Costas

EAM — Evolução em Assuntos Militares

EAOAR — Escola de Aperfeiçoamento de Oficiais da Aeronáutica

EASA — Escola de Aperfeiçoamento de Sargentos das Armas

EB — Exército Brasileiro

EBF — Estratégia Braço Forte

ECEMAR — Escola de Comando e Estado-Maior da Aeronáutica

ECEME — Escola de Comando e Estado-Maior do Exército

EDCG — Embarcações de Desembarque de Carga Geral

EDVM — Embarcações de Desembarque de Viaturas e Material

EEAR — Escola de Especialistas de Aeronáutica

EED — Empresa Estratégica de Defesa

EETer — Estruturas Estratégicas Terrestres

EGN — Escola de Guerra Naval

EMA — Estado-Maior da Armada

EMAER — Estado-Maior da Aeronáutica

EMBRAER — Empresa Brasileira de Aeronáutica

EMBRAPA — Empresa Brasileira de Pesquisa Agropecuária

EMCFA — Estado-Maior Conjunto das Forças Armadas

EME — Estado-Maior do Exército

EN — Escola Naval

END — Estratégia Nacional de Defesa

EPCAR — Escola Preparatória de Cadetes do Ar

EsAEx — Escola de Administração do Exército

EsAO — Escola de Aperfeiçoamento de Oficiais

EsFCEx — Escola de Formação Complementar do Exército

ESG — Escola Superior de Guerra

EsIE — Escola de Instrução Especializada

EsPCEx — Escola Preparatória de Cadetes do Exército

EsSA — Escola de Sargentos das Armas

EsSEx — Escola de Saúde do Exército

EsSLog — Escola de Sargentos de Logística

F Cj — Força Conjunta

F Cj Op Esp — Força Conjunta de Operações Especiais

FAB — Força Aérea Brasileira

FAe — Força Aérea

FEB — Força Expedicionária Brasileira

FFE — Força de Fuzileiros da Esquadra

FIESP — Federação das Indústrias do Estado de São Paulo

FINEP — Financiadora de Estudos e Projetos

FMCT — Tratado sobre Banimento da Produção de Materiais Físseis

FT Cj — Força-Tarefa Conjunta

FTM — Força-Tarefa Marítima

Gab Cmt Ex — Gabinete do Comandante do Exército

GABAER — Gabinete do Comandante da Aeronáutica

GCM — Gabinete do Comandante da Marinha

GEIV — Grupo Especial de Inspeção em Voo

GLO — Garantia da Lei e da Ordem

GM — Guarda-Marinha

Gpt Op Fuz Nav — Grupamentos Operativos de Fuzileiros Navais

GptFN — Grupamentos de Fuzileiros Navais

GSIPR — Gabinete de Segurança Institucional da Presidência da República

GTE — Grupo de Transporte Especial

HCAMP — Hospital de Campanha

HFA — Hospital das Forças Armadas

HI — Helicópteros de Instrução

HME — Helicópteros de Múltiplo Emprego

HNMD — Hospital Naval Marcílio Dias

IAE — Instituto de Aeronáutica e Espaço

IAF — International Accreditation Forum

IBAS — Índia, Brasil e África do Sul

ICT — Instituição científica e tecnológica

IDOC — Instituto de Doutrina de Operações Conjuntas

IEAPM — Instituto de Estudos do Mar Almirante Paulo Moreira

IEAv — Instituto de Estudos Avançados

IFI — Instituto de Fomento e Coordenação Industrial

IGC — Índice Geral de Cursos

IME — Instituto Militar de Engenharia

INB — Indústrias Nucleares do Brasil

INCAER — Instituto Histórico-Cultural da Aeronáutica

IPC — Instituto Pandiá Calógeras

IPD — Instituto de Pesquisas e Desenvolvimento

IPqM — Instituto de Pesquisas da Marinha

ITA — Instituto Tecnológico de Aeronáutica

LABGENE — Laboratório de Geração de Energia Núcleo-Elétrica

LBDN — Livro Branco de Defesa Nacional

LMF — Lançadores Múltiplos de Foguetes

LOA — Lei Orçamentária Anual

MB — Marinha do Brasil

MCTI — Ministério da Ciência, Tecnologia e Inovação

MD — Ministério da Defesa

MDIC — Ministério do Desenvolvimento, Indústria e Comércio Exterior

MINUSTAH — Missão de Estabilização das Nações Unidas no Haiti

MMBIP — Missão Militar Brasileira de Instrução no Paraguai

MODSUB — Programa de Modernização de Submarinos

MRE — Ministério das Relações Exteriores

MT — Mar Territorial

MTAB — Missão Técnica Aeronáutica Brasileira

NAe — Navios-Aeródromos

NApLog — Navios de Apoio Logístico

NApLogFlu — Navios de Apoio Logístico Fluvial

NApOc — Navio de Apoio Oceanográfico

NAsH — Navio de Assistência Hospitalar

NCM — Navios Caça-Minas

NDCC — Navio de desembarque de carros de combate

NDD — Navio de Desembarque-doca

NEsc — Navios-Escoltas

NFBR — Nova Família de Blindados de Rodas

NH — Navio Hospital

NHo — Navios Hidro-oceanográficos

NHoB — Navios Hidro-oceanográficos Balizadores

NHoF — Navio Hidro-oceanográficos Faroleiro

NHoFlu — Navios Hidro-oceanográficos Fluviais

NPa 200t. — Navios Patrulha 200 t.

NPaFlu — Navios-Patrulha Fluvial

NPC-MD — Núcleo de Promoção Comercial

NPHo — Navio de Pesquisa Hidro-oceanográficos

NPM — Navios de Propósitos Múltiplos

NPo — Navio Polar

NPOR — Núcleo de Preparação de Oficiais da Reserva

NSG — Grupo de Supridores Nucleares

NSS — Navios de Socorro Submarino

NTrA — Navios-Transporte de Apoio

NTrFlu — Navios de Transporte Fluvial

NV — Navios Varredores

NvIn — Navios de Instrução

OFR — Órgão de formação da reserva

OM — Organização Militar

OMPS — Organização Militar Prestadora de Serviços

ONU — Organização das Nações Unidas

OPAQ — Organização para a Proibição de Armas Químicas

OPERANTAR — Operação Antártica

OTCA — Organização do Tratado de Cooperação Amazônica

PAC — Programa de Aceleração do Crescimento

PAED — Plano de Articulação e Equipamento de Defesa

PAEMB — Plano de Articulação e Equipamento (Marinha do Brasil)

PC — Plataforma continental

PDB — Política de Desenvolvimento da Biotecnologia

PDP — Política de Desenvolvimento Produtivo

PEB — Programa Espacial Brasileiro

PECFA — Planos Estratégicos de Emprego Conjunto das Forças Armadas

PED — Produto estratégico de defesa

PEM — Procuradoria Especial da Marinha

PEMAER — Plano Estratégico Militar da Aeronáutica

PGPE — Plano Geral de Cargos do Poder Executivo

PIB — Produto Interno Bruto

PLOA — Projeto de Lei Orçamentária Anual

PNAE — Programa Nacional de Atividades Espaciais

PND — Política Nacional de Defesa

PNDH–3 — 3º Plano Nacional de Direitos Humanos

PNEPRODE — Política Nacional de Exportações de Produtos de Defesa

PNID — Política Nacional da Indústria de Defesa

PNM — Programa Nuclear da Marinha

PNR — Próprios Nacionais Residenciais

PntMod — Equipamentos de Engenharia e Pontes Moduladas

PPA — Plano Plurianual da União

PRM — Programa de Reaparelhamento da Marinha

PRO-ANF — Programa de Obtenção de Navio Anfíbio

PROANTAR — Programa Antártico Brasileiro

PRODE — Produto de defesa

Pró-Defesa — Programa de Apoio ao Ensino e à Pesquisa Científica e Tecnológica em Defesa Nacional

PRONAE — Programa de Obtenção de Navios-Aeródromos

PROSUB — Programa de Desenvolvimento de Submarinos

PROSUPER — Programa de Obtenção de Meios de Superfície

PROTEGER — Proteção de Estruturas Estratégicas Terrestres

QC — Quadros Complementares

QEM — Quadro de Engenheiros Militares

QEMA — Quadro de Estado-Maior da Ativa

QM — Quartel de Marinheiros

RAM — Revolução em Assuntos Militares

RbAM — Rebocadores de Alto Mar

RbFlu — Rebocadores Fluviais

RBJID — Representação Brasileira na Junta Interamericana de Defesa

RCO — Recuperação da Capacidade Operacional

RDS — Desenvolvimento do Rádio Definido por Software

RECOP — Recuperação da Capacidade Operacional da Força Terrestre

RM — Regiões Militares

ROC — Requisitos Operacionais Conjuntos

SAbM — Sistema de Abastecimento da Marinha

SAC — Secretaria de Aviação Civil

SACI — Satélites de Aplicações Cientifica

SATEC — Satélite Tecnológico

S-BR — Submarinos Convencionais

SC1 — Subchefia de Controle

SC3 — Subchefia de Operações

SC4 — Subchefia de Logística Operacional

SCAI — Subchefia de Assuntos Internacionais

SCCC — Sistema Comum de Controle de Materiais Nucleares

SCD — Satélites de Coleta de Dados

SCIE — Subchefia de Inteligência Estratégica

SD — Sistema de defesa

SecCIM — Secretaria de Controle Interno da Marinha

SecCTM — Secretaria de Ciência e Tecnologia da Marinha

SECIRM — Secretaria da Comissão Interministerial para os Recursos do Mar

SEF — Secretaria de Economia e Finanças

SEFA — Secretaria de Economia e Finanças da Aeronáutica

SEN — Sistema de Ensino Naval

SEORI — Secretaria de Organização Institucional

SEPESD — Secretaria de Pessoal, Ensino, Saúde e Desporto

SEPROD — Secretaria de Produtos de Defesa

SG — Secretaria-Geral

SGEx — Secretaria-Geral do Exército

SGM — Secretaria-Geral da Marinha

SIAFI — Sistema Integrado de Administração Financeira do Governo Federal

SIC — Serviço de Informação ao Cidadão

SINAMOB — Sistema Nacional de Mobilização

SINDE — Sistema de Inteligência de Defesa

SINPDEC — Sistema Nacional de Proteção e Defesa Civil

SIPAM — Sistema de Proteção da Amazônia

SIPRI — Stockholm International Peace Research Institute

SISBIN — Sistema Brasileiro de Inteligência

SISBRAV — Sistema Brasileiro de Vigilância

SISCEAB — Sistema de Controle do Espaço Aéreo Brasileiro

SISCOMIS — Sistema de Comunicações Militares por Satélite

SISDABRA — Sistema de Defesa Aérea Brasileiro

SisDefAAe — Sistemas de Defesa Antiaérea

SisDefNBQRE — Estruturação do Sistema de Defesa Nuclear, Biológica, Química, Radiológica e de Explosivos da MB

SISFRON — Sistema Integrado de Monitoramento de Fronteiras

SisGAAz — Sistema de Gerenciamento da Amazônia Azul

SisGE — Sistemas de Guerra Eletrônica

SISLOGD — Desenvolvimento do Sistema de Logística e Mobilização de Defesa

SisMiCat — Sistema Militar de Catalogação

SISPED — Sistema de Planejamento Estratégico de Defesa

SISTED — Sistema de Comunicações Militares Seguras

SISTRAM — Sistema de Informações sobre o Tráfego Marítimo

SLI — Suporte Logístico Integrado

SNBR — Submarino de Propulsão Nuclear Brasileiro

SN-BR — submarinos de propulsão nuclear

SPCE — Subchefia de Política e Estratégia

SSTA — Sistema de Segurança do Tráfego Aquaviário

STM — Superior Tribunal Militar

SUBILOG — Subchefia de Integração Logística

SUBMOB — Subchefia de Mobilização

TNP — Tratado de Não Proliferação Nuclear

TO — Teatro de Operações

TSE — Tribunal Superior Eleitoral

UCI — Unidade celular de Intendência

UHM — Helicópteros de Emprego Geral de Médio Porte

UHP — Helicópteros de Emprego Geral de Pequeno Porte

UNAVEM — Missão Militar da ONU em Angola

UNFF — Fórum das Nações Unidas sobre Florestas

UNIFA — Universidade da Força Aérea

UPP — Unidade de Polícia Pacificadora

USP — Universidade de São Paulo

VANT — Veículo Aéreo Não-Tripulado

VANT-CFN — Veículos Aéreos Não-Tripulados para o Corpo de Fuzileiros Navais

VANT-Embarcados — Veículos Aéreos Não-Tripulados Embarcados

VBTP — Viaturas Blindadas de Transporte de Pessoal

VBTP SL — Viaturas Blindadas de Transporte de Pessoal sobre Lagartas

VBTP SR — Viaturas Blindadas de Transporte de Pessoal sobre Rodas

VCOC — Vice-chefia de Operações Conjuntas

VLM-1 — Veículo Lançador de Micro Satélite

VLS — Veículo Lançador de Satélite

VtrOp — Viaturas Operativas

ZC — Zona Contígua

ZEE — Zona Econômica Exclusiva

ZOPACAS — Zona de Paz e Cooperação do Atlântico Sul

INSTITUTIONS INVOLVED

Ministry of Defense
Ministry of Science, Technology and Innovation
Ministry of Development, Industry and Foreign Trade
Ministry of Finance
Ministry of National Integration
Ministry of Justice
Ministry of Planning, Budgeting and Management
Ministry of Foreign Relations
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