Secretaria de
Portos

GOVERNO FEDERAL
BRASIL
PÁTRIA EDUCADORA

PNLP 2015

NATIONAL PORTS AND LOGISTICS MASTER PLAN

EXECUTIVE SUMMARY

Letter from the Minister

The Secretariat of Ports of the Presidency of the Republic – SEP/PR (Secretaria de Portos da Presidência da República – SEP/PR) has the satisfaction of presenting the updated version of the National Ports and Logistics Master Plan – PNLP 2015 (Plano Nacional de Logística Portuária - PNLP 2015), an evolution of the first PNLP published in 2012.

The PNLP is the state instrument of strategic planning for the national port sector, aimed at projecting short, mid and long term scenarios, both for the increase in demand of the port services as well as guidance for the intervention in the infrastructure and management systems of the Brazilian public ports, ensuring efficient allocation of resources and public investments, privileging the alignment with the integrated logistics directives, as stipulated by law 12,815 of 5 June 2013, such as, for example, the new stage of the Logistics Investments Program – PIL (Programa de Investimento em Logística – PIL), which has been recently published. Therefore, the Plan englobes a complete process of planning, execution, accompanying and adjustments aimed at guiding the actions of the Secretariat of Ports for the development of the sector.

The version we now present is of plain relevance, as it confirms the disposition of the country to increase investments in the national port sector, in the context of what is established in the Pluriannual Plan – PPA (Plano Plurianual - PPA) 2016 – 2019. With this directive, the PNLP has been structured upon four strategic pillars:

» Improve governance and modernize the management of the organized ports;

» Improve productivity, the standard of services and optimize the logistics flows in the movement of cargo and in the transport of passengers;

» Adequate the port capacity to the demand of cargo and passengers, by means of improvements in the conditions of the waterway and terrestrial accesses and respective port installations; and

» Promote the environmental sustainability and the revitalizing of port areas at the organized ports.

In order to attend these pillars, the PNLP contemplates the demand projection at ports until 2042 and the respective need for cargo and passenger movement capacity. Furthermore, in order to attend current and future challenges, 18 strategic objectives have been defined with indicators, targets, actions and investment portfolio estimated at R$ 51.28 billion, which contemplates those foreseen both in the PIL Ports 2015 (PIL Portos 2015) as in the Growth Acceleration Program – PAC (Programa de Aceleração do Crescimento – PAC), which has been divided in the following manner:

» New leases: R$16.24 billion;
» New Private Installations: R$ 19.67 billion;
» Anticipated extension of Lease Contracts: R$ 11.11 billion; and
» Public Investments in Dredgings: R$ 4.26 billion.

The SEP/PR is aware that the execution of the PNLP and the reaching of the objectives and respective targets described herein will only make sense if we consider the joint effort of all the involved entities, because, above all, the port sector is a service provider with a high aggregated value for the Brazilian society, who expects it to have the capacity and necessary efficiency in order to attend the demands of the national economy.

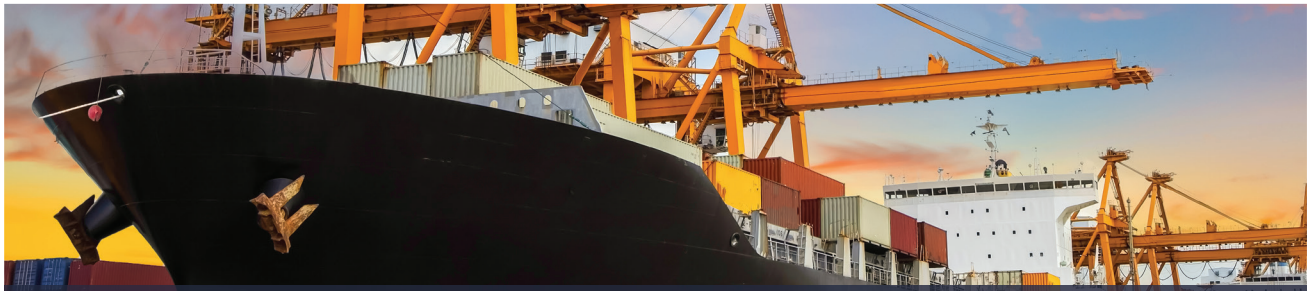
The updating process of the PNLP has counted on the intense work of the teams from all areas of the SEP/PR, always in collaboration with several organs of the Public Administration, in particular the Ministry of Transports (Ministério dos Transportes) and the National Agency of Waterway Transports - ANTAQ (Agência Nacional de Transportes Aquaviários), together with the Port Authorities, the academy and the representatives of the private sector, by means of the rich participation in the various workshops and studies for the survey of data and information.

To all the collaborators, whose contributions enabled the materializing of the result of the intense work summarized in this PNLP, my sincere gratitude and full recognition. Without this participation, it would not have been possible to offer to the Brazilian society and, in particular, to the National Port Sector, a modern planning instrument coherent with the expectations and progress demanded of our maritime ports.

Brasilia, December 2015.

Helder Barbalho
Minister of the Secretariat of Ports of the
Presidency of the Republic – SEP/PR

SUMMARY



1. Introduction

Created in 2007, the Secretariat of Ports of the Presidency of the Republic (SEP/PR) initiated a conjunction of institutional and managerial actions with the purpose of providing the national ports sector with conditions for its growth and development, both of which are associated to the expansion of the Brazilian economy. Since then, the SEP/PR has been acting upon the formulation of policies and directives for the fomenting of the sector and promoting the planning, set up and evaluation of programs, projects, modernizing actions, and support to the development of the infrastructure, capacity and efficiency of the maritime, river and lake ports. The beginning of the long term sectorial planning process has, as its basis, the National Ports and Logistics Master Plan (PNLP).

Decree SEP/PR No. 03/2014, published in January 2014, which regulated the compatibility between the national port planning – of the competence of the SEP/PR, by means of the PNLP, of the General National Leasing Plan - PGO (Plano Geral de Outorgas - PGO) – and the local planning, responsibility of the Port Authorities – performed via the Port Development and Zoning Plan (Plano de Zoneamento e Desenvolvimento - PDZ) – , has the purpose of improving this restructuring process of the national port sector.

After four years monitoring and accompanying the execution of the first version of the PNLP, the SEP/PR presents, in this Executive Summary, the PNLP 2015, contextualizing the current situation of the port sector and englobing the demand projection of the ports, the challenges, the strategic objectives and the portfolio of actions, establishing the strategies which will elevate the performance and efficiency of the Brazilian ports to the level of the best ports in the world.

This document is structured into five sections:

» **The National Ports and Logistics Master Plan: objectives and performed actions.** This section rescues the first version of the PNLP, planning cycle 2009-2012, and details the programs and actions implemented in the period 2010-2014.

» **Demand Projection, allocation of cargo and capacity.** Results are presented of the production projection and consumption of the main moved products at the Brazilian ports until 2042. Results are also demonstrated of the allocation stage of these cargos in the logistical network, the challenges to ensure the competitiveness of the displacement of these products and the installed capacity at the public ports and in private installations.

» **Challenges for the national port system.** This section makes an analysis both of the challenges that still need to be overcome as well as future ones, which define the reevaluation of the strategic objectives for the next cycle of planning.

» **Pillars and strategic objectives – cycle 2015-2018.** Based on the understanding of the current situation of the sector, on the prognosis of demand and on the challenges of the logistics network, this section presents the strategic objectives defined in this new PNLP cycle, as well as the indicators, targets, and portfolio of actions derived from the strategic objectives which will be the focus of the Secretariat of Ports in the next years.

» **Final Considerations.** The final considerations of the Executive Summary are presented.

The revision process of the PNLP was initiated at the end of the first planning cycle, in 2012, with the monitoring of the actions and investments plan and the accompanying of thematic indicators. This process involved the knowledge and the experience of the team of technicians of the SEP/PR, of the Port Authorities, of the governmental institutions, of specialists and of the representations of users, having as a basis data collected in various workshops, interviews and researches. We emphasize the participation of the following entities: Brazilian Association of Maritime Cruises (Associação Brasileira de Cruzeiros Marítimos - ABREMAR), Brazilian Association of Port Terminals (Associação Brasileira dos Terminais Portuários - ABTP), National federation of Port Operators (Federação Nacional dos Operadores Portuários - FENOP), Foreign Trade Association of Brazil (Associação de Comércio Exterior do Brasil - AEB), Brazilian Chamber of Containers, Railway and Multimodal Transport (Câmara Brasileira de Contêineres, Transporte Ferroviário e Multimodal - CBC), National Navigation Center (Centro Nacional de Navegação - CENTRONAVE), National Union of the Maritime Navigation Companies (Sindicato Nacional das Empresas de Navegação Marítima - SYNDARMA), National Federation of Gate Clerks and Cargo Repairers, Port Officers, Block Workers, Cleaners and Ropers of Vessels, Maritime Activities (Federação Nacional dos Conferentes e Consertadores de Carga, Vigias Portuários, Trabalhadores de Bloco, Arrumadores e Amarradores de Navios, Atividades Portuárias - FENCCOVIB) and National Federation of Maritime Navigation Agencies (Federação Nacional das Agências de Navegação Marítima - FENAMAR).

2. The National Ports and Logistics Master Plan: objectives and performed actions

2.1. Strategic Pillars of the National Ports and Logistics Master Plan: Cycle 2009-2012

The National Ports and Logistics Master Plan (PNLP) is an instrument of strategic planning of the State for the national port sector. In its first version, released in 2012, it contemplated three strategic pillars, as described in **Figure 1**.

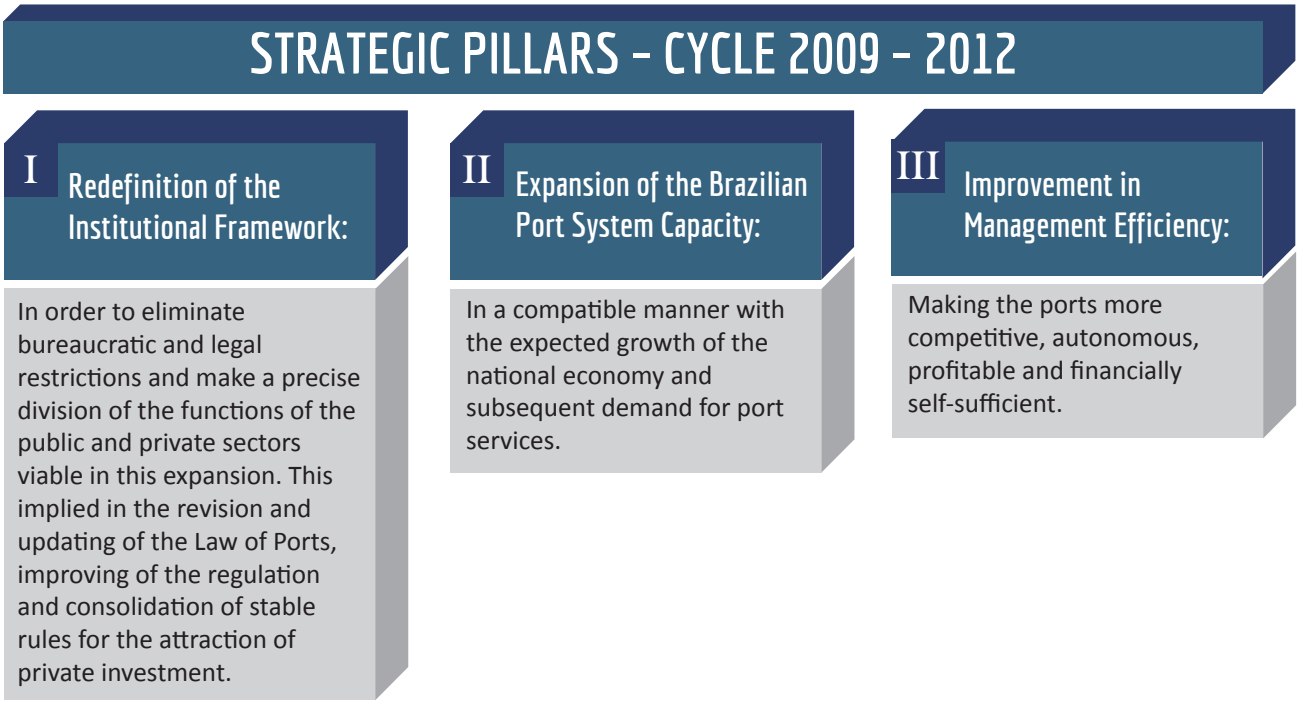


Figure 1 - PNLP Strategic Pillars Cycle 2009-2012
Source: SEP/PR (2015)

From the definition of the strategic pillars, the SEP/PR began to perform, in a planned and integrated manner together with the various actors of the port network, a conjunction of actions intended to contribute to the achieving of the previously listed strategic pillars.

2.2. Performed Actions: 2012-2015

In this section, a summary is presented of the actions and investments performed by the SEP/PR for the achieving of the strategic pillars defined by the PNLP cycle 2009-2012.

2.2.1. Redefinition of the Institutional Framework

In relation to the first established pillar – redefinition of the institutional framework – several improvements and reforms in the sector legislation were carried out, with emphasis to Law No. 12,815, of 5 June 2013. The purpose of the reform was to enable the increase in the country's competitiveness, by means of the increase and expansion of cargo shifting, reduction of costs and increase in efficiency, in order to eliminate barriers to the flow of Brazilian trade.

Furthermore, with the new institutional framework, the SEP/PR began to exercise, in a centralized manner, the role of Granting Power. In this function, it is the responsibility of the Secretariat to enable the exploitation of the organized ports and the authorized port installations, by means of lease grants, authorization for port installations outside the organized port, concessions and delegations. Another attribution of the SEP/PR is the role of central planning organ of the national port sector, with the purpose of the concatenation of the long term systemic planning. The responsibility for the contracting of dredging services at the public ports reinforces the role of the SEP/PR of planning and providing the port infrastructure. Add to this the linkage of the National Agency of Waterway Transports (Agência Nacional de Transportes Aquaviários - ANTAQ) to the SEP/PR and no longer to the Ministry of Transports (Ministério dos Transportes - MT).

The current Port Authorities (Autoridades Portuárias - APs), in turn, had their attributions revised, in a manner by which the work of this institution began to concentrate on the port management (**Figure 2**). The new legal landmark also reinforced the need of improvement in the management of Companhias Docas, making use of targets and performance indicators established by the SEP/PR.

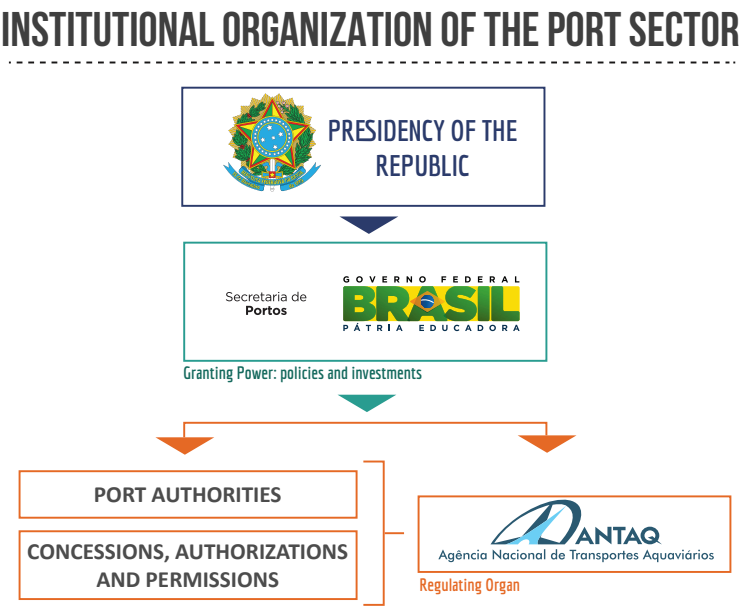


Figure 2 - Institutional Organization of the Port Sector according to Law No. 12,815/2013
Source: SEP/PR (2015).

Emphasis to the creation of the National Port Authority Commission (Comissão Nacional das Autoridades nos Portos - CONAPORTOS) and the National Piloting Affairs Commission (Comissão Nacional de Assuntos de Praticagem - CNAP). Instituted by decree No. 7,861, of 6 December 2012, CONAPORTOS is coordinated by the SEP/PR and has the purpose of integrating the activities performed by the public organs and entities at the ports and port installations. The CNAP, collegiate in which the SEP/PR occupies the position of executive secretariat, instituted by decree No. 7,860, of 6 December 2012, has the purpose of elaborating proposals upon the regulation of prices and scope of zones and the improvement measures related to the Piloting services.

2.2.2. Expansion of the Port System Capacity

The second strategic pillar of the PNLP, established in the cycle 2009-2012, targeted the expansion of the Brazilian port sector capacity. Between 2010 and 2014, the movement of cargo at the Brazilian ports leaped from 739 to 900 million tons, representing a growth of 21.7% in the period, which was only possible due to the public investment in

the deepening of the maritime access channels, added to the operational and management improvements by means of projects such as Porto Sem Papel (Port Without Paper). This growth indicates that the country needs to have port installations with the capacity to attend, at levels of international quality, the predicted demand.

In this context, due to the strategic planning of the sector initiated in the first version of the PNLP, the SEP/PR structured a port capacity expansion plan organized in five lines: (i) The Port Lease Program (Programa de Arrendamentos Portuários), (ii) Rebalancing and Extension of Contracts; (iii) the Authorizations of Private Port Installations and expansion of the existing ones; (iv) the National Dredging Plans (Planos Nacionais de Dragagem - PND) and (v) the port infrastructure works.

The Port Lease Program, in agreement with the Logistics Investments Program – PIL (Programa de Investimentos em Logística - PIL, 2015), as demonstrated in **Figure 3**, consists of the closing of new leasing contracts in areas of the organized ports, anticipated by bidding procedures. The areas liable to be leased in the referred program originate from: (i) expired lease contracts; (ii) lease contracts still to expire; or (iii) areas so far unexplored for port operation. It is estimated that in the second phase of the PIL, published in June 2015, the investments will be of approximately R$ 16.2 billion and that the capacity addition to the system will be in the order of 319 annual million tons, as seen in **Figure 4**. With this line of investment, the Federal Government expects to achieve gains of scale at the organized port terminals and, consequently, increase competitiveness in the sector.

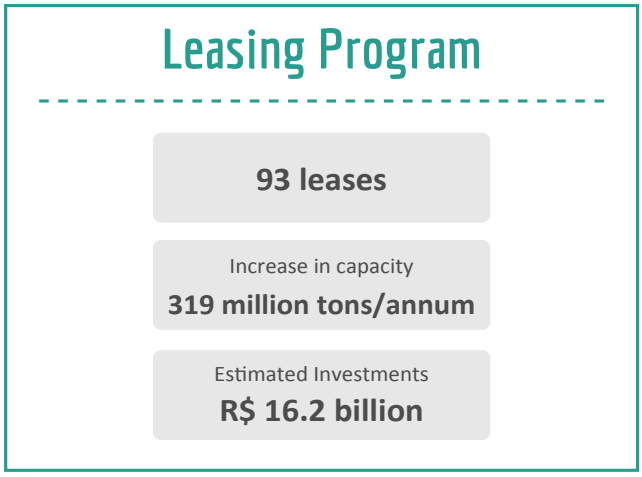


Figure 3 - General view of the Port Lease Program
Source: PIL 2015-2018 (2015) and SEP/PR (2013-2015).
Elaboration: SEP/PR (2015)

Figure 4 - Investiment in leases
Source: PIL 2015-2018 (2015) and SEP/PR (2013-2015).
Elaboration: SEP/PR (2015)

The Rebalancing and Extension of Contracts has, as its juridical framework, the SEP/PR decree No. 349/2014, of October 2014, which regulates the Art. 57 of Law No. 12,815/2013. This norm regulates the possibility of anticipated extension of contracts closed in the previous regulatory mark (Law No. 8,630/1993), not yet expired, which possess an expressed prediction of extension. The rebalancing and extension mechanism of lease contracts consists in the anticipated extension of up to 25 years of the contractual instrument, upon proof of new investments for the modernizing and expansion of the capacity. Until December 2015, 49 pleas were requested to the SEP/PR and to ANTAQ, being 25 related to the anticipated extensions which totaled investments of R$ 9.8 billion. The other pleas are related to rebalances, ordinary extensions and unification of contracts, as demonstrated in **Figure 5** and **Figure 6**.

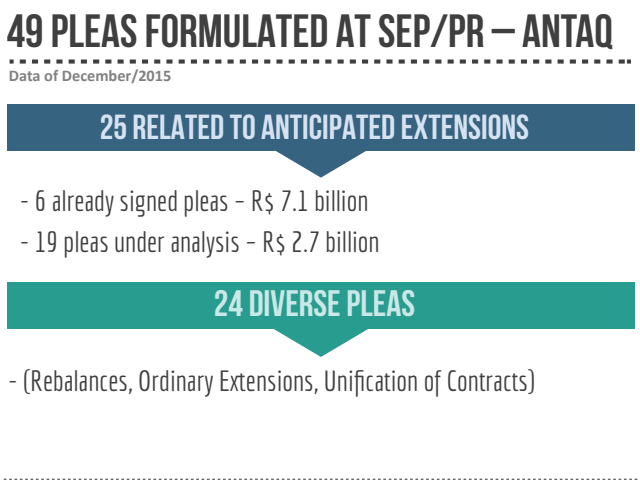


Figure 5 - Investments in rebalancing and extension of leasing contracts
Source: PIL 2015-2018 (2015) and SEP/PR (2015).
Elaboration: SEP/PR (2015)

Figure 6 - Investments and capacity gains in rebalances and extensions of leasing contracts
Source: PIL (2015) and SEP/PR (2015). Elaboration: SEP/PR (2015)

Still in relation to the expansion of the capacity and the context of the new regulatory framework, the authorization process of port terminals, which englobes, among other modalities, the Private Use Terminals (Terminais de Uso Privado - TUPs), Cargo Transhipment Stations (Estações de Transbordo de Carga - ETCs) and the Tourism Port Installations (Instalações Portuárias de Turismo - IPTs), establishes that port installations located outside the areas of the organized ports may be exploited by economic agents authorized in the granting process, formalized by means of adhesion contract. We should mention that such a granting process must be preceded by a public announcement or call and that, between 2013 and December 2015, 49 installations were authorized, totaling R$ 14.3 billion in investments. **Figure 7** illustrates the approved authorizations.

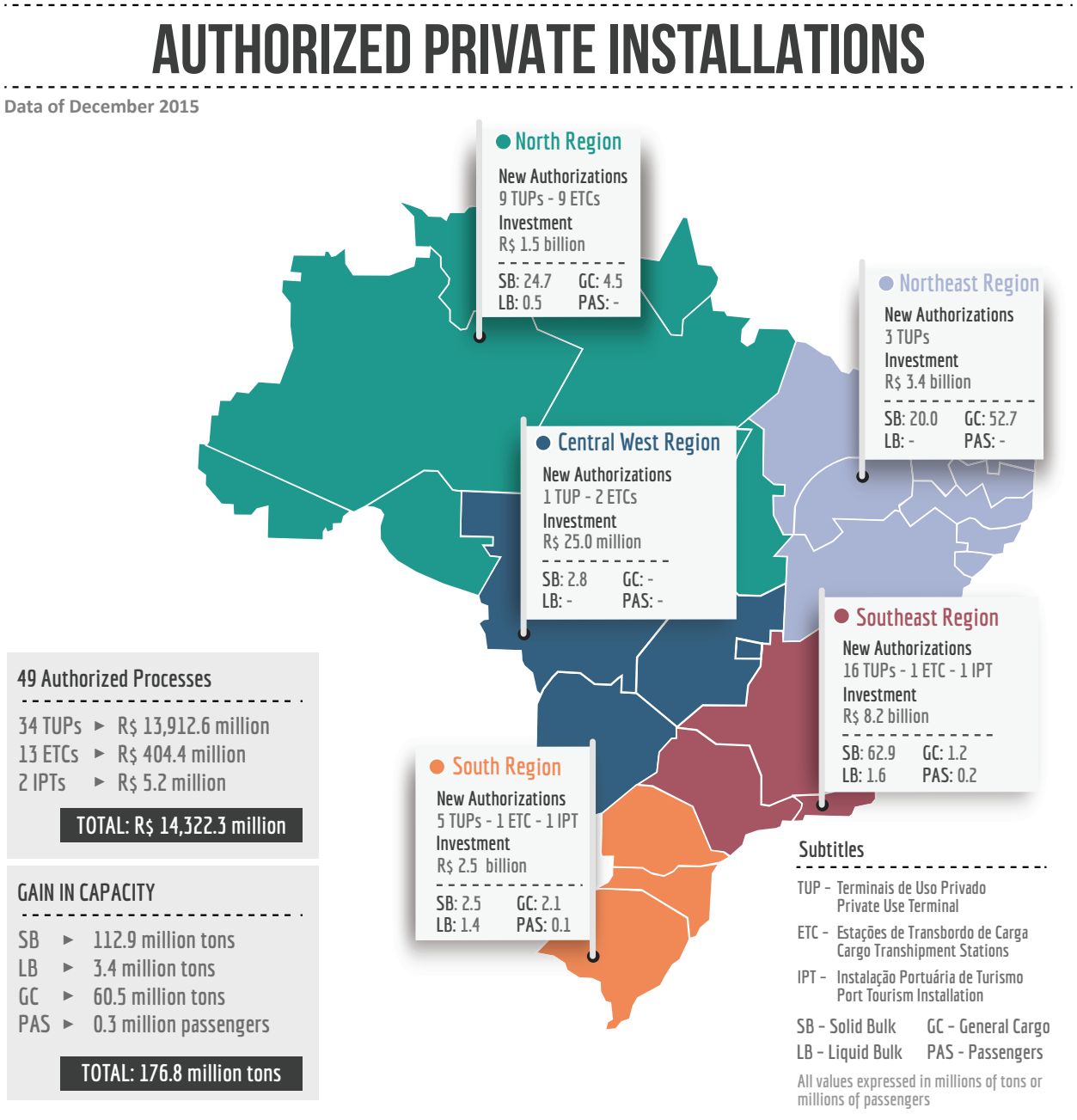


Figure 7 - Authorizations emitted for the operation of TUPs, ETCs and IPTs
Source: SEP/PR (2015).

These 49 authorizations allow a gain in capacity for the port system of approximately 177 million tons, an increase of about 12% upon the current capacity.

Other 64 processes are in progress, of which 39 are of Private Use Terminals and 25 Cargo Transhipment Stations; total investments sum R$ 5.4 billion. **Figure 8** presents the grouping of these investments, classified by region.

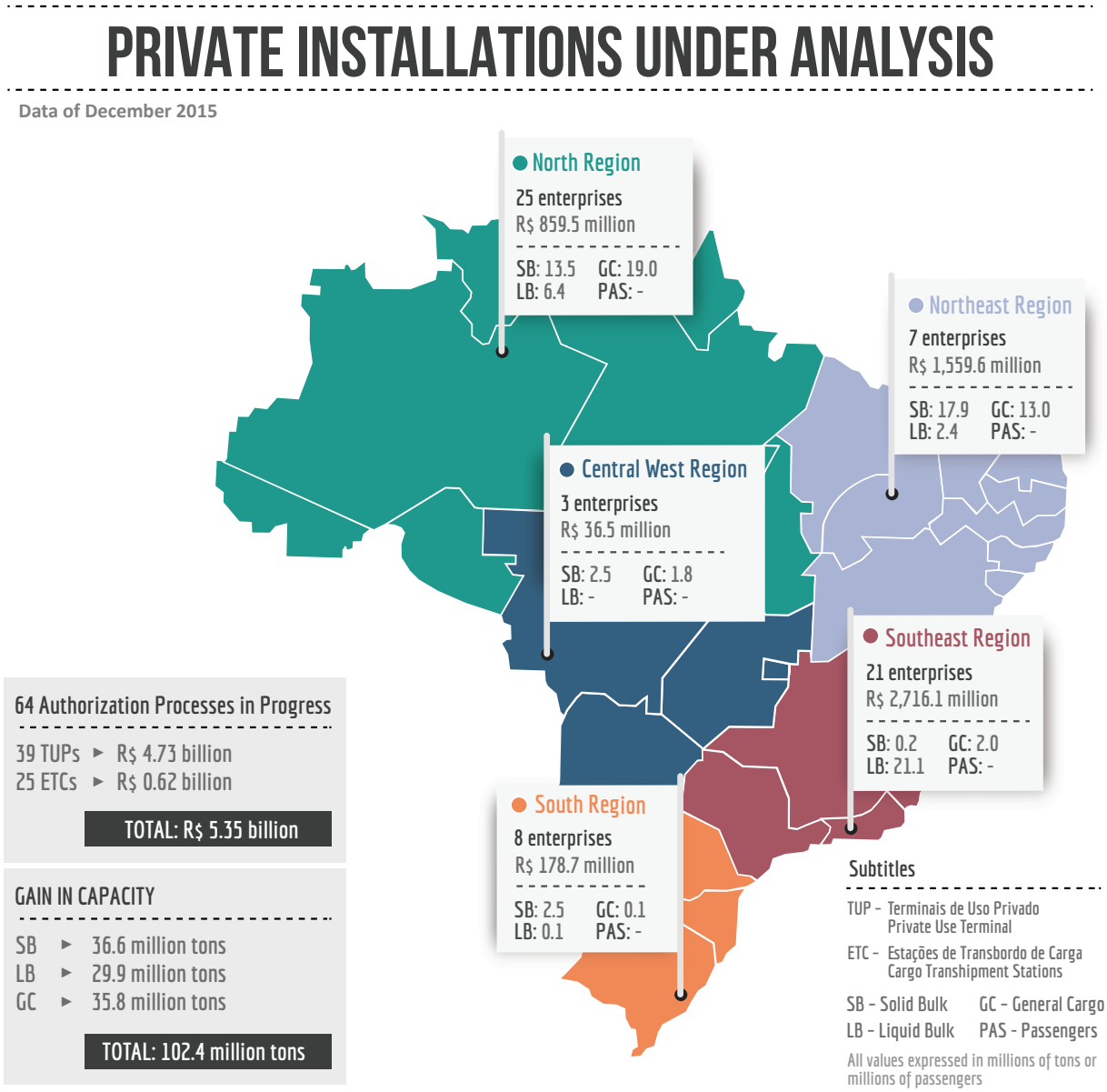


Figure 8 - Authorizations under analysis for operation of TUPs, ETCs and IPTs
Source: SEP/PR (2015).

The expansion of the waterway accesses was related, principally, to the dredging and rock removals performed by the SEP/PR, contemplated in the Growth Acceleration Program – PAC (Programa de Aceleração do Crescimento - PAC), by means of the National Dredging Plan – PND(Plano Nacional de Dragagem - PND). It is worth emphasizing that the PND was divided into two phases: PND I, created to propose and develop solutions for the deepening of the access navigation channels to the port; and PND II, aimed at maintaining the depth and safety conditions established in the implemented dredging project.

The PND contemplated ports from different regions of the country, with the purpose of increasing the cargo movement capacity. In **Figure 9**, highlighted by region are the contemplated ports and the referred concluded enterprises.

The investments in dredging generated a greater adequacy of the waterway access depth in relation to the most frequent ship drafts at the Brazilian coast. In 2010, the adequacy of the infrastructure for solid and liquid bulk vessels, for example, was of 77% and 85% of the ports, respectively. In 2014, the adequacy of the Brazilian ports reached 87% and 100% for both types of cargo.

Finally, the line of action of the port infrastructure works counted at PAC enterprises in all the regions of the country, as illustrated in **Figure 10**.

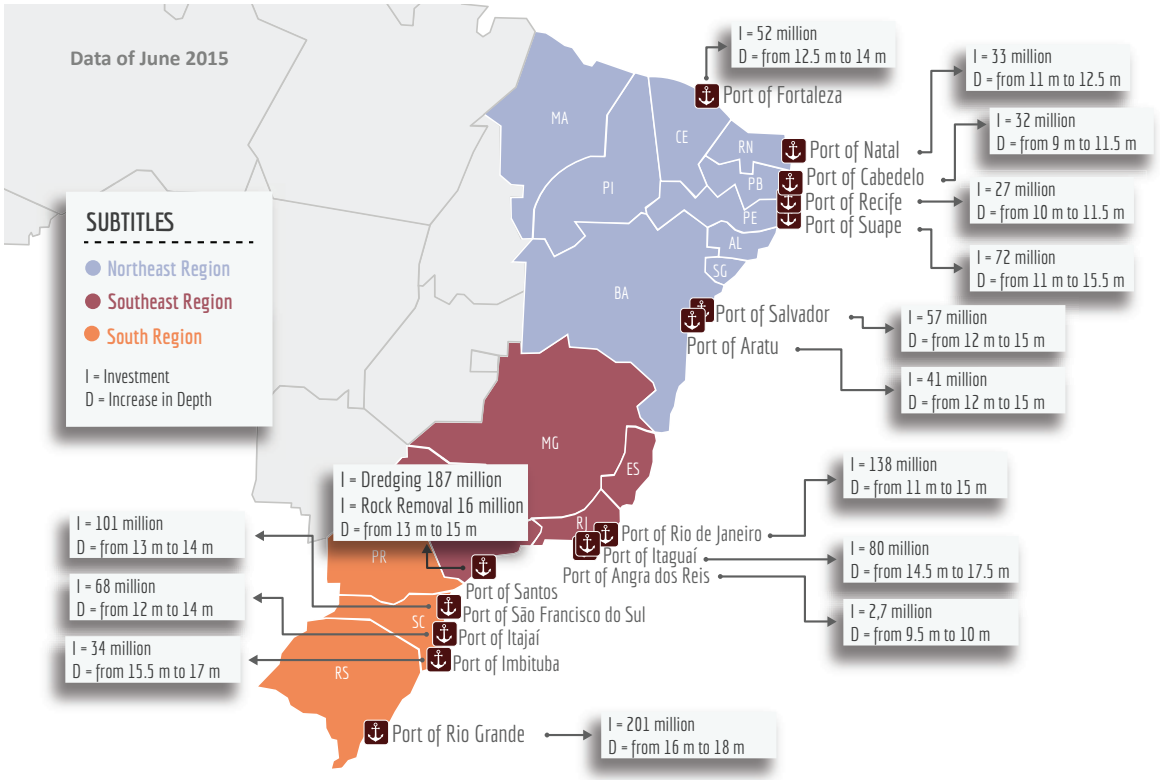


Figure 9 - Ports with concluded works and projects - PND
Source: SEP/PR (2015).

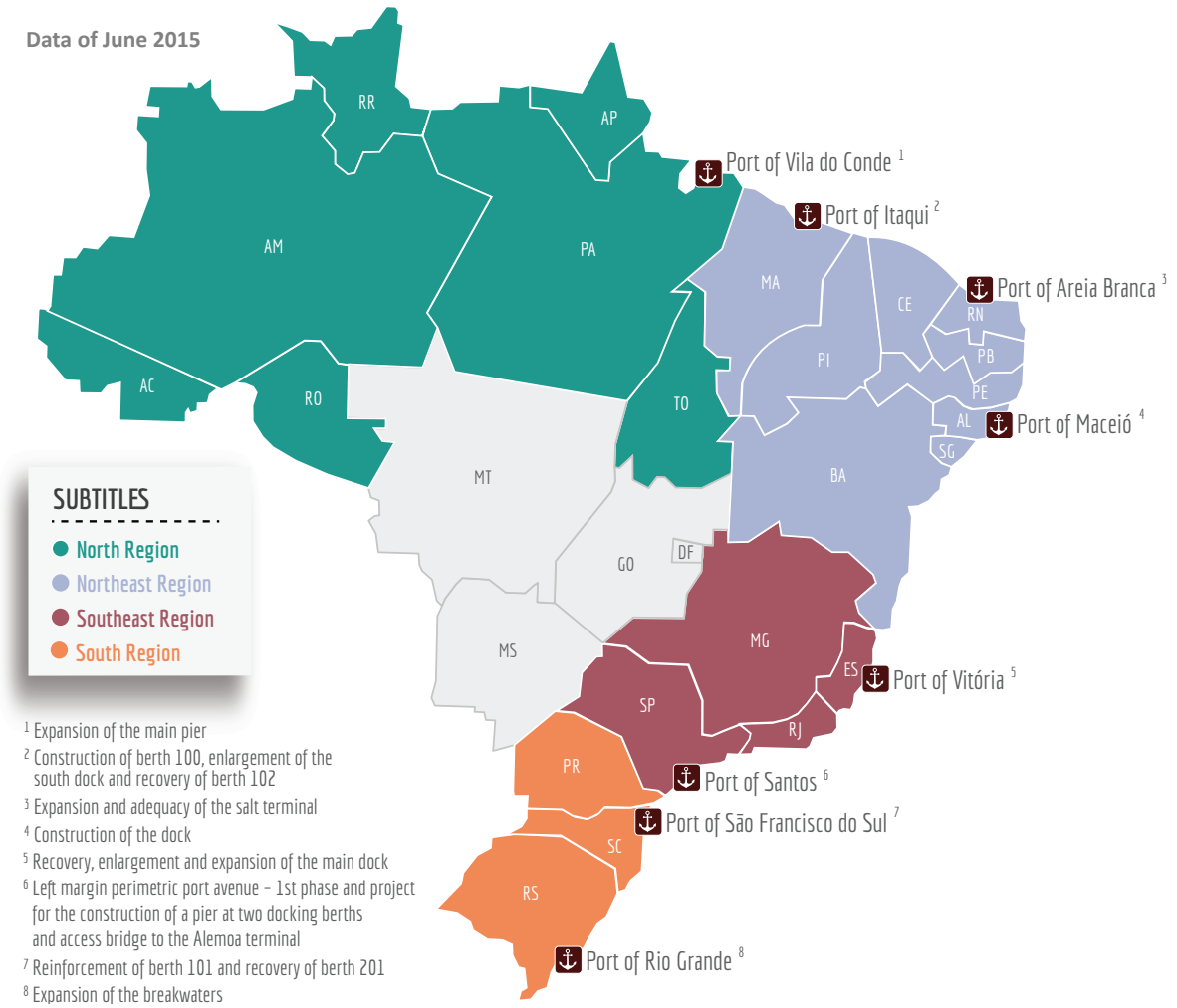


Figure 10 - Ports with concluded port infrastructure works – PAC Investments
Source: SEP/PR (2015).

Beyond the concluded works, there are also works and projects under public tenders and in execution, inserted in the PAC, which will expand even further the capacity of the public ports. Among the main works under execution, we may emphasize:

» **North Region:** Port of Manaus – Passenger Terminal –, Port of Santarém – Project for the construction of the Multiple Use Terminal 2 (Terminal de Múltiplo Uso 2) and recovery of the Multiple Use Terminal 1 (Terminal de Múltiplo Uso 1).

» **Northeast Region:** Port of Salvador – expansion of the breakwater –, Port of Itaqui – construction of Berth 108 (Liquid bulk terminal) and grain terminal (Terminal de grãos - TEGRAM) –, Port of Fortaleza – construction of a Container Terminal (1st phase of the Passengers Terminal).

» **Southeast Region:** Port of Santos – alignment of the Outeirinhos Dock, reinforcement of the dock for the deepening of the berths between warehouses 12A and 23, reinforcement of the Alemoa berthing pier –, Port of Rio de Janeiro – 2nd phase of the deepening dredging.

» **South Region:** Port of Rio Grande – modernizing of the Porto Novo public dock –, Port of Itajaí – alignment and reinforcement of Berth 4.

2.2.3. Improvement of management efficiency

In order to attend the third strategic pillar of the PNLP, established in the cycle 2009-2012, improvement of management efficiency, the SEP/PR performed a series of initiatives for the planning, governance, labor capacitation and processes of the Brazilian ports. **Figure 11** summarizes the actions for the improvement of the Brazilian port system.

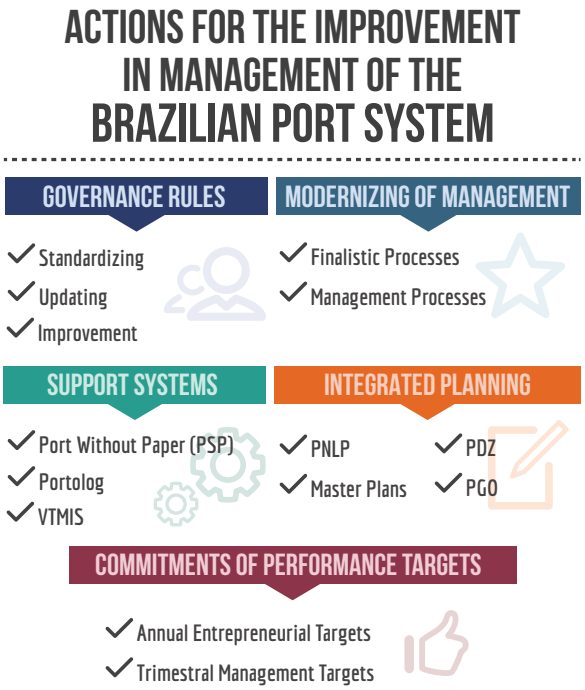


Figure 11 - Actions for the improvement in management of the Brazilian port system
Source: SEP/PR (2015).

2.2.3.1. Integrated planning and modernizing of port management

In relation to the integrated planning, decree SEP/PR No. 03/2014, of January 2014, regulated the compatibility between the national planning – responsibility of the SEP/PR, by means of the PNLP, of the General National Leasing Plan (Plano Geral de Outorgas -PGO) – and the local planning, responsibility of the Port Authorities, performed via the Development and Zoning Plan (Plano de Desenvolvimento e Zoneamento - PDZ). In this way, the Secretariat consolidated the basis to make the integrated planning process of the Brazilian port sector permanent (**Figure 12**).

National Ports and Logistics Master Plan (PNLP)	General National Leasing Plan (PGO)	Master Plan	Port Development and Zoning Plan (PDZ)
Strategic planning instrument of the national port sector Its objective is to identify vocations of the various port clusters	Planning instrument for ports or TUPs grants Lease, concession, authorization and delegation	Planning instrument aimed at the port unit based on the PNLP Aimed at directing actions, improvements and investments at the port and its accesses	Instrument of operational planning of the Port Administration Makes urban development municipal and state policies compatible with the optimization of the port areas Lists the port's investment portfolio

Figure 12 - Instruments for the integrated planning of the port sector
Source: SEP/PR (2015).

Another activity under development by the SEP/PR is the establishing of performance commitments and targets, as a means of monitoring and evaluating the management of Companhias Docas, as in **Figure 13**.

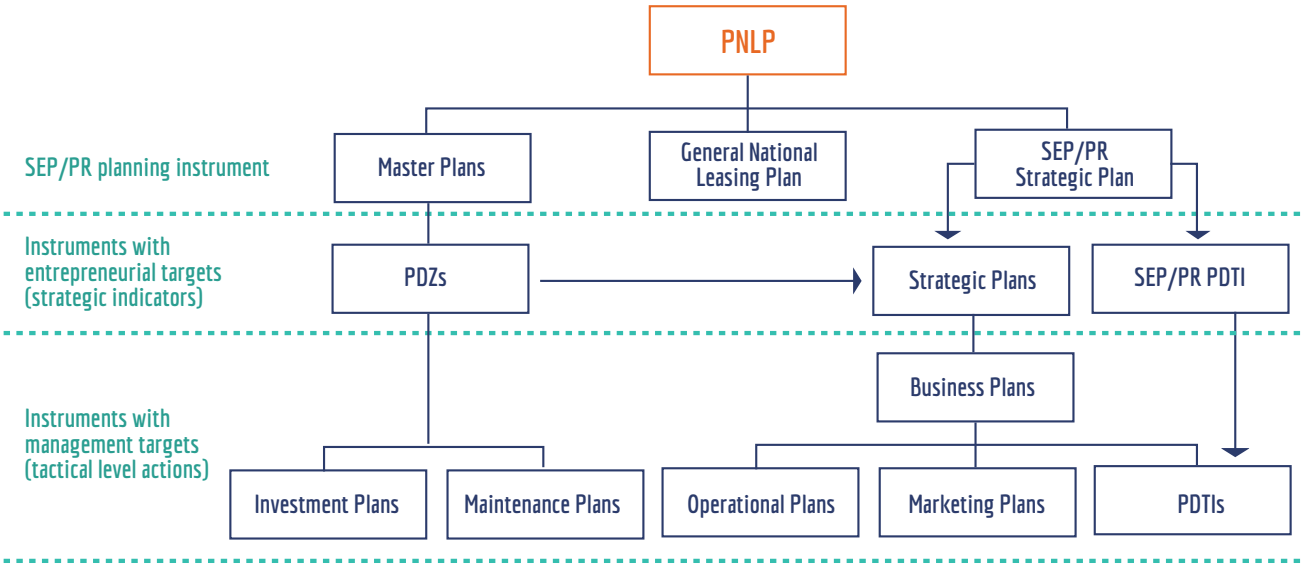


Figure 13 - Integrated planning with the management targets
Source: SEP/PR (2015).

The SEP/PR is also performing a Port Management Modernizing Program (Programa de Modernização da Gestão Portuária - PMGP), with the objective of developing and implementing more efficient processes, aimed at improving the port management: revision and proposal of improvements in logistical processes for the modernizing of the port operation, recommendation of improvement plans for the modernizing of the administrative processes of the Companhia Docas and monitoring of the implementations of the performed recommendations, currently operating at three Companhias Docas. **Figure 14** demonstrates a summary of the Project and their results.

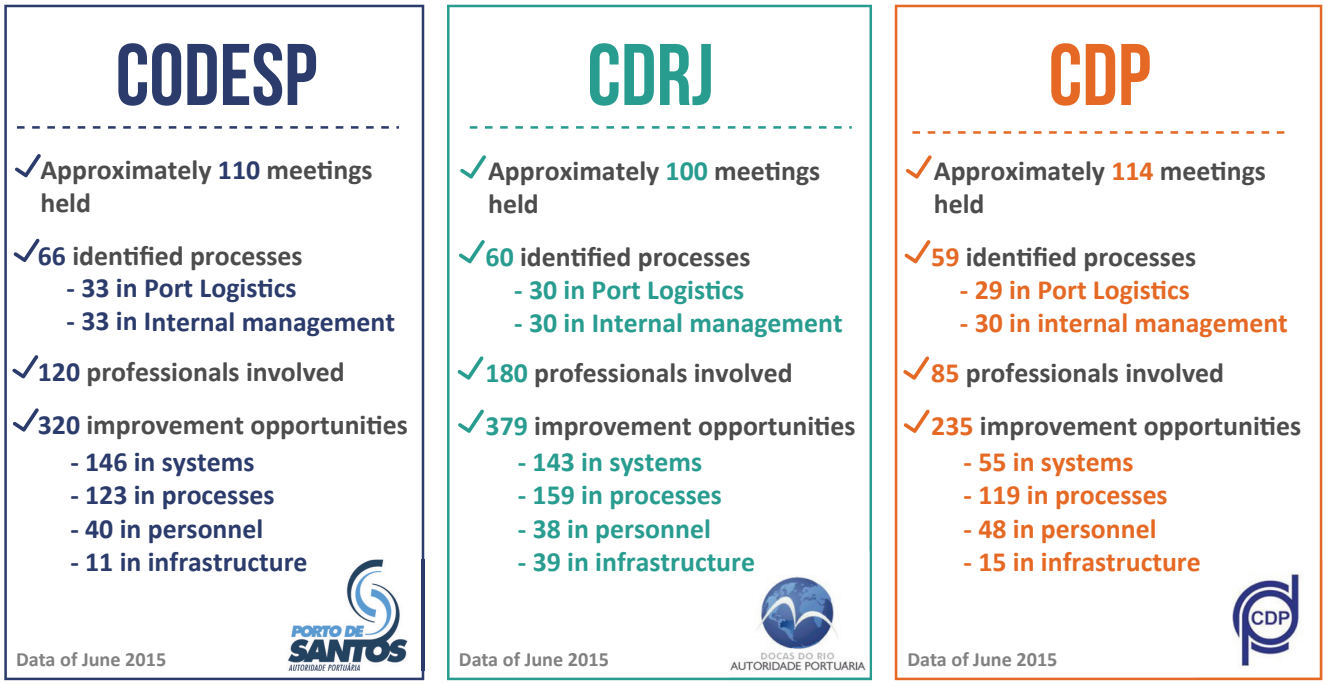


Figure 14 - Performance and results of the Port Management Modernizing Program
Source: SEP/PR (2015).

One of the improvements refers to the corporative management of the port administrators, with various actions having been implemented for its improvement. One of the main actions is the updating of the regulations for a better standardizing and the inclusion of good management practices, such as:

» Establishing of a Qualified Quorum for decisions of the Administrative Board (Conselho Administrativo - Consad).
» The non-obligation that the President-Director must be a permanent member of the Administrative Board (Consad).
» Insertion of paid quarantine for the directors.
» Obligation of at least one member of the Executive Management Board (Diretoria Executiva - Direx) being from the board of collaborators.
» Reduction of the term of office of Consad and Direx from three to two years.
» Standardizing of the Consad composition with seven members (Decree No. 6,551/2008).
» Possibility of meetings of the collegiate bodies by video or teleconference.
» Possibility of a gradual increase in the occupying of free filling positions by collaborators.

Another management improvement is the creation of a costing system based on the rendered services. This initiative, initiated in 2014, aims at the establishing of a costing system which enables the Port Authorities to know its costs in more details, in order to permit the implementation of a tariff structure based on costs. The first step was the definition of a Standard Chart of Accounts Accounting Plan for all federal Companhias Docas, with the purpose of defining a standard procedure for the porting of accounting data. The new plan of accounts, with allocation of costings by tariff charts, is already in an implementation phase at the federal Companhias Docas.

2.2.3.2. Investments in port intelligence

Investments in port intelligence carried out by means of development and implementation of support systems to the port management, such as Vessel Traffic Management Information System (VTMIS), Port Without Paper (integration of consenting bodies), are being performed with resources from the PAC (**Figure 15**).

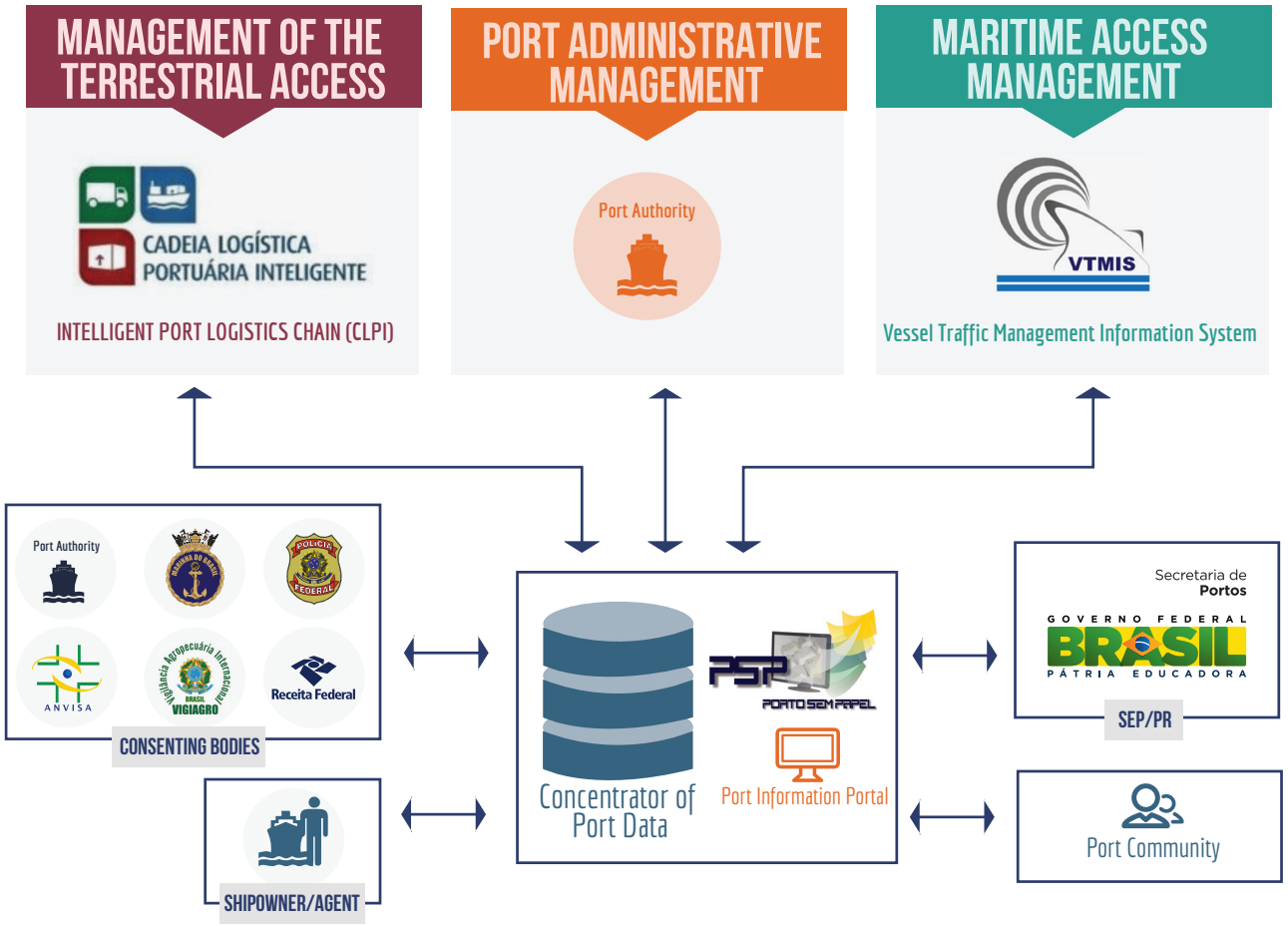


Figure 15 - General view of the port intelligence systems implemented by the SEP/PR
Source: SEP/PR (2015).

The Vessel Traffic Management Systems have the objective of implementing an active monitoring of the waterway traffic, expanding navigation safety and the protection of the environment, as well as increasing the efficiency of the vessel maneuvers and port operations. The dimensioning of the vessel traffic management systems should consider the dimension of the port installations, allowing from more simplified tools, known as LPS (Local Port Service), to highly sophisticated systems, whose operation must follow international rules such as VTMIS.

The implementation of these systems integrates the Growth Acceleration Program – PAC (Programa de Aceleração de Crescimento - PAC), in which resources of the order of R$ 146.3 million were approved, destined to the implementation of the system at six Brazilian ports, contemplated in the first phase: Rio de Janeiro (RJ), Itaguaí (RJ), Santos (SP), Salvador (BA), Aratu (BA) and Vitória (ES). Furthermore, studies are under development for the implementation of the system in another 10 ports: Rio Grande (RS), São Francisco do Sul (SC), Itajaí (SC), Imbituba (SC), Fortaleza (CE), Itaqui (MA), Suape (PE), Belém (PA), Vila do Conde (PA) and Manaus (AM).

Port Without Paper (Porto Sem Papel - PSP) is an information system whose main objective is to gather, in a single management window, the necessary information and documentation to streamline the process of the analysis and authorizations for berthing, operation and undocking at the scope of the Brazilian ports. Upon following the recommendations of the International Maritime Organization – IMO (Organização Marítima Internacional- IMO), the system works as a unique port window tool, once who is responsible for the vessel, the shipowner or shipping agency, makes the obligatory and necessary information available for the entry or liberation of the vessels in a single data base. From this base, it is possible for the port authorities and regulatory agency to analyze the data.

The PSP began operations in 2011 at the ports of Santos, Rio de Janeiro and Vitória. In 2012, implementation took plave at the ports of Niterói (RJ), Itaguaí (RJ), Angra dos Reis (RJ), Forno (RJ), Barra do Riacho (ES), Fortaleza (CE), Pecém (CE), Recife (PE), Suape (PE), Natal (RN), Areia Branca (RN), Maceió (AL), Cabedelo (PE), Salvador (BA), Aratu (BA), Ilhéus (BA), Itajaí (SC), São Francisco do Sul (SC), Imbituba (SC), Laguna (SC), Porto Alegre (RS), Pelotas (RS), Rio Grande (RS), São Sebastião (SP), Paranaguá and Antonina (PR). At the ports of Belém (PA), Santarém (PA), Vila do Conde (PA), Itaqui (MA) and Macapá (AP), operation began in April 2013 and, in May of that same year, at the Port of Manaus (**Figure 16**).

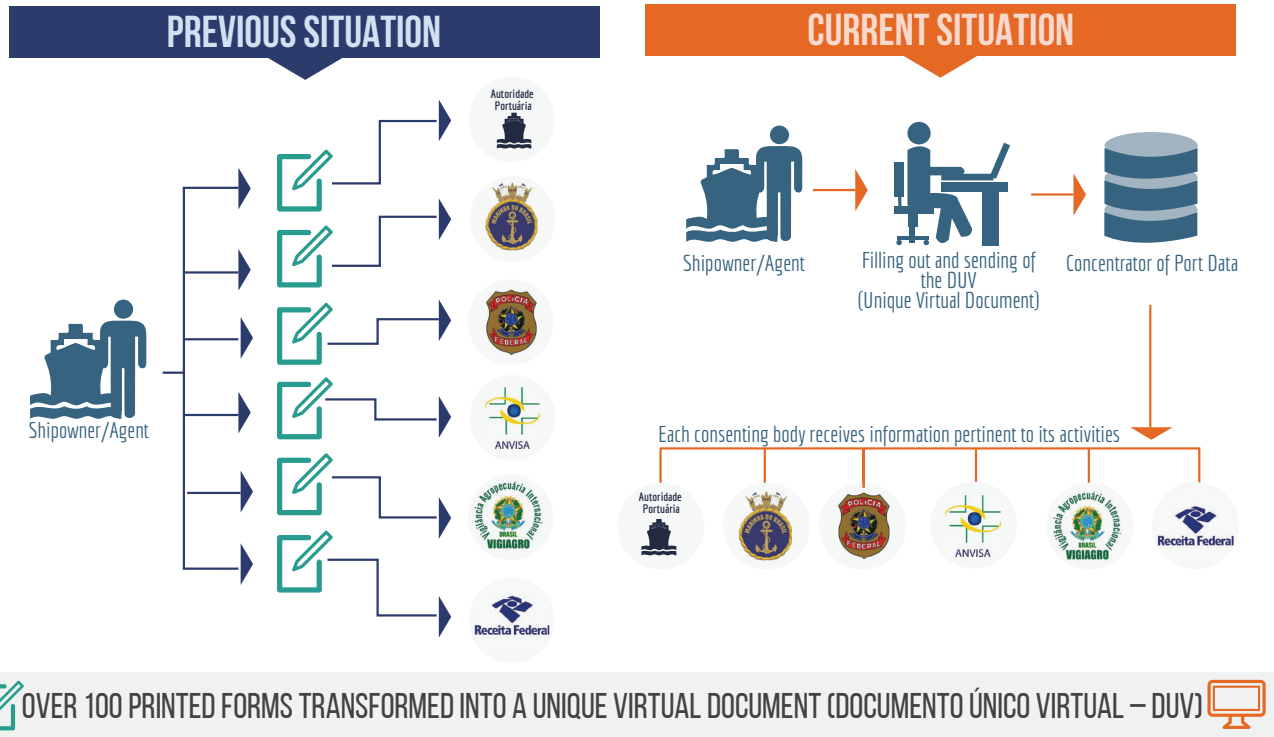


Figure 16 - General view of the Port Without Paper system at the Brazilian ports
Source: SEP/PR (2015).

The Intelligent Port Logistics Chain Project – CLPI (Projeto Cadeia Logística Portuária Inteligente - CLPI) has as its objective the introduction of an innovative process supported by the Information System denominated PORTOLOG, which will enable the management of the transit of the trucks that access the port, collecting information from the origin of the cargo until its port terminal destination, enabling the diffusion of anticipated information to the port community, in this way facilitating the programming of resources to streamline the operations. With this, the logistical process should gain more security, celerity and expressive performance indexes. So that the monitoring of the location of the trucks may be possible, technologies will be implemented for the automation of the port gates, making use of the technologies of identification, via Radio Frequency Identification (RFID), Optical Character Recognition (OCR), for the automatic detection of the number plates of the vehicles, and the Bureau International des Conteiners (BIC) code; as well as biometric recognition for the detection and identification of the driver.

Furthermore, the CLPI complements the study for the implementation of Port Logistical Support Areas – AALPs (Áreas de Apoio Logístico Portuário - AALPs). The AALPs have the purpose of organizing the flow of vehicles and cargo destined to or coming from the port, rationalizing the use of the port accesses and minimizing the port-city conflict regarding urban and port traffic. The AALP concept was developed in the sense of englobing infrastructures that vary from parking patios for trucks, in their simplest form, to Port Logistics Activity Zones – ZALs (Zonas de Atividade Logística Portuária - ZALs) in their most complex form. These platforms will work in a manner integrated to the Intelligent Port Logistics Chain and has, as its objective, the organization of the flow of cargoes destined to the port, so that the port-city conflict may be minimized, as well as expanding the port backyard (**Figure 17**).

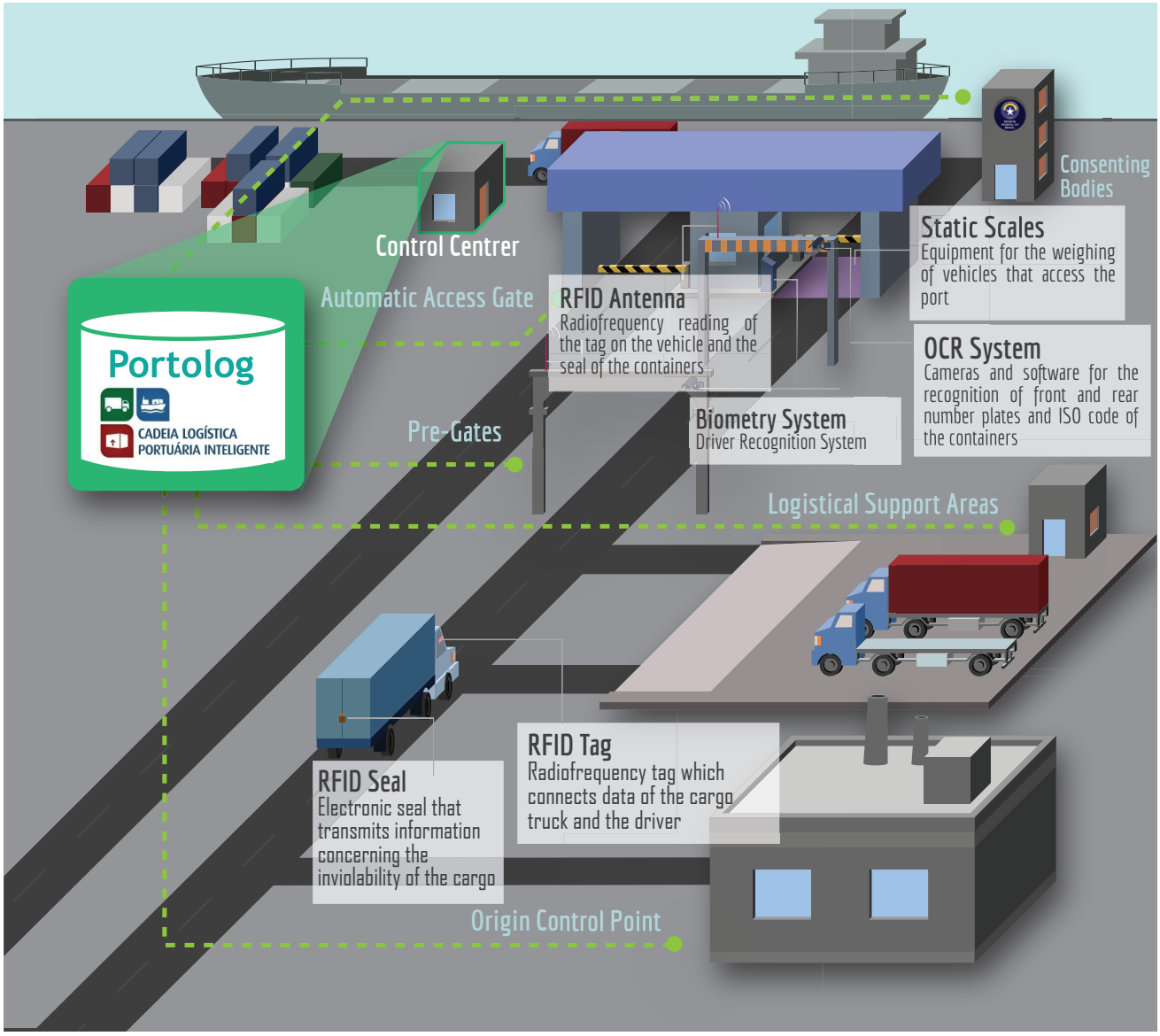


Figure 17 - Elements of the PORTOLOG system
Source: SEP/PR (2014).

2.2.3.3. Capacitation of the port worker

In relation to the capacitation of the port worker, the new regulatory mark determines that the Workforce Management Organ (Órgão Gestor de Mão de Obra - OGMO) shall promote the professional formation of the port worker and sporadic port worker, adapting it to the modern processes of cargo movement and operation of port devices and equipment.

Along the last years, the National Program of Access to Technical Education and Employment (Programa Nacional de Acesso ao Ensino Técnico e Emprego - Pronatec), has been implemented, managed in partnership with the Ministry of Development, Industry and Commerce (Ministério do Desenvolvimento, Indústria e Comércio - MDIC), in which the SEP/PR ensures the access of port workers to improvement courses.

As well as the capacitation offered by the OGMO and by Pronatec, the SEP/PR and Antwerp/Flanders Port Training Center (Centro de Treinamento do Porto de Antuérpia - APEC) signed, in September 2013, an agreement of technical cooperation, in order to capacitate the Brazilian port workers, including office staff and sporadic port workers, with the offering of courses in the areas of management, infrastructure and port works, as well as the handling and use of port equipment.

In continuity to the actions foreseen in the SEP/PR capacitation plan, an MBA course in Engineering and Port Management was offered to various public servants and workers of Companhias Docas, considering the capacitation in port grants, infrastructure of access canals, areas of port logistics support, cabotage, simplified scheme of contracting for the port sector and models of professionalization of port management.

2.2.3.4. Improvements in the environmental management of the Brazilian ports

The increase in compatibility between the port activities and the environmental conservation and the attending of the environmental legislation is a challenge for the Port Administrations, as well as for the exercising of the functions of the SEP/PR and of ANTAQ.

ANTAQ has experience in the accompanying of environmental management at the ports. Within its Integrated System of Environmental Management (Sistema Integrado de Gestão Ambiental - SIGA), since 2012 it evaluates the environmental management of the Port Administrations by means of the Environmental Performance Index (Índice de Desempenho Ambiental - IDA). The IDA is an instrument which enables quantifying and qualifying interface information of the port activities with the environment, in order to facilitate the understanding of the public and decision makers regarding port environmental questions. Such information is also used by the SEP/PR in the accompanying of the performance of the APs and for the promotion of actions focused on environmental sustainability of the port activities.

As regards to environmental management at the Brazilian ports, the period between 2010 and 2014 was marked by the performance of the SEP/PR, directed to the legal conformity of the sector and its unfolding. This performance took place at normative, institutional and development of technical instruments levels for the adoption of good port environmental management practices.

Worthy of note is the Inter-Ministerial Decree, Ministry of the Environment (Ministério do Meio Ambiente - MMA) and SEP/PR, No. 425/2011, which instituted the Federal Support Program to the Port Environmental Regularizing and Management (Programa Federal de Apoio à Regularização e Gestão Ambiental Portuária - PRGAP) of ports and maritime port terminals. Port Authorities began to count on structures of environmental management with a team to attend the various execution actions of the required environmental programs.

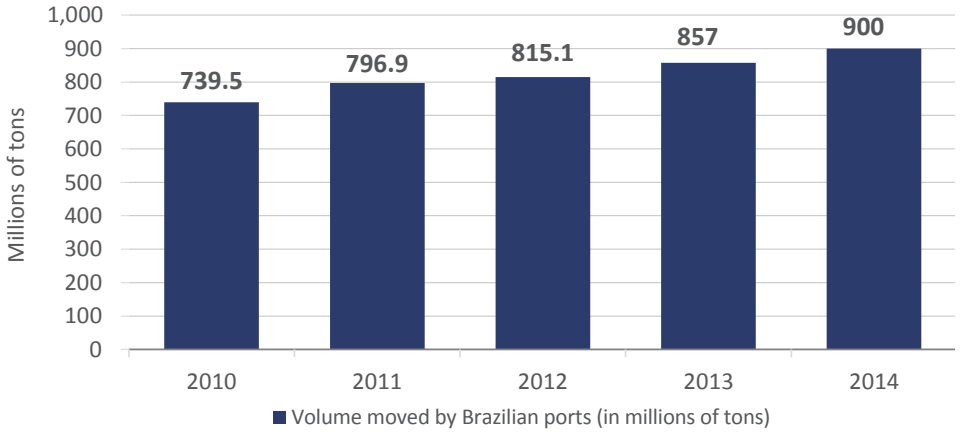
Along this period, also worthy of note are other important initiatives, such as the insertion of the environmental diagnosis and analysis in the scope of the PDZ revision; the performing of capacitation programs in environmental management, involving environmental teams from the Brazilian ports; the beginning of a revitalization program of the port surroundings, aiming at greater harmony in the port-city relationship; and the creation of the permanent forum of environmental port management.

3. Demand projection, allocation of cargoes and capacity

This section presents the perspective of the movement of the Brazilian port clusters, projected for the period from 2015 to 2042 and the sector's capacity to attend, with quality, the expressive volumes.

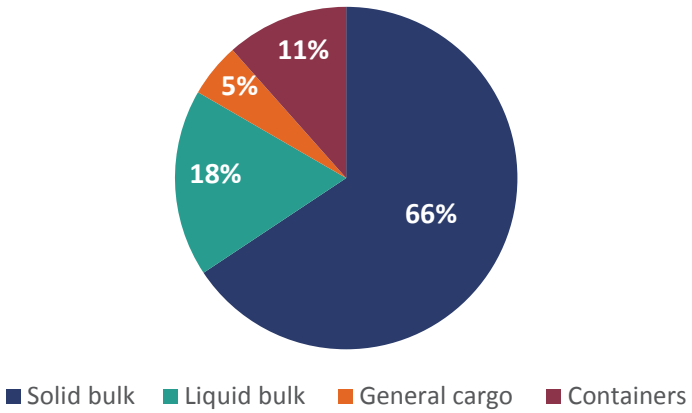
3.1. Evolution of the sector

When the Brazilian port movements were analyzed, it was verified that the flows of cargoes corresponded to 900 million tons in 2014, which represented a growth of 21,7% in the period from 2010 to 2014 (**Graph 1**).



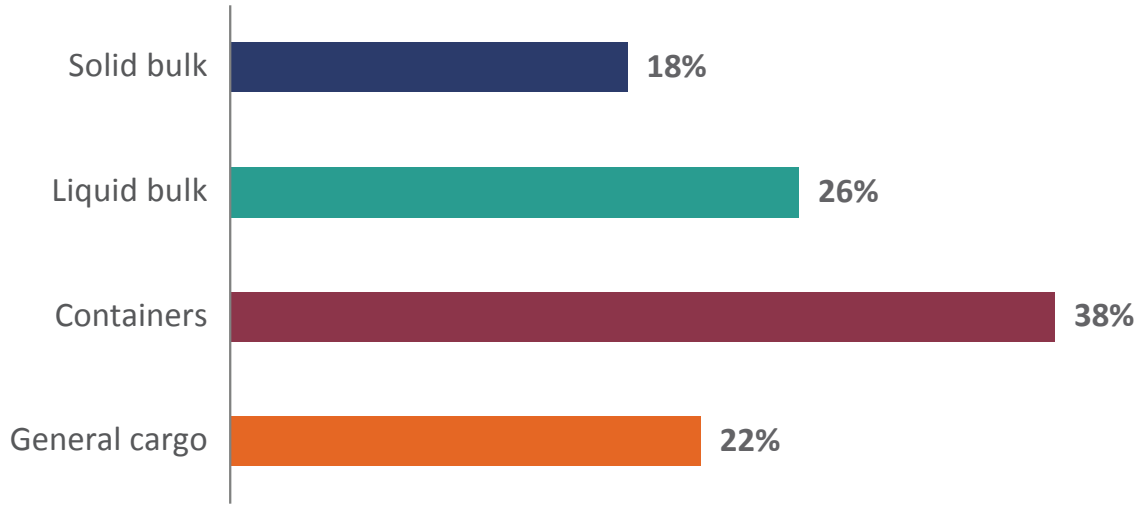
Graph 1 - Evolution of the volumes moved by the Brazilian ports
Source: ANTAQ (2011-2015). Elaboration: SEP/PR (2015)

Among the natures of the cargo, solid bulk is the principal, as presented in **Graph 2**.



Graph 2 - Representation of the natures of the cargo in the movement of Brazilian ports in 2014
Source: ANTAQ (2015). Elaboration: SEP/PR (2015)

Among the nature of the cargo, it is important to observe the increase in the movement of containers which occurred in the last five years, with rates superior to 37,8% (2010-2014). Such growth rates of each nature of cargo are presented in **Graph 3**.



Graph 3 - Increase in the movement of cargo by their nature (2010-2014)
Source: ANTAQ (2011-2015). Elaboration: SEP/PR (2015)

In terms of average productivities, between 2010 and 2014 there was an operational improvement. In relation to containers, the Port of Santos obtained the greatest movement of this kind of cargo in 2014; its operational performance of 28.6 units/h, registered in 2010, evolved to 42.6 units/h in 2014, which represents an increase of 49% in the period. At the Port of Paranaguá, the increase in productivity reached 151%, passing from 17.1 units/h in 2010 to 43 units/h in 2014.

This increase in productivity is due, among other factors, to the investments made by the Federal Government and by the terminals at maritime accesses, in new specialized terminals and in the acquisition of quay and backyard equipment.

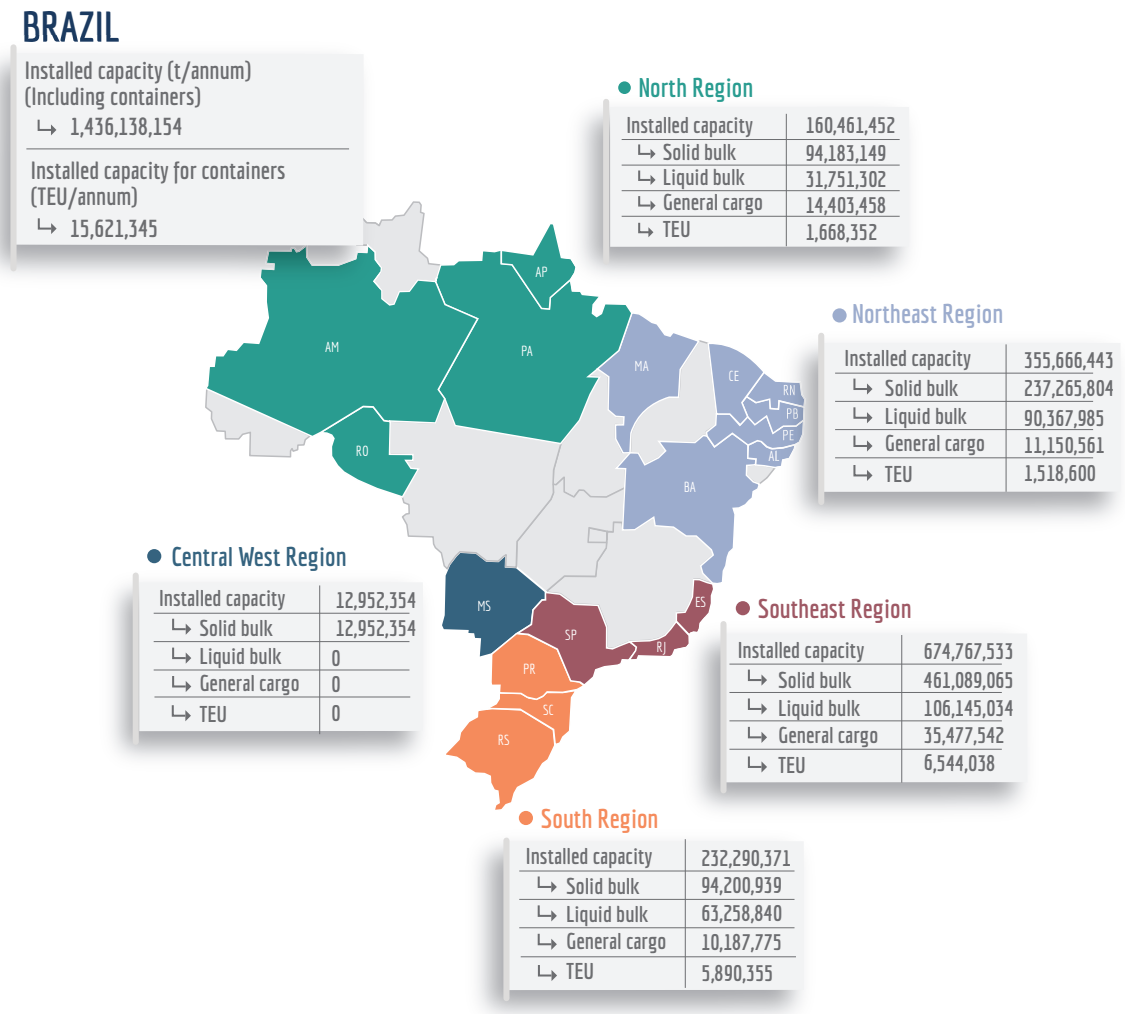
The increase in productivity in the movements of containers must be emphasized. Between 2010 and 2014 the ports of Santos and Paranaguá elevated by 49% and 151%, respectively, their operational performances for the referred cargo.

Examples of these initiatives for the expansion of the waterway accesses are the dredging and rock removal works performed by the SEP/PR – contemplated in the Growth Acceleration Program (Plano de Aceleração do Crescimento - PAC) by means of the National Dredging Plan (Plano Nacional de Dragagem - PND) – and the construction and expansion of port installations, such as Brasil Terminal Portuário (BTP) and Embraport, in Santos.

Although the increase in the movements was elevated, the Brazilian port sector has the necessary installed capacity to attend the current volumes of cargoes. The capacities of the port installations of each Brazilian region by nature of cargo are demonstrated in **Figure 18**.

INSTALLED CAPACITY

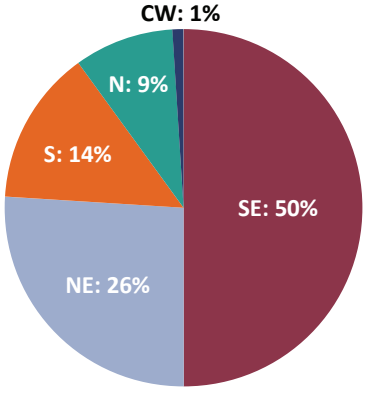
PUBLIC PORTS AND TUPs - 2014



Observations:
1) Values mentioned in tons per annum, except when specified by TEU, whose measur-ing unit is TEU/annum.
2) The conversion of TEU to tons at the TUPs, followed the national average parameter of 11 t/TEU.
3) The conversion of TEU to tons at the public ports followed the annual average param-eter identified at each analyzed port.
4) The calculations were made considering the rounding off of the final results.

Figure 18 - Installed capacity at the public ports and TUPs: 2014
Source: SEP/PR (2015)

As illustrated in **Figure 18**, the greatest installed capacities are in the Southeast Region, totaling 674.8 million tons. The movement proportions at the ports of each one of the regions, in 2014, are represented in **Graph 4**.



Graph 4 - Port movements by region
Source: ANTAQ (2015). Elaboration: SEP/PR (2015)

3.2. Demand projection and allocation of cargo

The increase in the importance of the Brazilian logistical sector, both in the national and international scenarios, is directly related to the rapid growth of the Brazilian economy in the last two decades. In this sense, the port and maritime logistics develop various activities related to the movement of cargoes, from its origin – in the interior of the country, for example - until its destination, such as transport and storage, as well as the vessel loading and unloading operations.

Due to the correlation of the port movements with the national and international scenarios, the demand projections, elaborated at the beginning of 2015, consider variables that capture the economic performance of the regions of origin and destination of the cargoes. Among these variables – adopted to explain the behavior of the Brazilian imports and exports via the maritime modal – worthy of mention is the Gross Domestic Product of the various countries with which Brazil trades, the Brazilian GDP itself (and of specific regions of the country), the real exchange rate and the price of the commodities (agricultural and mineral).

Investments in this sector generate multiplying effects in the entire productive chain and, in their majority, require high volumes of resources. Furthermore, they are of long maturation, which requires them to be associated to planning and coordination studies of the sector – in the sense of avoiding lack or excess of capacity along the port logistical chain.

With the purpose of calculating the projection of cargoes and facilitating the planning in what refers to the logistic flows, the installations were grouped into Clusters according to their geographic locations, including public ports and TUPs, as in **Figure 19**.

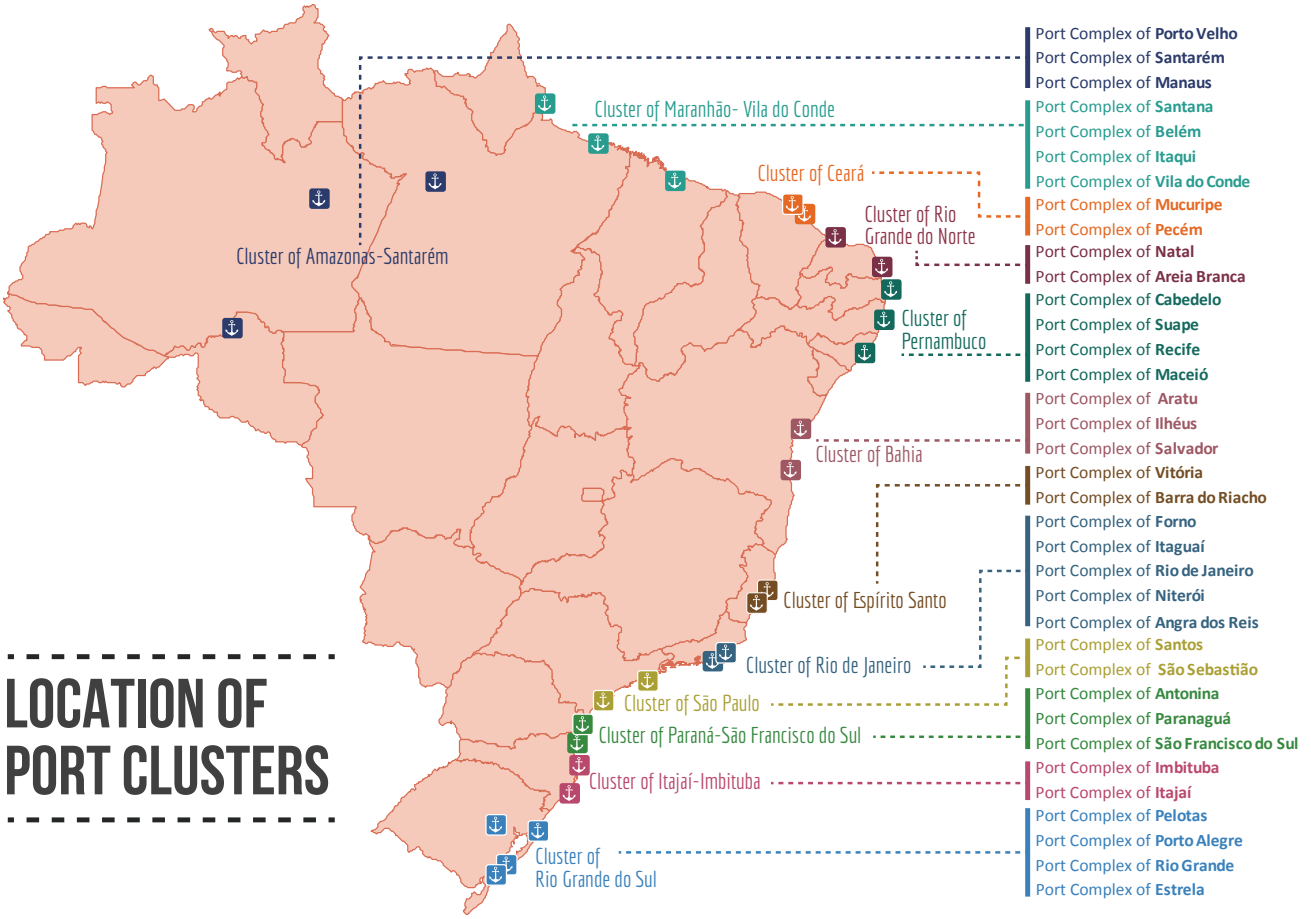
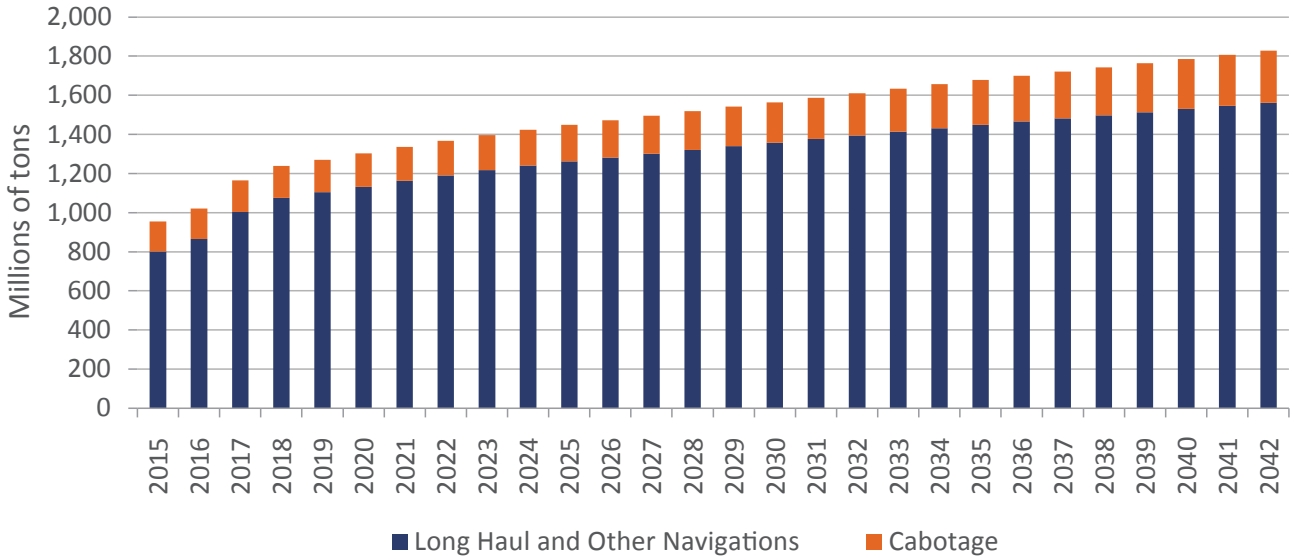


Figure 19 - Definition of the port clusters: public ports and TUPs
Source: SEP/PR (2015)

It is important to mention that the projection of demand for the Brazilian ports in the period 2015 to 2042 foresees a growth of 92%, reaching a level of 1.8 billion tons, as can be observed in **Graph 5**. Cabotage represents, on average, 15% of the total movement.



Graph 5 - Projection of demand for long haul and cabotage (2014 a 2042)
Source: SEP/PR (2015)

The port clusters which rank higher in the projection of cargoes are those which move great volumes of iron ore, such as the clusters of Rio de Janeiro, Maranhão-Vila do Conde and Espírito Santo. As well as these, without such a high movement of iron ore, the cluster of São Paulo also ranks high by the projected volumes. The cargo projections by cluster for the years 2020, 2030 and 2042 are presented in **Figure 20**.

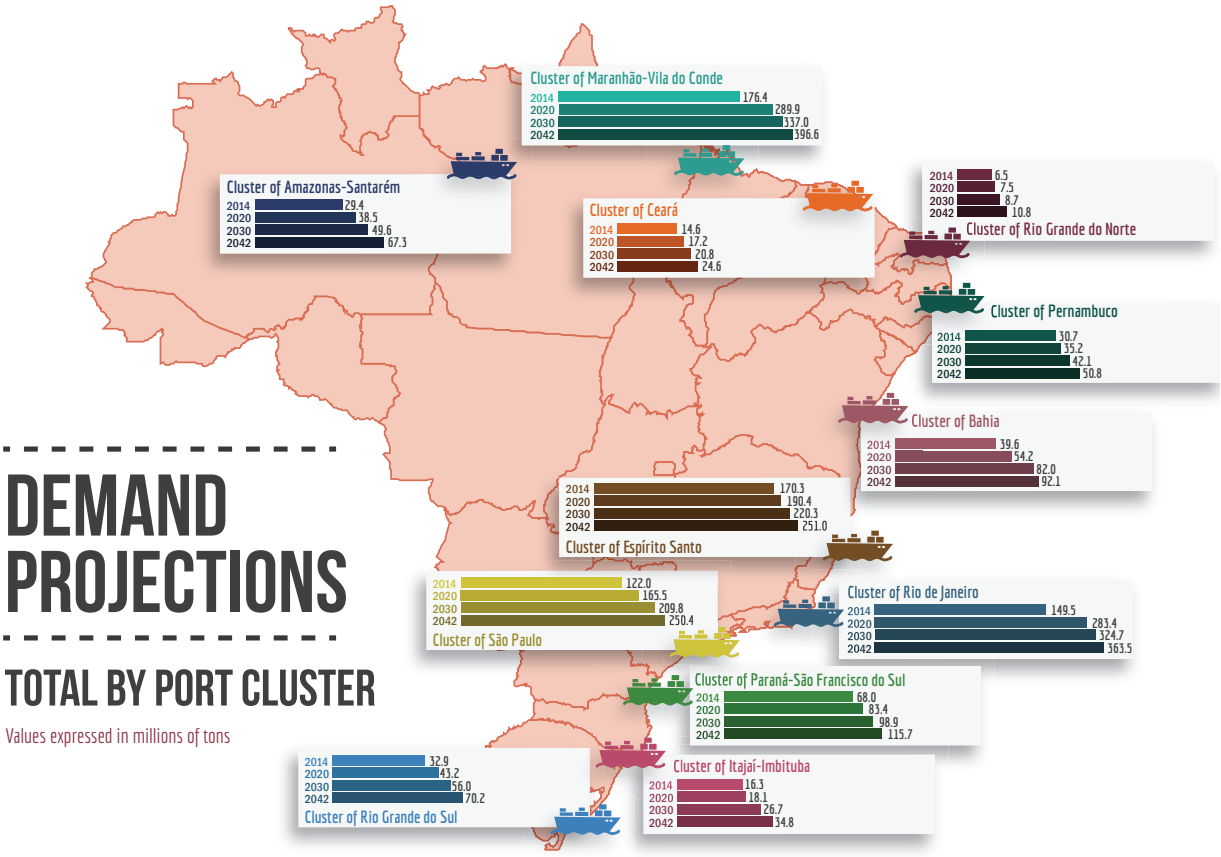
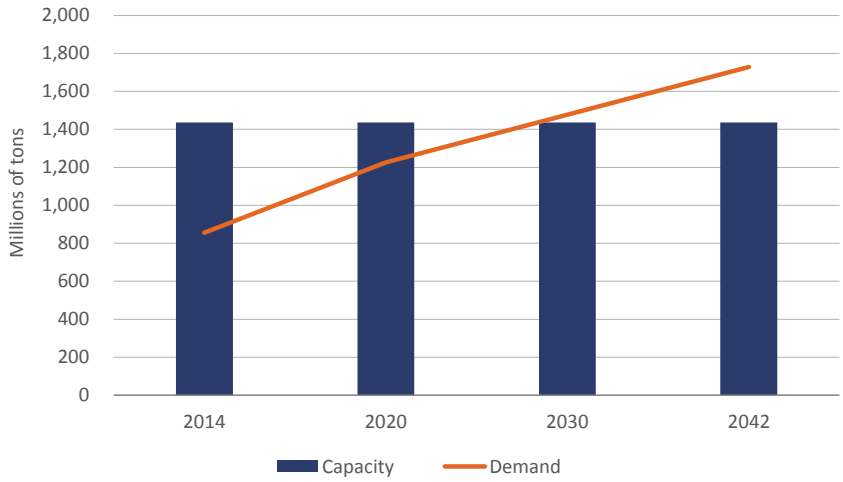


Figure 20 - Demand projection allocated by port cluster: observed (2014) and projected (2015-2042)
Source: SEP/PR (2015)

The presented numbers refer to all the moved products at the Port Clusters in the long haul and cabotage navigations. However, each type of cargo requires different port structures, with distinct levels of investments.

The total installed capacity of the port system is superior to the current demand at the Brazilian Ports, however, as presented in **Graph 6**, a surplus of demand is projected, maintaining the existing capacities, which will have to be procured by operational improvements and investments.

Figure 21 illustrates the capacities and demands, by port cluster, for the year 2042.



Graph 6 - Demand x capacity of the Brazilian ports
Source: SEP/PR (2015)

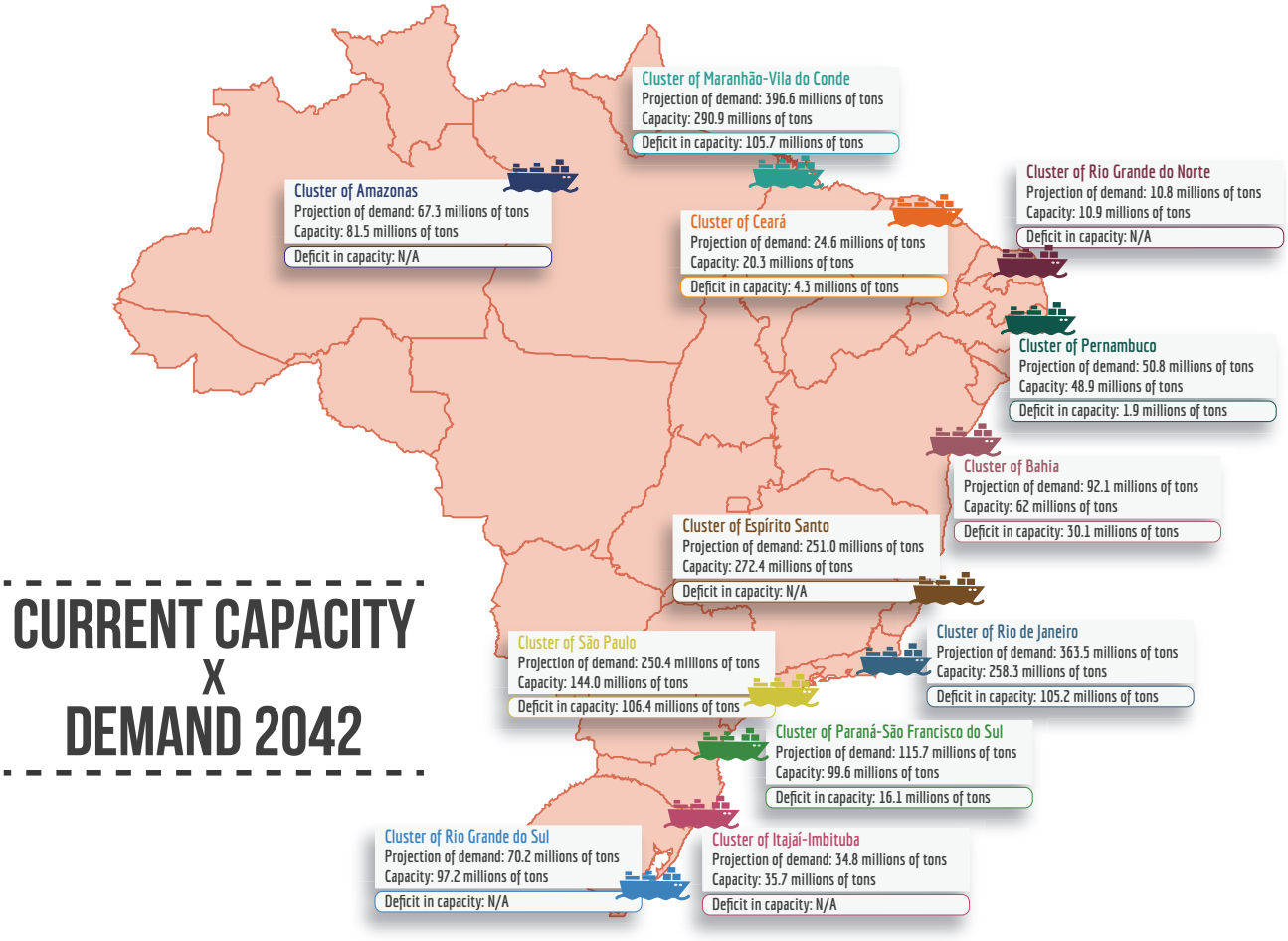


Figure 21 - Current capacity and projected demand for the port clusters in 2042
Source: SEP/PR (2015)

The following sections present an analysis for four natures of cargo: solid bulk, the most representative nature in 2042 (67%); liquid bulk, with a representation of 15%; containers (14%) and general cargo (4%).

Each one of the 38 groups of products studied by the PNLP was classified into one or more natures of cargo. Sugar, for example, was moved in different ways: solid bulk, general cargo (sugar in sacks) and containers.

3.2.1. Solid bulk

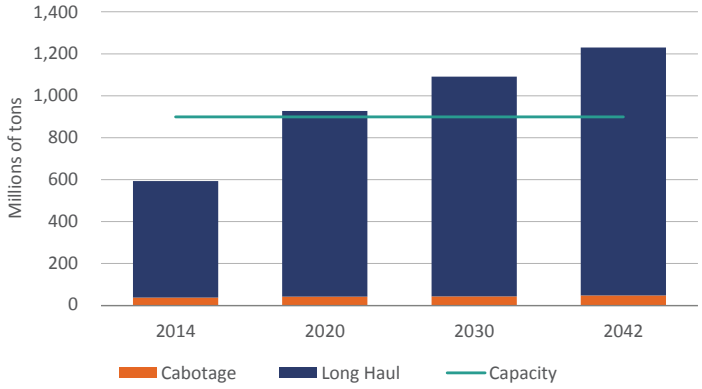
The demand projection of solid bulk for the Brazilian ports in the period from 2015 to 2042 foresees a growth of 94%, reaching the level of 1.2 billion tons. Cabotage navigation, which represents 7% of the total volume of solid bulk, will grow 21% in the projected period; while long haul navigation, 99%.

Furthermore, for the cabotage navigation, the most representative product group within solid bulk is alumina and bauxite. For long haul, the most relevant product is iron ore, which, alone, is responsible for 59% of the country's overall movement of solid bulk.

Excluding iron ore, the products with greatest representation in long haul movement are the agricultural solid bulk products, mainly for commodities (soy, sugar and corn) and fertilizers.

Within this context, **Graph 7** describes the relationship between the demand projection of solid bulk and the capacity of the Brazilian port system, considering the organized ports and the TUPs.

The current total capacity of the Brazilian port system is superior to the movements which occurred at the Brazilian ports, however, as presented in **Graph 7**, there is the tendency of an increase in volumes of solid bulk, which should be accompanied by increases in the capacity of the ports. Should no investment be made, a demand is projected superior to the installed capacities beginning in the year 2019. This analysis is corroborated by the verification of the demand for the year 2042 and of the current capacity of the port clusters, as shown in **Figure 22**.



Graph 7 - Projection of demand x capacity (solid bulk)
Source: SEP/PR (2015)

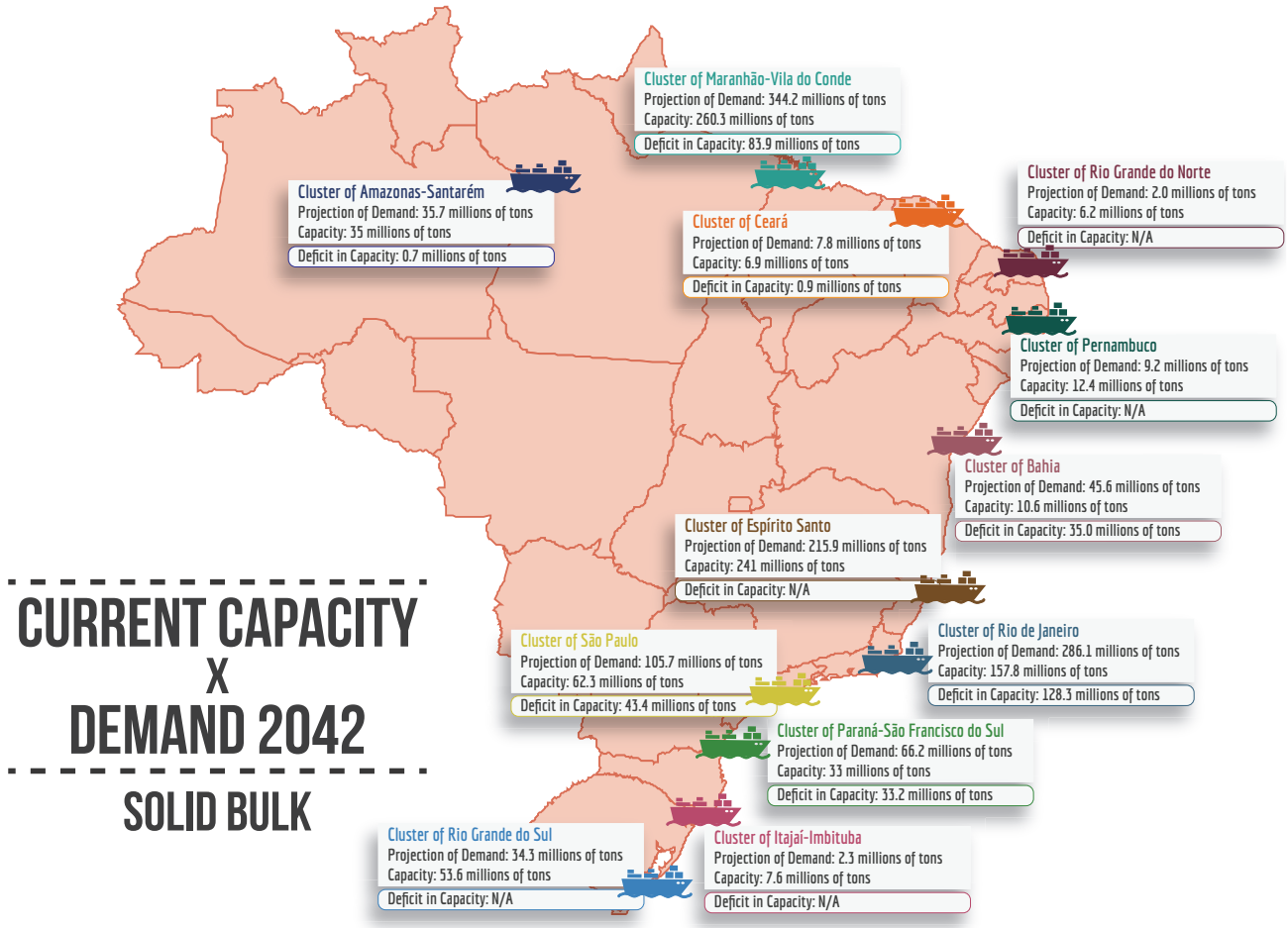


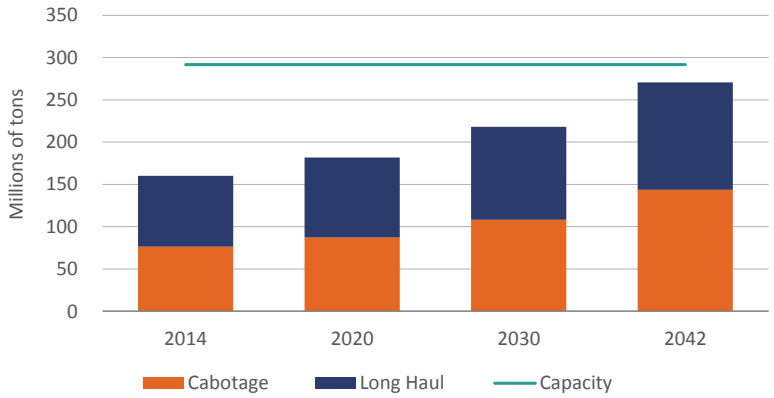
Figure 22 - Current capacity and projected demand for 2042 by port cluster: solid bulk
Source: SEP/PR (2015)

3.2.2. Liquid bulk

The demand projection of liquid bulk for the Brazilian ports in the period 2015-2042 foresees a growth of 67%, reaching a level of 251 million tons. Cabotage navigation grows 84% in the projected period; while long haul navigation, 49%.

In cabotage navigation, oil derivatives represent the greatest participation as much in liquid bulk as in all other studied products in this type of navigation. This movement is directly related to the operations of fuel transfer between bases, in order to ensure the national supply of gasoline, diesel oil and other automotive fuels. For long haul navigation, the most important product is oil and its derivatives, both in the sense of importation as of exportation.

Graph 8 demonstrates the relationship between the projection of demand of solid bulk and the port capacity.



Graph 8 - Demand projection x capacity (liquid bulk)
Source: SEP/PR (2015)

Differently from solid bulk, the liquids present large projections of cabotage volumes. Although the total current capacity of the port system is superior to the projected demand for the period, in 2042 there may be a need of investments in the port clusters: Maranhão-Vila do Conde; Rio Grande do Norte; São Paulo and Itajaí-Imbituba, as shown in **Figure 23**.

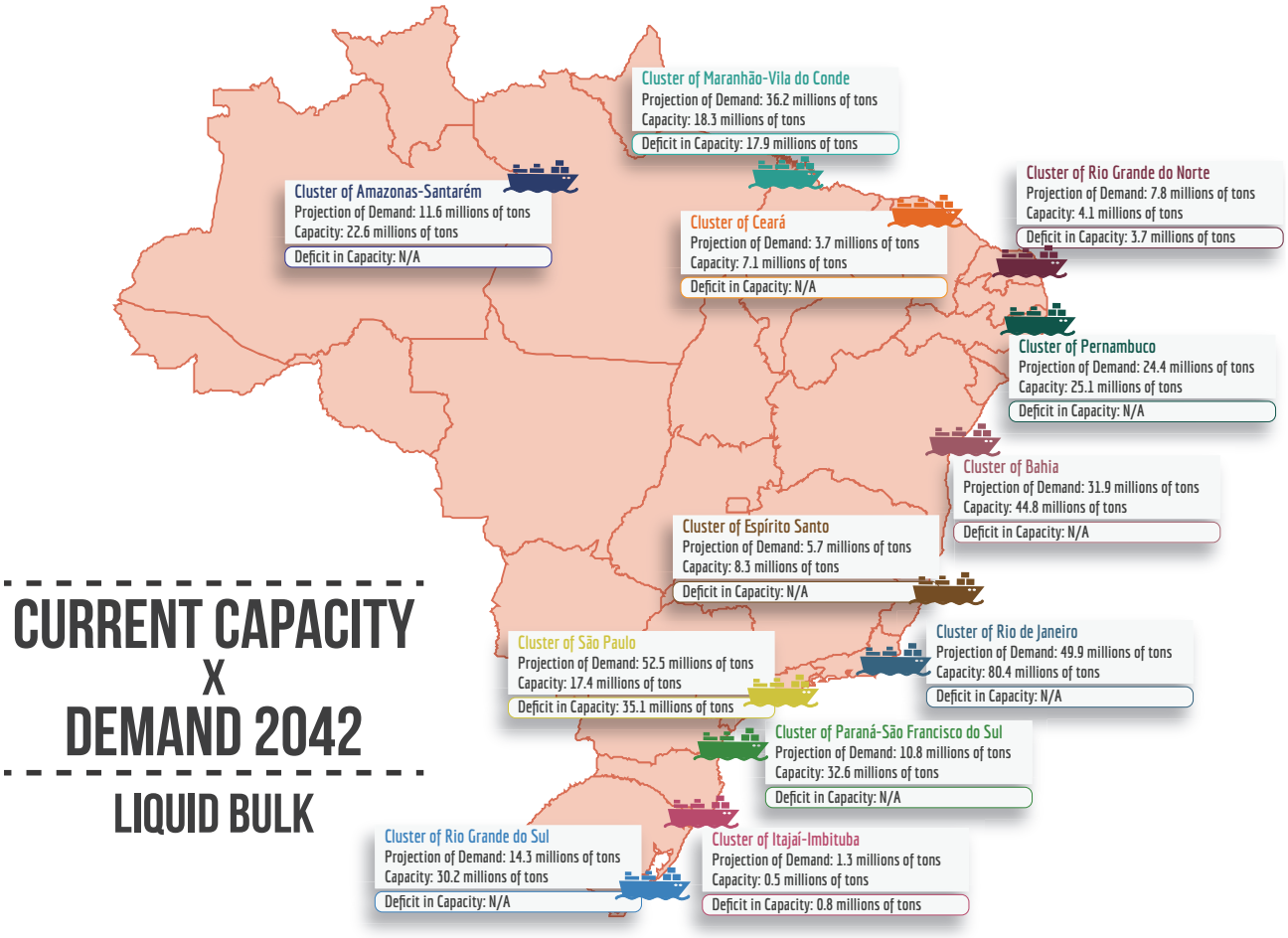


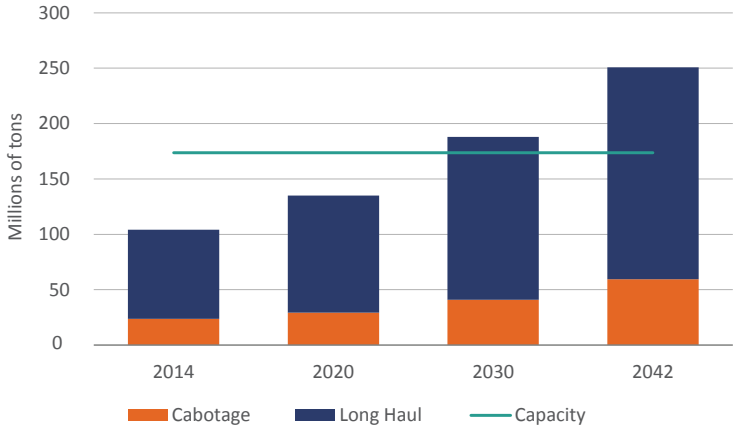
Figure 23 - Current capacity and projected demand for 2042 by port cluster: liquid bulk
Source: SEP/PR (2015)

3.2.3. Containers

The projection of containers for the Brazilian ports in the period 2015-2042 foresees a growth of 127%, reaching the level of 215 million tons. In turn, cabotage navigation grows 144% in the projected period; while long haul navigation, 121%.

Graph 9 illustrates the relationship between the demand projection of containers and the port capacity.

The containerized cargoes present growth perspectives which should surpass the installed capacities in the year 2028, according to the performed projections, should no investment be made for the increase in capacity. However, the different demand projections for each port cluster and the distributions of capacities along the Brazilian regions make this challenge even more complex, with some clusters needing investments prior to the abovementioned year. The analysis of the demand projection and capacities for each cluster are presented in **Figure 24**.



Graph 9 - Demand projection x capacity (containers)
Source: SEP/PR (2015)

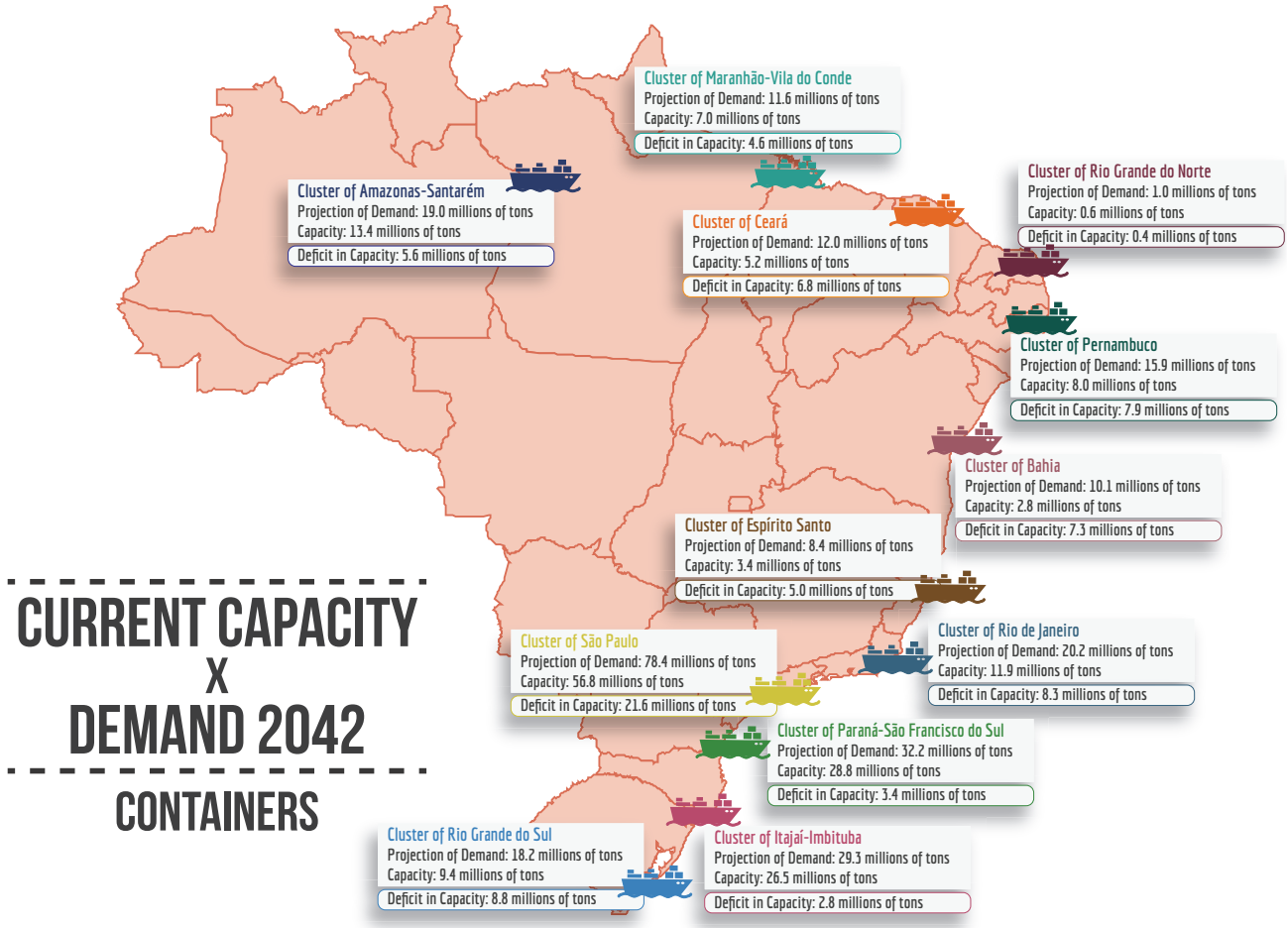


Figure 24 - Current capacity and projected demand for 2042 by port cluster: containers
Source: SEP/PR (2015)

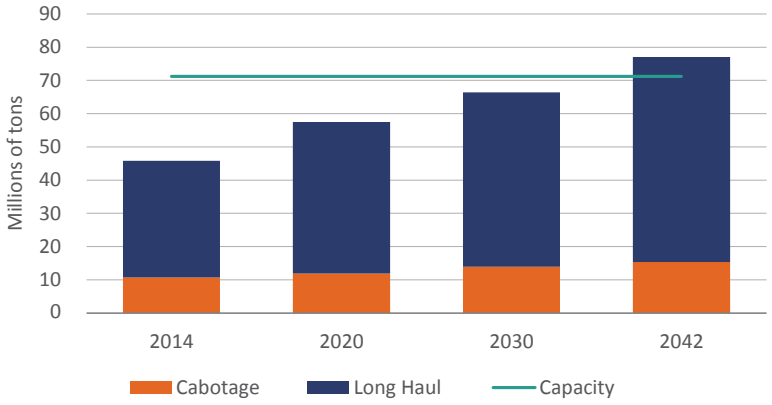
3.2.4. General cargo

The projection of general cargo for the Brazilian ports in the period 2015-2042 foresees a growth of 59%, reaching the level of 64 million tons. Cabotage navigation of this nature of cargo grew 40% in the projected period; while long haul navigation, 66%.

Highlighted in this group are the iron derivative products, commonly used in the steel industry. Another product is cellulose, which has a significant cabotage flow between the clusters of Bahia and Espírito Santo.

Graph 10 shows the relationship between the demand projection of general cargo and the port capacity.

The projected demands should surpass the installed capacity close to the year 2036, should no investments be made.



Graph 10 - Demand projection x capacity (general cargo)
Source: SEP/PR (2015)

In the analysis per cluster, we can observe the need of an increase in compatibility between the installed capacity and the projected demand for 2042 at all the clusters, excepting: Amazonas-Santarém, Pernambuco, Rio de Janeiro and Rio Grande do Sul, as shown in **Figure 25**.

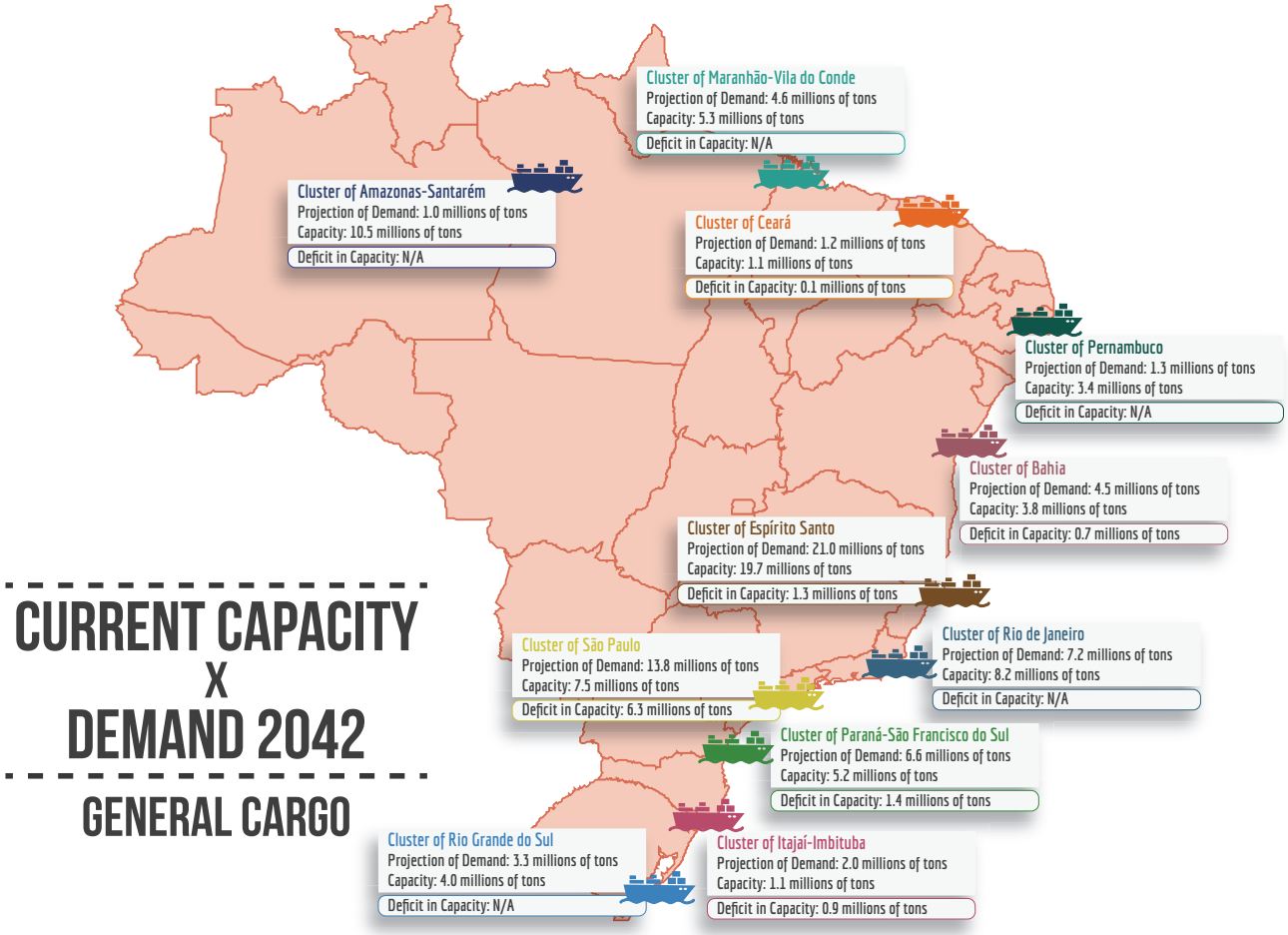


Figure 25 - Current capacity and projected demand for 2042 by port cluster: general cargo
Source: SEP/PR (2015)

4. Challenges for the National Port Sector

The continuous monitoring of the execution of actions and of the planned investments, via system of indicators and performed technical studies, as per the example of the cabotage studies, enables the SEP/PR to identify both the challenges that still need to be overcome as well as the future ones, which appear with the technological and competitive development of the port sector.

The maritime modal is the most important when one analyzes the moved volumes of Brazil with foreign countries. Between 2010 and 2014, this means of transport represented, on average, 95% of all the exported and imported volume. Among the main moved products, the exporting of mineral and agricultural commodities stands out (iron ore, oil and soy), in which the maritime modal corresponded to 83%, on average, between 2010-2014; and the importing of products from the chemical industry (including fertilizers), machines and equipment, with an average representation of 75% in this same modal.

Within this context, the level of attending to the vessels and other port users depends, directly, upon the availability offer of infrastructures; and one of the challenges of the sector is to continue expanding the capacity and operational and port management efficiency, by means of the maintenance and acceleration of the Government Programs: (i) Program of Port Leases; (ii) Rebalancing and Extension of Contracts; (iii) Authorizations of Private Ports and Expansions of the Existing Installations; (iv) National Dredging Plans (Planos Nacionais de Dragagem - PND) and (v) port infrastructure works.

One of the challenges of the sector is to continue expanding the port capacity, by means of the maintenance and acceleration of the Government programs.

Based on the analysis of the demand perspectives of the national ports, the demand projections for the Brazilian port clusters exceed 1.8 billion tons in 2042; whilst the capacities total 1.4 billion tons. These volumes demonstrate the need of continuous investments in the sector to enable the attending of the cargoes with an adequate service level. In this sense, SEP/PR already plans an investment of R$ 51.28 billion in the next years, being R$ 47 billion derived from the private sector. These investments in leases, new private installations, contractual renewals and rebalances and dredging are presented in **Figure 26** and the system capacities after these investments are presented in **Figure 27**.

As a challenge, a more balanced cargo transportation matrix must be sought.

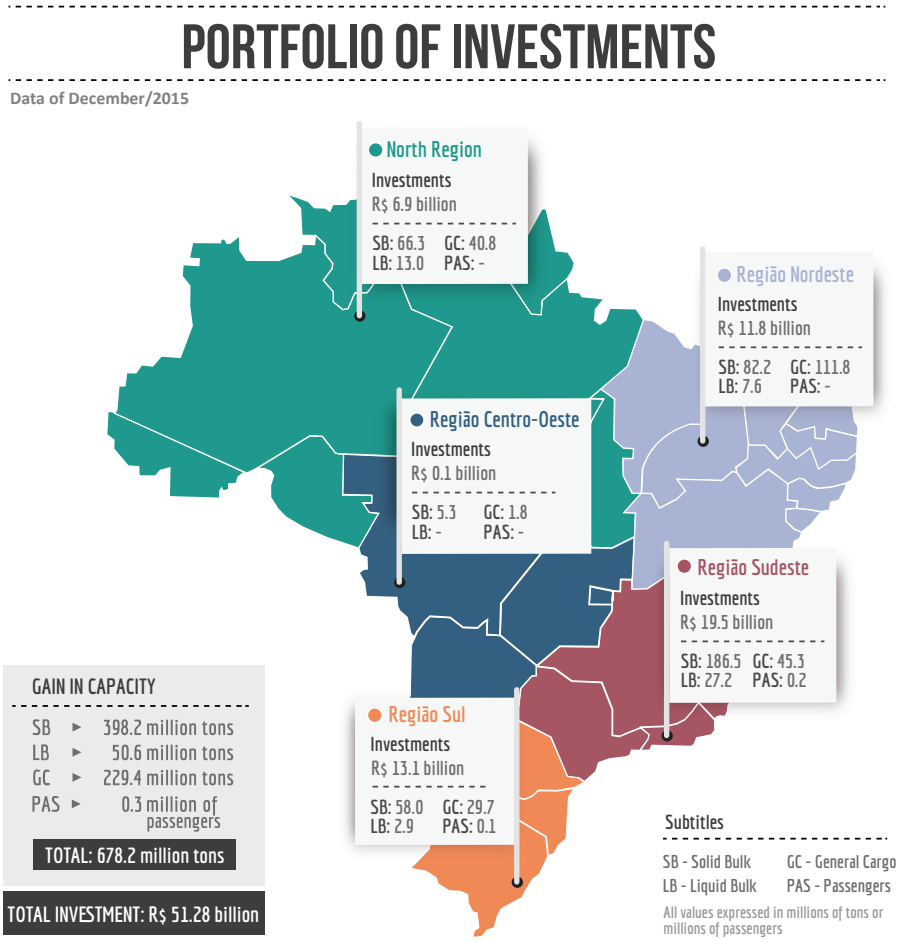


Figure 26 - Portfolio of Investments
Source: Logistics Investment Program (Programa de Investimento em Logística - PIL) 2015-2018 (2015) and SEP/PR (2013-2015). Elaboration: SEP/PR (2015)

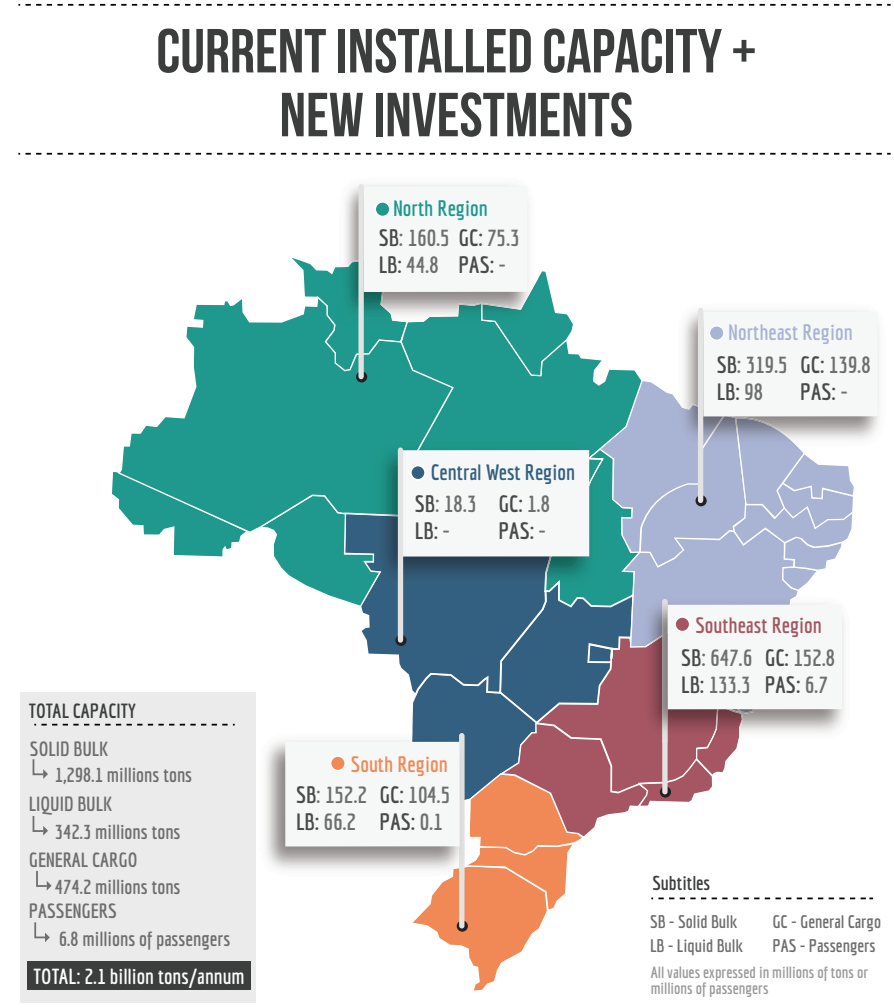


Figure 27 - Future capacity of the port system
Source: Logistics Investment Program (Programa de Investimento em Logística - PIL) 2015-2018 (2015) and SEP/PR (2013-2015). Elaboration: SEP/PR (2015)

As regards to the modals, the analysis of the allocation of cargoes at the Brazilian port clusters enables an outlook upon changes in the cargo flow matrix. Currently, with the exception of iron ore, one can perceive a massive use of the roadway transport in the movement of cargoes. As a challenge, a more balanced cargo transport matrix must be sought, making use of the potentialities of the railway and waterway modals in the transport of cargoes over long distances. As well as a smaller logistical cost, the use of railway and waterway modals may aid in reducing the impacts in the "Port x City" relationship.

The Master Plans developed in the last years for various national ports point that, for the improvement of the port infrastructure, it is fundamental to improve the terrestrial and waterway accesses, increase the average productivity of the movement of cargoes, build larger berths, implement specialized terminals, elevate the capacity of the warehouse installations and implement efficient control and information systems. The conducting of the investments to the port infrastructure will result in the increase of the installed capacity at the ports and in the elevation of the quality in the levels of the rendered port services, resulting in cost reduction for the shipowners and merchandise owners.

Another important identified point is the increase in the size of vessels, an international reality, as a consequence of the search for gains of scale and reduction of costs. Currently, the most frequent container vessels at the national public ports belong to the classes Panamax and Panamax Max, whose lengths vary between 250 and 290 meters, with a draught of 12.5 meters and capacity up to 4,500 TEUs. With the inauguration of the new Panama Canal, in the year 2016, the vessels class New Panamax, with a length of 366 meters, draught of 15.2 meters and capacity up to 12.500 TEUs should consolidate themselves as the new standard of the vessels that will frequent the container terminals, according to data from the Brazilian Association of Public Use Container Terminals (Associação Brasileira dos Terminais de Contêineres de Uso Público - Abratec). **Figure 28** illustrates the evolution of the maritime fleet.

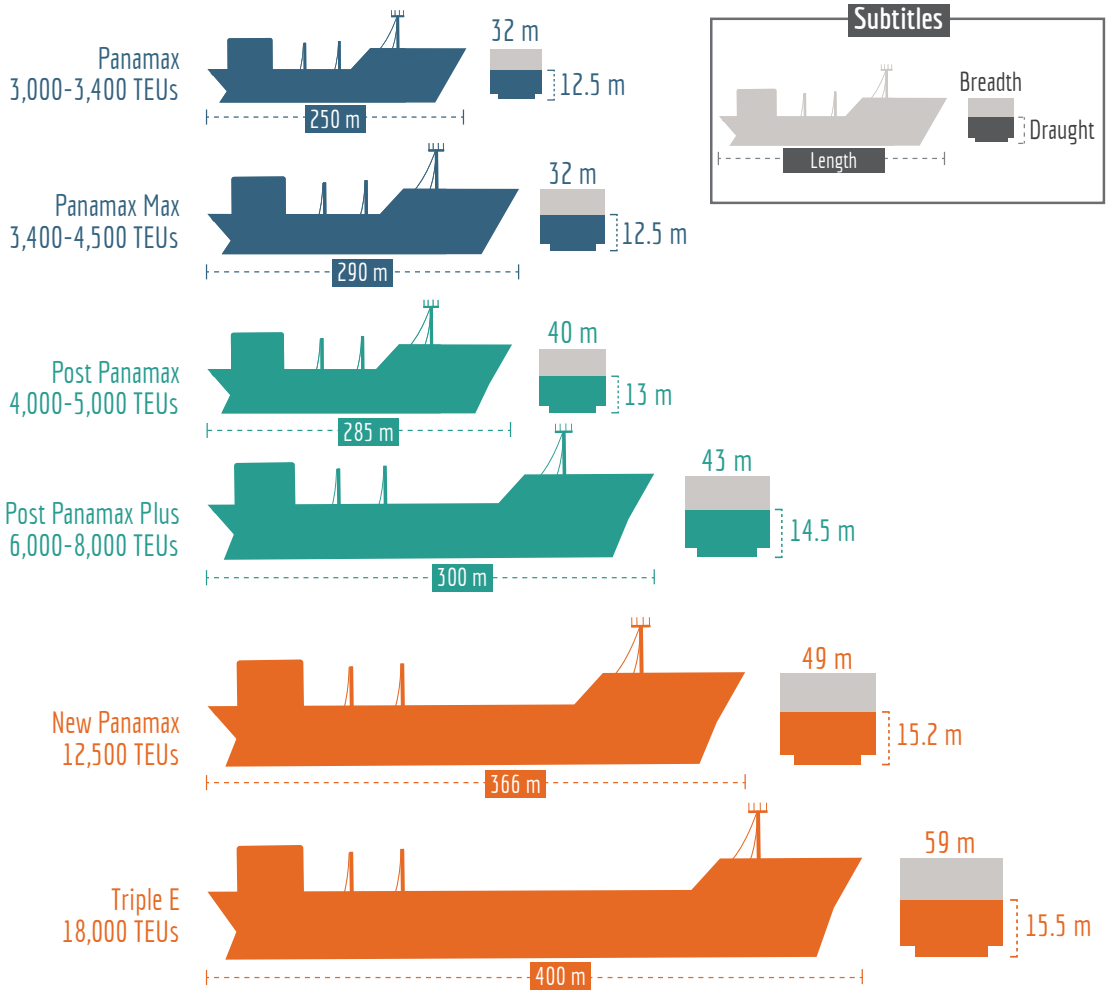


Figure 28 - Evolution of the maritime fleet – container
Souce: The Geography of Transport Systems (2014). Elaboration: SEP/PR (2015)

The Brazilian port sector is paying attention to this new reality, seeing as various container terminals are requiring authorizations to perform adequacies in their installations, such as the expansion of berths and adequacy of backyard patios, with the purpose of enabling the feasibility of operations with large vessels.

Continuity of the implementation of the VTMIS and expansion of the Port Without Paper are challenges of the next cycle.

In relation to port operations, a continuous promotion of the security of vessels and coastal areas is necessary, with the consequent reduction of risks of environmental accidents and the increase in port efficiency. For this reason, investment in the management of the maritime access must continue to be a priority. An example is the continuation in the implementing of the Vessel Traffic Management Information System (VTMIS) at the main Brazilian ports. Another point, not less important, is the improvement in the integration between the various port authorities by means of intelligent systems, such as Port Without Paper, which should have its use expanded, contributing to the efficiency of the operations.

In the logistical question, there are segments of access roadways to the Brazilian ports with a high volume of traffic. Furthermore, in some port areas there are conflicts between the port and the city, mainly due to three factors: lack of alternatives for the circulation of the trucks (without interfering in the urban traffic), few parking areas and lack of support services for the drivers. In the last four years, the increase in the fleet of passenger vehicles has worsened the traffic conditions, both at urban roads and highways. This reinforces the need for investments in areas of logistical support and of the intelligence systems for the management of the terrestrial access to the Brazilian ports, such as PORTOLOG, already at implementation phase.

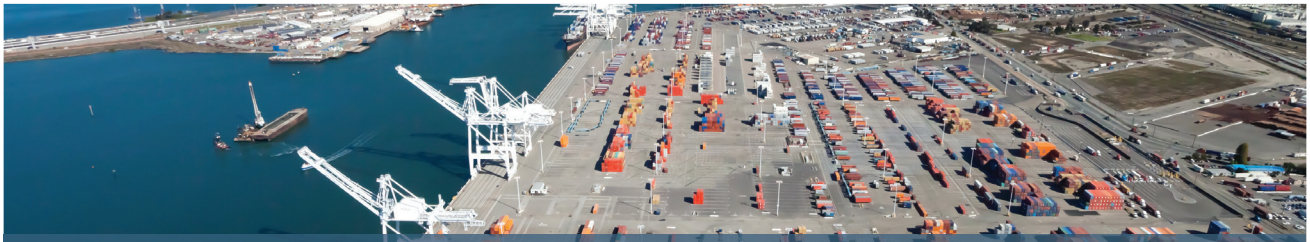
Another challenge to be beaten concerns the internationalization of the environmental variable in the planning of the expansion of the port infrastructure.

Still in relation to the port accesses, although it is characterized as an important alternative modal to the roadway and railway transports, cabotage is still little used. Various limitations restrict it, its movement being concentrated in products of large volumes and low aggregated value, such as solid bulk and, in particular, liquid bulk. It is necessary to stimulate and execute even more actions to foment this form of transport, such as the study for the Development of the Cabotage Sector in Brazil (Desenvolvimento de Setor da Cabotagem no Brasil), including the simplifying of the customs procedures, the development of specific regulations for cabotage, the implementing of cabotage planning tools and the development in infrastructure, the incentive measures to the transport, the promotion of Cabotage, improvements in the competitiveness with other modals, the development and integration of technologies and the environment.

Another challenge to be overcome concerns the internalization of the environmental variable in the planning of the expansion of the port infrastructure, whose main instrument is the PDZ. The Port Development and Zoning Plan (Plano de Zoneamento e Desenvolvimento – PDZ) may anticipate feasible solutions, from the environmental point of view, by means of insertion, in the PDZ, of an environmental diagnosis of the area of port influence and the analysis of potential environmental impacts and equilibrium opportunities between development and environmental protection. Since the publication of Decree SEP/PR No. 03/2014, the PDZs have been undergoing a period of revisions and updating, including the need of a more in depth environmental analysis of the port environment and the port development and zoning alternatives. Other questions which have been gaining importance, during the updating process of the PDZs and their approval by the SEP/PR, are the needs of land regularization and revision of the organized ports traverses, in order to reflect the structure explored or maintained by the Federal Government and ensure the areas of operational and expansion interest.

The challenges will be more easily resolved as soon as improvements occur in the governance of the sector, in the management of the Port Authorities and in the capacitation of the workforce. The modernizing of the management of the port administrations should continue to be the focus of efforts and investments, mainly in relation to the implementing and accompanying of the new system of achieving entrepreneurial performance. The capacitation of the formulators of public policies, regulators, administrative workers and port operators must also be present in the next cycle of investments of the PNLP.

Finally, we must highlight that SEP/PR will continue to search for alternatives to provide, to the private sector, faster answers to its demands, in consonance with the strategic objectives and actions of this Secretariat.



5. Pillars and strategic objectives: Cycle 2015-2018

Before the challenges for the development of the Brazilian Port Sector, it is necessary to identify the pillars and strategic objectives and the actions for the cycle 2015-2018. In **Figure 29**, the four strategic pillars for the new development cycle are presented.

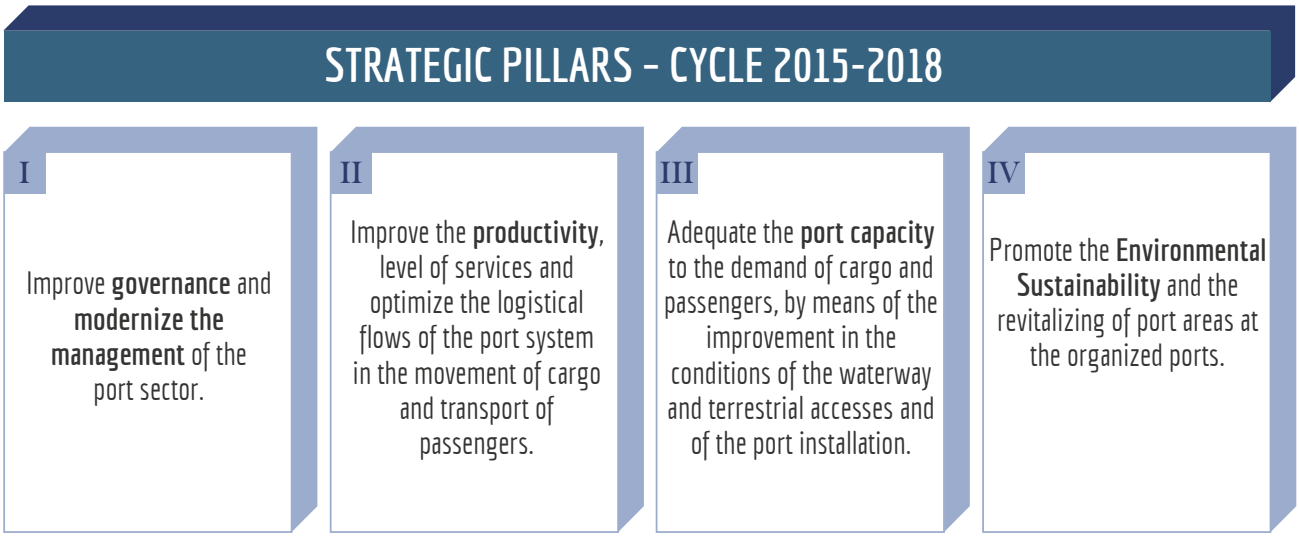


Figure 29 - PNLP Strategic Pillars: Cycle 2015-2018
Source: SEP/PR (2015)

In **Figure 30**, the summary of the PNLP strategic objectives is presented, which is unfolded into actions to be performed, with the purpose of reaching the defined pillars. The objectives were grouped into five areas: management and economy, capacity, operations, logistics and environment.

GENERAL VIEW OF THE OBJECTIVES 2015-2018

Figure 30 - PNLP Strategic Objectives
Source: SEP/PR (2015)

During this new planning cycle (2015-2018), in an analogical form to the previous cycle, the monitoring of the strategic objectives and of the actions will be made. This monitoring stage corresponds to the continued, regular and systematic monitoring of information to document and evaluate the obtained performance and progress in the execution of the actions and planned projects.

Its task is to inform if the general performance of the indicators is satisfactory, in comparison with the standards or with the targets initially established, or if there are problems that need to be solved.

In this period, four monitorings will be made, referent to the years 2015, 2016, 2017 and 2018. The analysis will be made based on the indicators and targets presented below.

5.1. Indicators, targets and portfolio of actions

Based on the strategic objectives, indicators, targets and portfolio of actions were defined for the planning horizon of the PNLP. The indicators, targets and actions were also divided into five areas: management and economy, capacity, operations, logistics, and environment.

MANAGEMENT AND ECONOMY

OBJECTIVES	INDICATORS	RESULT 2014	TARGETS 2015	2016	2017	2018	2025	2035
MODERNIZE THE MANAGEMENT OF THE PORT ADMINISTRATIONS	TARGET FUFILLING INDEXES OF ENTREPRENEURIAL PERFORMANCE AT THE 10 PORTS WITH GREATEST MOVEMENT OF CARGO	22%	33%	67%	89%	100%	100%	100%
	PORT ADMINISTRATION WITH CAPACITATION PRACTICES	32%	41%	50%	64%	86%	100%	100%
	PORT ADMINISTRATIONS ADHERENT TO THE NEW MANAGEMENT MODEL	18%	36%	64%	82%	91%	100%	100%
PURSUE THE FINANCIAL SELF-SUSTAINABILITY OF THE PORT ADMINISTRATIONS	PORT ADMINISTRATIONS WITH POSITIVE NET MARGIN	41%	59%	59%	77%	86%	100%	100%
	PORT ADMINISTRATIONS WITH POSITIVE LIQUID MARGIN	36%	36%	55%	64%	82%	86%	100%
	EXECUTION OF INVESTMENT BUDGET OF THE COMPANHIAS DOCAS	36%	40%	47%	53%	60%	79%	90%
	AVERAGE TIME FOR THE EVALUATION OF CHARGES	9.3 YEARS	10.3 YEARS	2 YEARS	1 YEAR	1 YEAR	1 YEAR	1 YEAR
IMPROVE THE GOVERNANCE OF THE SECTOR	PORTS WITH PDZ ADHERENT TO THE MASTER PLAN	29%	44%	80%	100%	100%	100%	100%
	NUMBER OF PERFORMED LEASES *	-	8	29	13			
	NUMBER OF APPROVED NEW PRIVATE PORT INSTALLATIONS *	-	6	38	19			
	NUMBER OF APPROVED ANTICIPATED CONTRACT RENEWALS AND REBALANCES *	-	6	9	9			
	EXECUTION OF THE INVESTMENT BUDGET OF THE PORTS SECRETARIAT **							

** The targets for 2018 and on will be defined during the next planning cycle.*
*** The targets for the indicator will be defined based on the indicator's result for 2015.*

Figure 31 - Management and economy objectives, indicators and targets
Source: SEP/PR (2015)

Chart 1 - Proposed actions for Management and Economy

Management and Economy

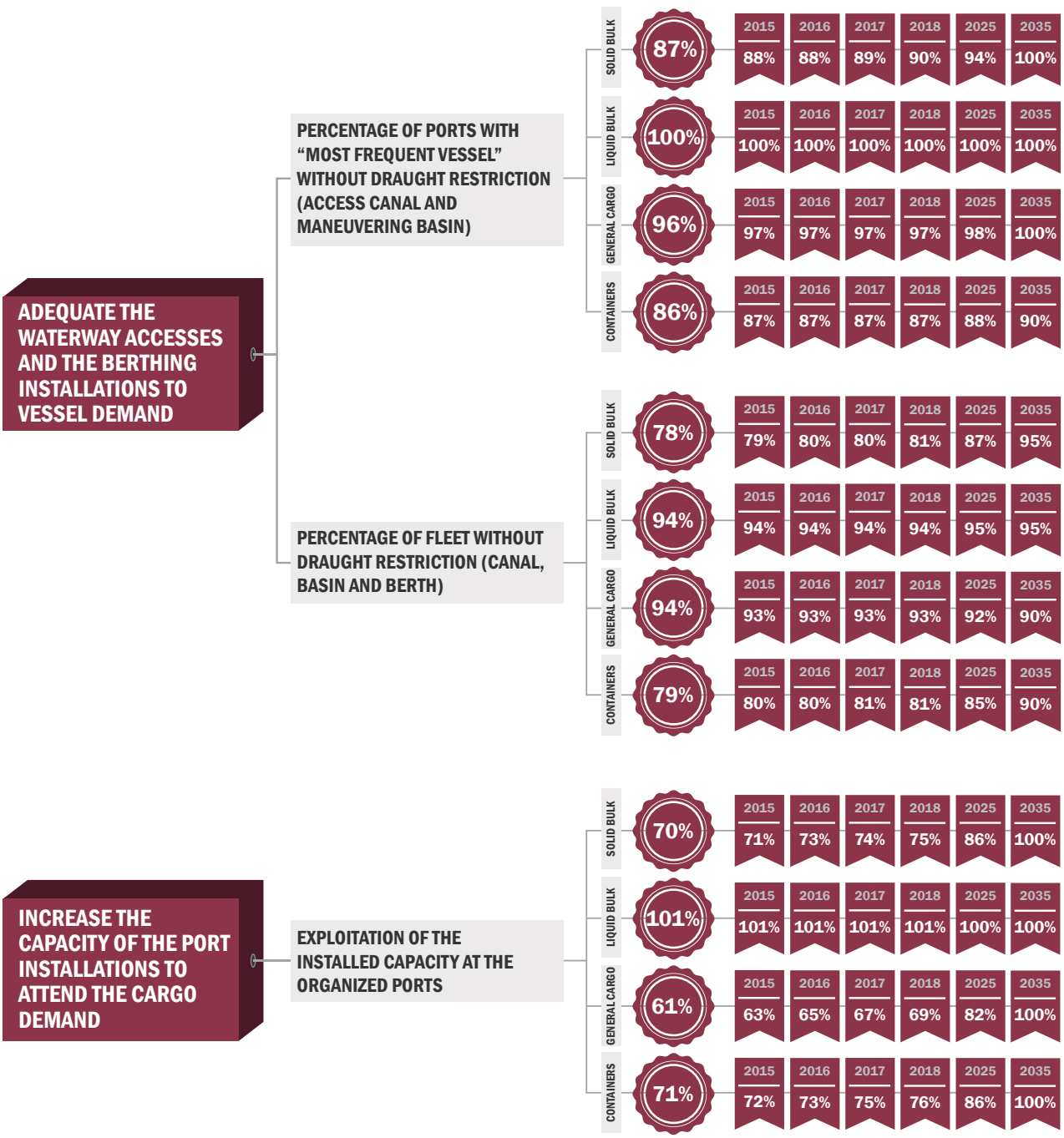
Action	Description	Term
Implement investment prioritization methodology at the public ports	» Make a survey of the methodologies used in other modals. » List selection criteria and its ponderation. » Test and apply methodology.	2 years
Consolidate planning process of the public ports	» Elaborate the Port Development and Zoning Plans (Plyears de Desenvolvimento e Zoneamento Portuário - PDZs), according to directives of Decree SEP/PR No. 03/2014. » Approve the PDZs presented by the organized ports.	4 years
Elaborate and monitor the General National Leasing Plan - PGO (Plano Geral de Outorgas - PGO)	» Elaborate and Monitor the General National Leasing Plan – PGO (Plano Geral de Outorgas – PGO).	4 years
Adequate port tariffs	» Revise the port tariffs annually to ensure adequate operational margins. » Adequate the list of tariffs to the services offered by the port administrations.	5 years
Stimulate culture focused on results of the port administrations	» Approve the Annual Variable Remuneration of the managers of the Cias. Docas, aligned with the targets of the PNLP. » Extend the management target program to the other managers of the Cias. Docas. » Renegotiate delegation agreements establishing performance and management targets for the ports.	5 years
Modernize port management of the port administrations	» Implement the Port Management Modernizing Program (Programa de Modernização da Gestão Portuária - PMGP) at the seven Companhias Docas. » Promote alignment of the Director Information Technology Director Plan - PDTI (Plano Diretor de Tecnologia da Informação - PDTI) of the APs with the planning instruments of the port sector.	5 years
Modernize accountancy structure of the port administrations	» Promote the implementing of the standardized accountancy at the port administrations. » Promote the implementing of new processes to increase efficiency in the Elaboration of the Investments Budget and in Purchases and Contracts, of Licensing and of Works Supervision, foreseen in the PMGP of the Cias. Docas.	5 years
Improve management of the port system	» Publish regulation of article 64 of Law No. 12.815 and respective Interministerial Decree, which foresees commitment to targets and entrepreneurial performance at the Cias. Docas.	5 years
Stimulate competition	» Stimulate investments in port infrastructure and superstructure.	5 years
Improve terminal leasing processes and authorization of installations (TUPs, ETCs and IPTs).	» Map leasing processes and authorization of installations (TUPs, ETCs and IPTs) (SEP/PR and ANTAQ). » Perform improvement actions and gains in efficency in both processes.	5 years
Implement risk management policies and processes at the SEP/PR	» Map processes relative to the identification and evaluation of risks. » Elaborate and adopt appropriate methodology for the quantification of risks. » Adopt accompanying system of effectiveness of the applied monitoring measures and treatment, with the purpose of eliminating or mitigating the risks that might threaten all or part of the achieving of the desired results, as well as exploring and expanding those that generate opportunities.	5 years

Management and Economy

Action	Description	Term
Optimize use of port areas	» Reevaluate PDZs in order to maximize the exploitation of port areas, transforming non used installations into operational installations or available for leasing. » Lease areas available to this purpose. » Stimulate the establishing of temporary use contracts and other forms of occupation of operational areas.	5 years
Capacitate, maintain and update administrative personnel of the Companhias Docas	» Implement new Position and Salary Plans and of Commissioned Functions and Positions. » Perform public contests for the selection and contracting of new collaborators. » Stimulate elaboration and execution of the Capacitation Plans of Companhias Docas and Delegated Ports, according to the planning instruments of the port sector.	10 years
Promote voluntary retirement plan at the Companhias Docas	» Execute incentive programs to voluntary dismissal of collaborators of the Companhias Docas in condition of retiring.	10 years
Make port administrations self-sustainable	» Implement costing systematics of the port administrations and stimulate reduction of costs by means of improvements of processes and gains in efficiency. » Implement new processes to expand the efficiency in the Elaboration of Investment Budgets, supplies, licensing and supervision of works, foreseen in the Port Management Modernizing Program (Programa de Modernização da Gestão Portuária - PMGP).	10 years
Improve the efficiency of the OGMO and of the periodic port worker	» Create stimulation mechanisms for the qualification of sporadic port operators and of the renewal of the workforce. » Work together with the Permanent Forum for the Qualification of the Port Worker (Decree No. 8.033/2013), in order to elaborate the capacitation policy of the sector.	10 years
Promote the updating of the real estate registers of the ports	» Perform register certifications of the real estate assets of the organized ports.	20 years
Update the traverses of the organized ports	» Adequate traverses according to what is foreseen in the regulatory framework – Art. 15 of Law No. 12.815/2013.	Continuous
Monitor financial-economic performance of the port administrations	» Continuously monitor the financial-economic results of the port administrations, in order to implement corrective actions.	Continuous

Source: SEP/PR (2015)

CAPACITY


OBJECTIVES
INDICATORS
RESULT 2014
TARGETS
ADEQUATE THE WATERWAY ACCESSES AND THE BERTHING INSTALLATIONS TO VESSEL DEMAND
PERCENTAGE OF PORTS WITH "MOST FREQUENT VESSEL" WITHOUT DRAUGHT RESTRICTION (ACCESS CANAL AND MANEUVERING BASIN)
SOLID BULK 87% 2015 88% 2016 88% 2017 89% 2018 90% 2025 94% 2035 100%
LIQUID BULK 100% 2015 100% 2016 100% 2017 100% 2018 100% 2025 100% 2035 100%
GENERAL CARGO 96% 2015 97% 2016 97% 2017 97% 2018 97% 2025 98% 2035 100%
CONTAINERS 86% 2015 87% 2016 87% 2017 87% 2018 87% 2025 88% 2035 90%
PERCENTAGE OF FLEET WITHOUT DRAUGHT RESTRICTION (CANAL, BASIN AND BERTH)
SOLID BULK 78% 2015 79% 2016 80% 2017 80% 2018 81% 2025 87% 2035 95%
LIQUID BULK 94% 2015 94% 2016 94% 2017 94% 2018 94% 2025 95% 2035 95%
GENERAL CARGO 94% 2015 93% 2016 93% 2017 93% 2018 93% 2025 92% 2035 90%
CONTAINERS 79% 2015 80% 2016 80% 2017 81% 2018 81% 2025 85% 2035 90%
INCREASE THE CAPACITY OF THE PORT INSTALLATIONS TO ATTEND THE CARGO DEMAND
EXPLOITATION OF THE INSTALLED CAPACITY AT THE ORGANIZED PORTS
SOLID BULK 70% 2015 71% 2016 73% 2017 74% 2018 75% 2025 86% 2035 100%
LIQUID BULK 101% 2015 101% 2016 101% 2017 101% 2018 101% 2025 100% 2035 100%
GENERAL CARGO 61% 2015 63% 2016 65% 2017 67% 2018 69% 2025 82% 2035 100%
CONTAINERS 71% 2015 72% 2016 73% 2017 75% 2018 76% 2025 86% 2035 100%

CAPACITY

2/2

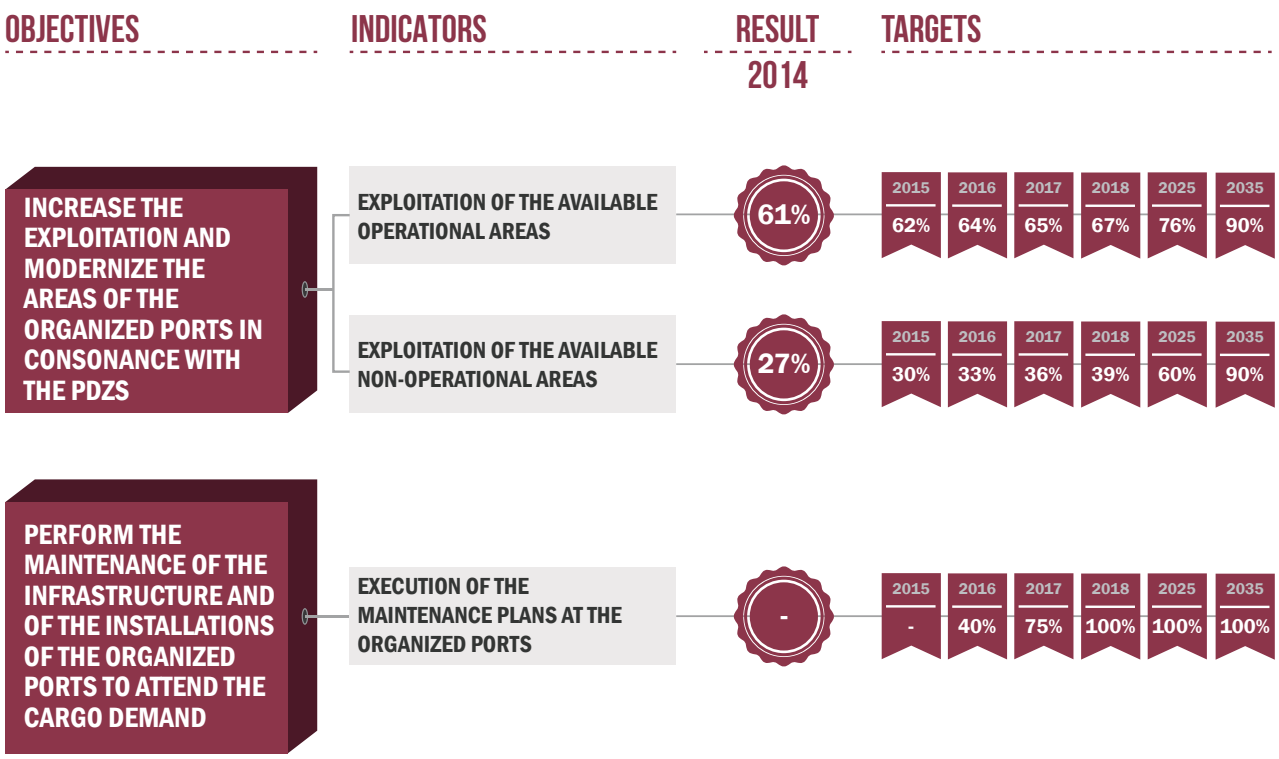


Figure 32 - Capacity objectives, indicators and targets
Source: SEP/PR (2015)

Chart 2 - Proposed actions for Capacity

CAPACITY

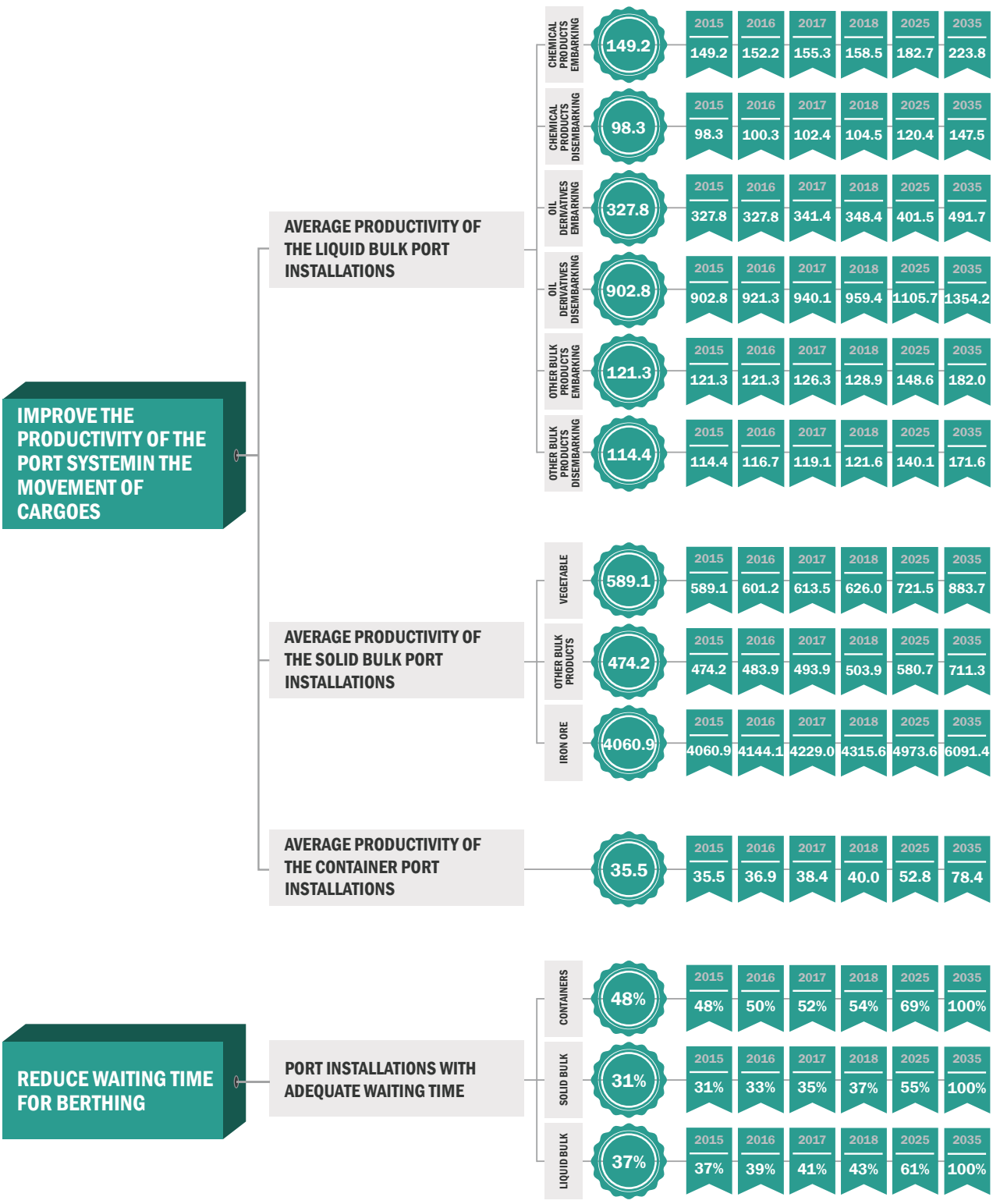
Action	Description	Term
Elaborate projects portfolio of public investments based on planning instruments	» Perform a survey of works and projects inserted in the existing planning instruments. » Perform a survey of the need of new works and investment projects. » Estimate gain in capacity in each enterprise. » Redefine investments portfolio.	2 years
Implement the system of referential cost of port works (SICROPORT)	» Develop and implement system of referential cost for port works, including costs with environmental studies and projects (SICROPORT).	3 years
Map and study potential interferences in the waterway accesses	» Improve mapping with the ports of the potential interferences of the waterway access (silting, nautical signaling and marking, geometric project and meteorological and oceanographic conditions). » Elaborate modernizing studies and projects of the nautical signaling and markings of the vessel access and traffic areas at the Brazilian ports.	5 years
Reduce average time homologation of the dredging works	» Map and standardize the procedures involved in the homologation of the dredging works. » Regulate proceedings of bathymetric survey in the homologation processes of dredging works. » Perform alignment of the stages involved in the dredging works with various agents (Port Authority, Brazilian Navy, piloting and shipowners), from the elaboration of the preliminary draft until the end of the dredging works.	5 years

CAPACITY

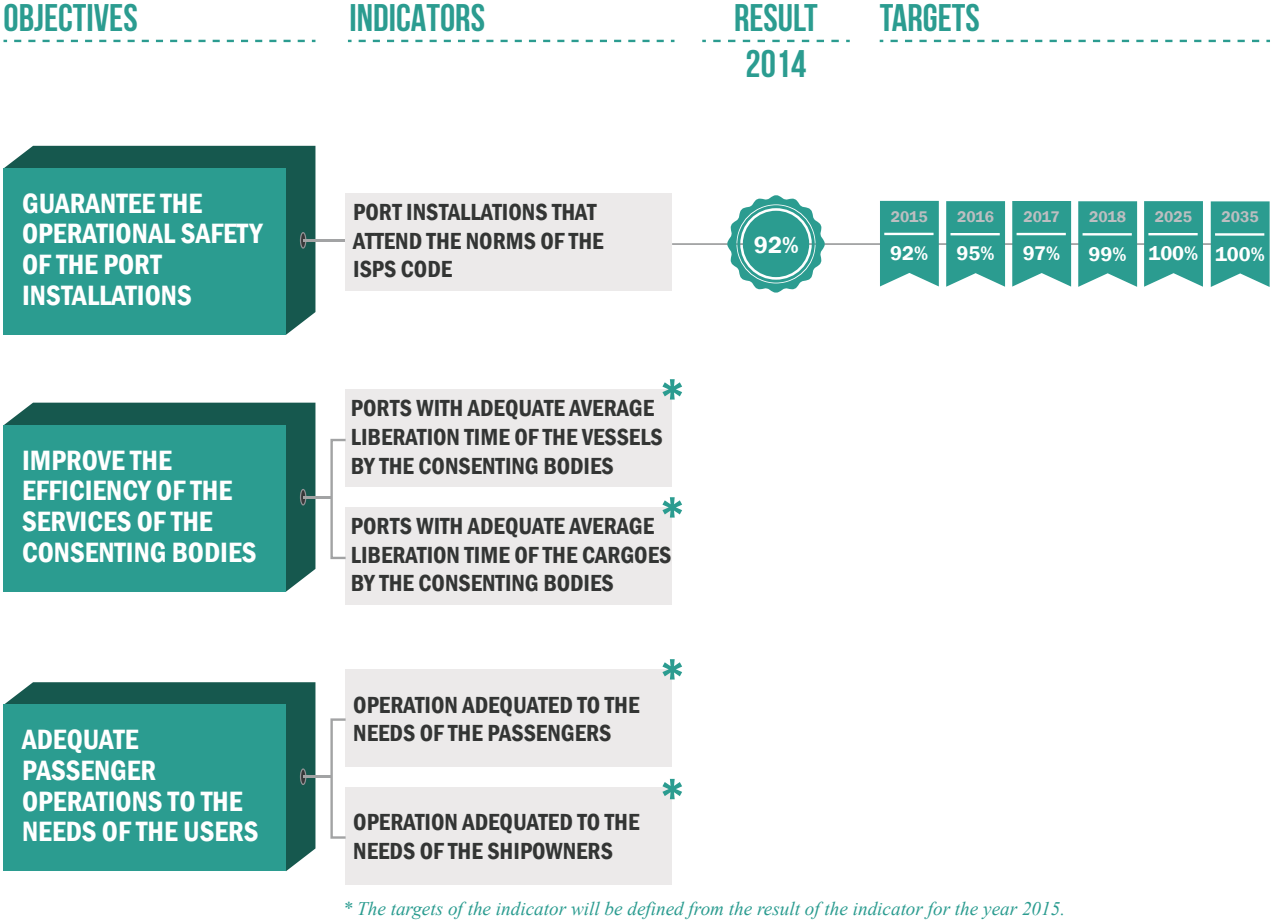
Action	Description	Term
Improve the National Dredging Plan	» Elaborate feasibility studies of the dredging works at the ports, considering the interventions foreseen in the Master Plans. » Evaluate new modelling for works and dredging services. » Simulate vessel maneuvers in the berthing areas at the public ports. » Study the need and, whenever feasible, implement two-way traffic at the waterway access canals, with appropriate signaling and nocturnal navigation.	5 years
Improve supervision of dredging works	» Continually capacitate all involved areas in the accompanying and supervision of dredging works and services. » Improve procedures destined to the management and supervision of the contractual instruments for the performing of dredging works and services.	5 years
Elaborate and execute maintenance plan of the infrastructures and installations of the organized ports	» Elaborate and execute maintenance plans at the organized ports.	5 years
Expand existing ports or develop new areas aimed at attending passengers and the increase of cargoes	» Identify port installations with deficit in capacity and promote investments in expansions listed in the PDZ, considering the suggestions of the Master Plans. » Promote the leasing of available areas. » Stimulate investment in new TUPs, prioritizing terminals specialized in movement of cargoes for which there is not sufficient capacity.	10 years
Implement investment programs in infrastructures at the Brazilian ports	» Implement infrastructure and superstructure works defined in the Master Plans, with the objective of recovering existing structures (e.g. recovery of berths), adequate the interior of the ports (e.g. internal circulation routes) and perform structural improvements (e.g. construction of new berths and gates).	20 years
Recover and maintain waterway infrastructure	» Recover, maintain and/or build shelter and contention works according to the Master Plans. » Execute, according to the PDZ, maintenance plans to maintain the waterway infrastructure of the organized ports.	Continuous

Source: SEP/PR (2015)

OPERATIONS


OBJECTIVES
INDICATORS
RESULT 2014
TARGETS
IMPROVE THE PRODUCTIVITY OF THE PORT SYSTEMIN THE MOVEMENT OF CARGOES
AVERAGE PRODUCTIVITY OF THE LIQUID BULK PORT INSTALLATIONS
CHEMICAL PRODUCTS EMBARKING
149.2
2015 149.2
2016 152.2
2017 155.3
2018 158.5
2025 182.7
2035 223.8
CHEMICAL PRODUCTS DISEMBARKING
98.3
2015 98.3
2016 100.3
2017 102.4
2018 104.5
2025 120.4
2035 147.5
OIL DERIVATIVES EMBARKING
327.8
2015 327.8
2016 327.8
2017 341.4
2018 348.4
2025 401.5
2035 491.7
OIL DERIVATIVES DISEMBARKING
902.8
2015 902.8
2016 921.3
2017 940.1
2018 959.4
2025 1105.7
2035 1354.2
OTHER BULK PRODUCTS EMBARKING
121.3
2015 121.3
2016 121.3
2017 126.3
2018 128.9
2025 148.6
2035 182.0
OTHER BULK PRODUCTS DISEMBARKING
114.4
2015 114.4
2016 116.7
2017 119.1
2018 121.6
2025 140.1
2035 171.6
AVERAGE PRODUCTIVITY OF THE SOLID BULK PORT INSTALLATIONS
VEGETABLE
589.1
2015 589.1
2016 601.2
2017 613.5
2018 626.0
2025 721.5
2035 883.7
OTHER BULK PRODUCTS
474.2
2015 474.2
2016 483.9
2017 493.9
2018 503.9
2025 580.7
2035 711.3
IRON ORE
4060.9
2015 4060.9
2016 4144.1
2017 4229.0
2018 4315.6
2025 4973.6
2035 6091.4
AVERAGE PRODUCTIVITY OF THE CONTAINER PORT INSTALLATIONS
35.5
2015 35.5
2016 36.9
2017 38.4
2018 40.0
2025 52.8
2035 78.4
REDUCE WAITING TIME FOR BERTHING
PORT INSTALLATIONS WITH ADEQUATE WAITING TIME
CONTAINERS
48%
2015 48%
2016 50%
2017 52%
2018 54%
2025 69%
2035 100%
SOLID BULK
31%
2015 31%
2016 33%
2017 35%
2018 37%
2025 55%
2035 100%
LIQUID BULK
37%
2015 37%
2016 39%
2017 41%
2018 43%
2025 61%
2035 100%

OPERATIONS



** The targets of the indicator will be defined from the result of the indicator for the year 2015.*

Figure 33 - Operations objectives, indicators and targets
Source: SEP/PR (2015)

Chart 3 - Proposed actions for Operations

OPERATIONS

Action	Description	Term
Modernize consenting body processes	» Based on the diagnosis of the Port Management Modernizing Program (Programa de Modernização da Gestão Portuária - PMGP) and the Foreign Trade Unique Portal - PCE (Portal Único de Comércio Exterior - PCE), redesigning the processes of the consenting bodies and initiate the implementation of the new processes. » Act upon CONAPORTOS, in cooperation with the consenting bodies, in order to simplify the procedures for the liberation of cargoes. » Act upon CONAPORTOS, in cooperation with the consenting bodies, with the objective of revising its processes to optimize the liberation of vessels at the PSP. » Act upon CONAPORTOS to implement and monitor performance indicators, in cooperation with the consenting bodies.	5 years
Harmonize Port Without Paper (Porto Sem Papel - PSP) with the Unique Foreign Trade Portal	» Adapt processes of Port Without Paper to the new exporting processes proposed by the Unique Foreign Trade Portal.	5 years

Operations

Action	Description	Term
Stimulate pursuit of efficiency by the navigation agents	» Divulge the quality of the information rendered by the maritime agents in the process of consenting bodies, from statistics extracted from Port Without Paper.	5 years
Automatize operational procedures	» Research the business rules configurable in system, in order to automatize the analysis routines of the processes of the consenting bodies.	5 years
Simplify domestic navigation processes	» Revise regulations that regulate the cabotage navigations, interior and offshore support, with the purpose of simplifying bureaucratic processes, bringing them closer to the typical requirements of the terrestrial modals. » Act upon the Government organs in order to implement incentive actions to the use of cabotage navigation. » Act upon CONAPORTOS, in cooperation with the consenting bodies, with the purpose of simplifying the procedures for the liberation of cabotage vessels and cargoes.	5 years
Simplify long haul navigation processes	» In partnership with the project of redesigning of exportation processes of the Unique Foreign Trade Portal, identify the eventual existence of obsolete norms in relation to current practices, in order to revoke them.	5 years
Promote the economic regulating of the piloting and tug service zones	» Promote improvement and expansion of the piloting services, by means of the implementation of price and coverage regulation methodologies of the Piloting Zones, in accordance with Decree No. 7.860/12. » Work with the Government bodies to improve the level of the services offered by the piloting.	5 years
Consolidate the use of Port Without Paper for the liberation of vessels and cargoes	» Define financing model for implementation and support to the PSP system. » Expand the scope of use of the PSP at the TUPs, including implementation of the system in bonded TUPs. » Expand capacitation of the users. » Promote discontinuity of redundant procedures in physical environment or in other systems. » Extend to new consenting bodies the systemized process of vessel liberation of the Port Without Paper system. » Regulate the use of the Port Without Paper system. » Promote legislation adjustment in order to improve processes and procedures and plainly adopt the Port Without Paper program.	5 years
Promote the evolution of Porto 24 Horas (Port 24 hours)	» Propose adjustments in the time schedules of the consenting bodies to guarantee the plain operation of Porto 24 Horas, based on statistics of Port Without Paper and of the RFB and suggestions of the local CONAPORTOS.	5 years
Work with the ports in order to reduce non-operational time before the beginning and after the end of cargo movement operations of the already berthed vessels	» Implement new processes for gains in efficiency in the Maritime Operation, foreseen in the Port Management Modernizing Program (Programa de Modernização da Gestão Portuária - PMGP).	5 years
Guarantee operational conditions of the waterway accesses	» Plan and maintain productivity and safety conditions of the navigation of the waterway accesses according to the Master Plans and the PND II.	10 years

Operations

Action	Description	Term
Implement the Vessel Traffic Management Information System at the Brazilian ports	» Implement the Vessel Traffic Management Information System (VTMIS) at the main Brazilian public ports, and simplified management systems of the traffic of vessels (LPS) at the smaller capacity public ports, with the objective of organizing, optimizing and monitoring the infrastructure of maritime access.	20 years
Implement the ISPS Code at the port installations and at the port administration of the maritime public ports	» Work together with the National Commission of Public Safety at Port Terminals and Navigable Waterways - Conaportos (Comissão Nacional de Segurança Pública de Portos, Terminais e Vias Navegáveis - Conaportos) and State Commission of Public Safety at Port Terminals and Navigable Waterways - Cesportos (Comissão Estadual de Segurança Pública nos Portos Terminais e Vias Navegáveis - Cesportos), with the purpose of ensuring the implementation of the ISPS code at the Port Authorities and installations.	Continuous
Adequate the functioning of the passenger terminals to the needs of the users	» Elaborate user satisfaction research with the purpose of evaluating the services rendered by the terminal, such as ease of access, check-in, dispatch or removal of luggage, porter, food, transfer between vessel/terminal etc. » Elaborate standard norm of the service.	Continuous
Adequate the functioning of the passenger terminals to the needs of the shipowners	» Work with the Port Authorities for the optimizing of the programming of arrival and departure of the cruise ships and following of the berthing priority. » Elaborate satisfaction researches with shipowners in order to monitor quality and efficiency of the services made available by the terminals (suppliers and supplies, following of the regulations by the port authorities and consenting bodies).	Continuous

Source: SEP/PR (2015)

LOGISTICS

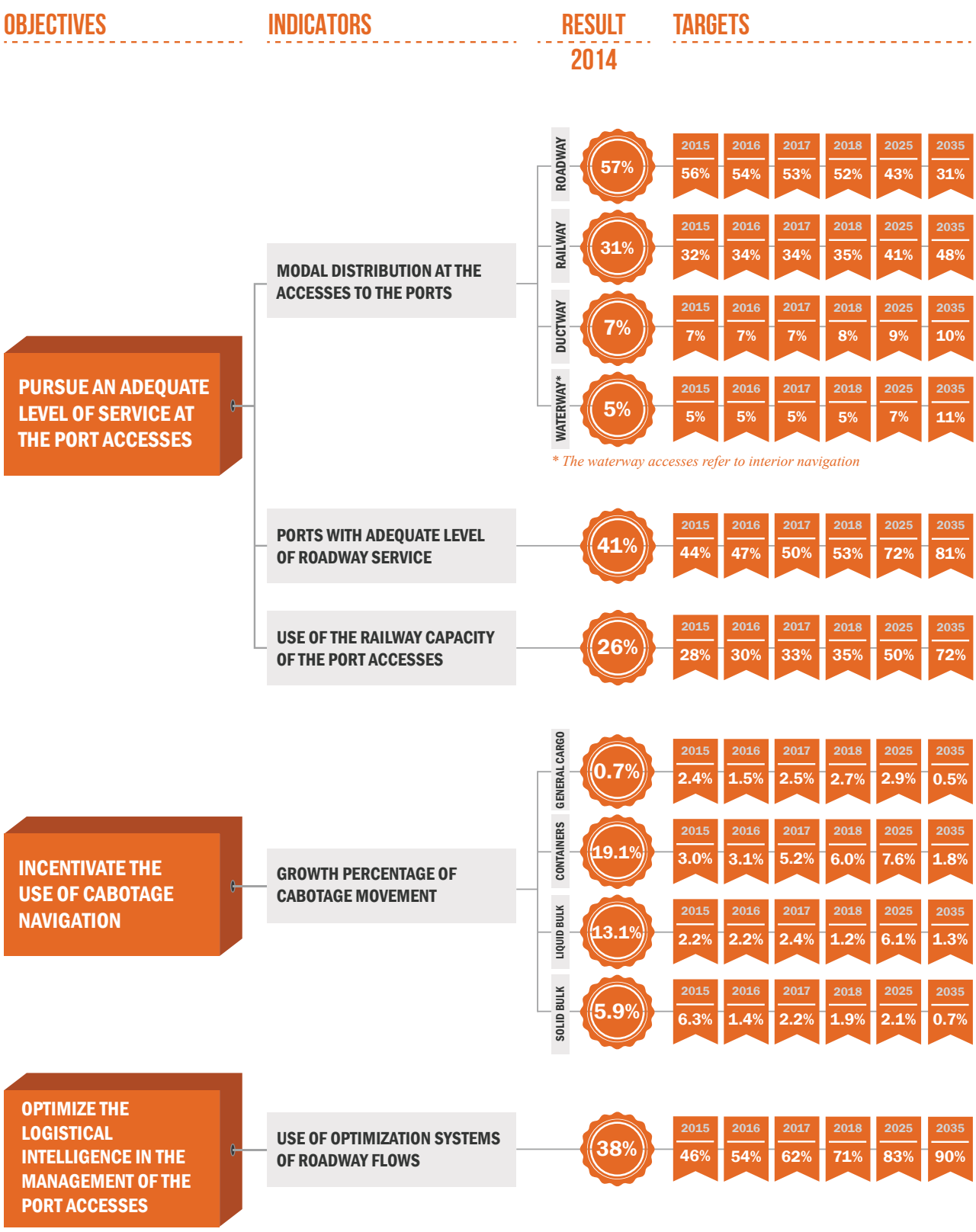


Figure 34 - Logistics objectives, indicators and targets
Source: SEP/PR (2015)

Chart 4 - Proposed actions for Logistics

LOGISTICS

Action	Description	Term
Implement the Incentive Plan to the use of cabotage navigation	» Work with the various Government bodies, in order to implement the incentive measures to Cabotage, such as: » Customs and bureaucratic facilitation; » Development of specific regulations for cabotage; » Cabotage planning tools and development of infrastructure; » Incentives to the transport; » Promotion of cabotage; » Competition and general conditions in the transport; » Development and integration of IT; » Environment.	5 years
Integrate the bases of port logistical data of the Government bodies	» Work with Government bodies in order to integrate the necessary data bases to the elaboration of the port planning.	5 years
Improve communication of the port with municipal, state and federal bodies	» Work with municipal, state and federal bodies, with the purpose of optimizing the organization of traffic in the port surroundings.	5 years
Implement the Intelligent Port Logistics Chain Project (Projeto Cadeia Logística Portuária Inteligente - CLPI) at the public ports	» The Intelligent Port Logistics Chain Project (Projeto Cadeia Logística Portuária Inteligente – CLPI), supported by the Information System named PORTOLOG, will enable the scheduling and sequencing of the traffic of trucks that access the port, collecting information from the origin of the cargo until its destination port terminal. It will enable the diffusion of anticipated information to the port community, hence facilitating the programming of resources to speed operations.	10 years
Implement Port Logistical Support Areas (Áreas de Apoio Logístico Portuário - AALPs) at the public ports	» The Port Logistical Support Areas (Áreas de Apoio Logístico Portuário - AALPs) are areas of cargo concentration at a distance of the port which enable transit with predictable duration, located in areas adjacent to port accesses which enable the inter-modality. They will work in an integrated manner with the project Intelligent Port Logistical Network, with the purpose of organizing the flow of cargoes destined to the port, so as to minimize the port-city conflict, reduce the logistical costs and expand port backyard.	10 years
Stimulate the use of the railway modal in the transport of cargoes to the port	» Increase the use of the railway modal, by means of monitoring – with the responsible government bodies – of the investments and stimulation measures for the railways.	10 years

Source: SEP/PR (2015)

ENVIRONMENT

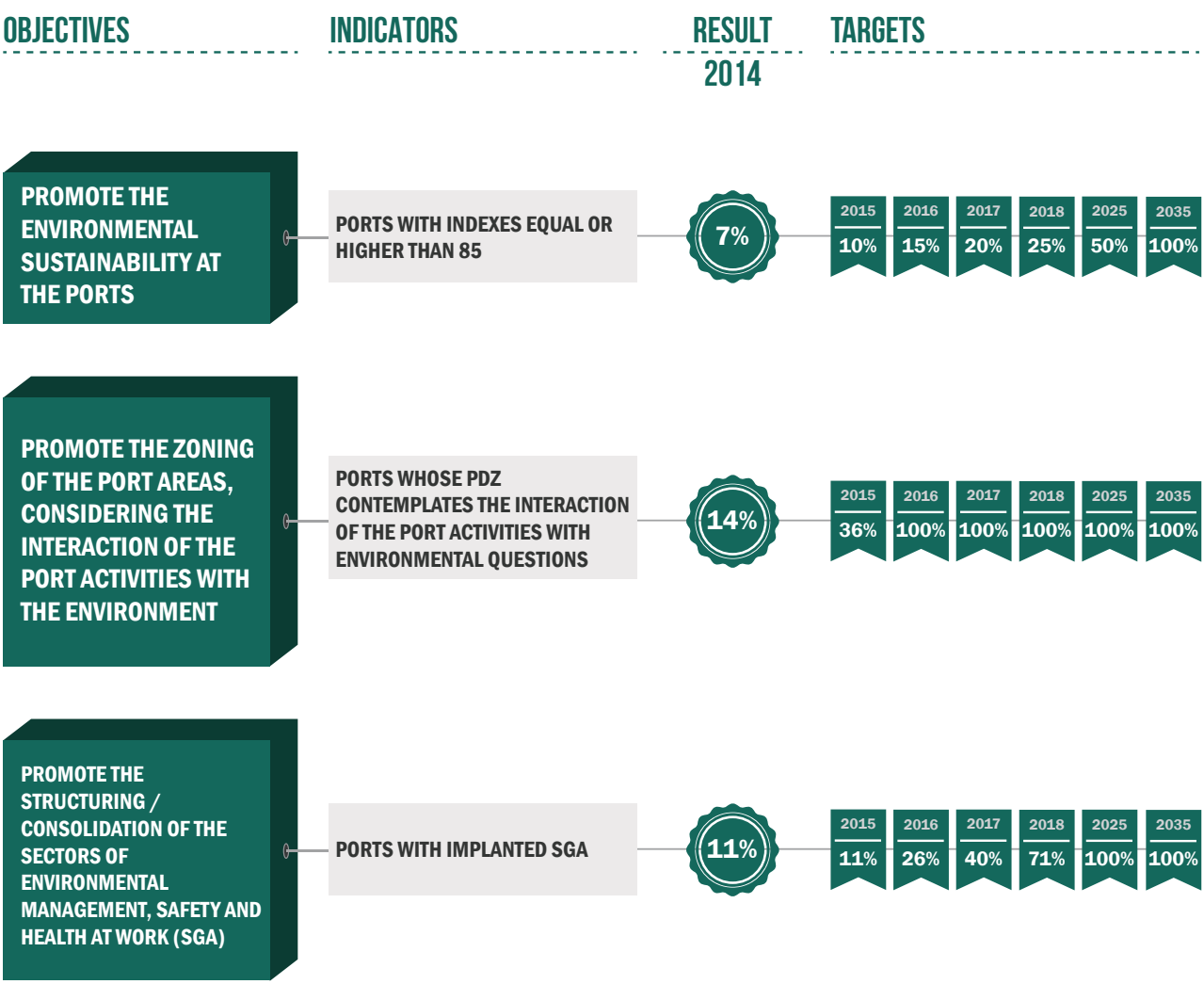


Figure 35 - Environment objectives, indicators and targets
Source: SEP/PR (2015)

Chart 5 - Actions proposed for the Environment

ENVIRONMENT

Action	Description	Term
Insert environmental variable in the port planning	» Develop a method of standardizing the composition of specialized service costs in environment. » Improve the integration between the planning and execution of port works with the environmental licensing.	5 years
Implement good environmental management and Safety and Health practices at the ports	» Implement the Management System of Solid Residues and Liquid Effluents at 22 maritime organized ports. » Elaborate mitigation and adaptation plan of the ports to the climate changes. » Implement contingency actions in situations of health risk.	5 years

Environment

Action	Description	Term
Adequate the ports to the environmental legislation	» Promote Port Regularization, by means of continuity of the Federal Program of Port Environmental Regularizing and Management (Programa Federal de Apoio à Regularização e Gestão Ambiental Portuária - PRGAP). » Develop an Environmental Liability Remediation Program, which foresees the survey and registering of contaminated areas and specific remediation studies. » Revise the Port Environmental Agenda and foment its elaboration and implementation at the ports associated to the SEP/PR, in an integrated action with ANTAQ.	5 years
Capacitate port collaborators in environmental management and safety and health at work	» Implement the Capacitation plan for Environmental Management and Health and Safety at Work.	5 years
Consolidate the sector of environmental management and safety and Health at Work	» Revise regulations that refer to the creation of the Sector of Environmental Management, Safety and Health at Work at the maritime ports and terminals. » Promote collection and divulging of environmental information. » Develop Computerization Program of Environmental Management and Health and Safety at Work.	5 years
Revitalize port areas strengthening the interaction between port and city	» Prioritize the areas passive of revitalizing and the port-city interaction, based on the PDZs. » Elaborate studies that give foundation to the proposition for the revitalizing of the port areas, together with the interested local actors. » Work with the interested local actors, in order to implement actions for the revitalizing of port areas. » Perform a survey of the pertinent areas to be revitalized based on the PDZs. » Elaborate proposals for the modernizing or revitalizing of the port areas. » Define, together with the port authorities, the works and investments to be made.	5 years
Promote environmental certification at the ports	» Promote the obtaining of the ISO 14001 certification (Environmental Management System). » Promote the obtaining of the OSHAS 18001 certification (Occupational Health and Safety).	20 years

Source: SEP/PR (2015)

6. Final considerations

This report presented a summary of the collection of studies that compose the 2015 revision of the National Ports and Logistics Master Plan (Plano Nacional de Logística Portuária – PNLP).

The plan was composed by convergence of multidisciplinary knowledge of the Federal Government, of universities and of the demand of various sectors of society, by means of class representative entities, users and renderers of services. To the observation of the expectations of the various actors of the port section, also specialized information, sectorial studies, academic methodologies and field researches were added, which resulted in a complex sum of evaluations, tendencies and action plans that point to the evolution of the Brazilian port system in a coherent dimension with the projections for the Brazilian economy.

The projection of demand was performed, by product, for the flows of importation, exportation and cabotage, based on the historical of movement of the ports and on national and international economic variables. In the sequence, the current and future loading of the logistical network was simulated, considering the multi-modality and the logistical costs of transport, resulting in the future demand of the port clusters. Based on the volumes of allocated cargo, it was possible to analyze each cluster, and, then, the strategic objectives were presented, as well as the portfolio of actions.

The updating of the Plan launches challenges that go from large scale works to necessary management actions for the improvement of the port system.

The measures proposed in the PNLP will demand actions of the Government, of the private sector, of the port workers, of the productive sectors of the industry and agroindustry and of local and international investors.

A relevant fact is the structuring of an Investment Portfolio for the port sector structured by the SEP/PR, which totals R$ 51.28 billion, and which is already being executed with success, following the example of the lease auction which took place on December 9, 2015.

The updating of the Plan launches challenges that go from large scale works to necessary management actions for the improvement of the port system. The focus is always to have an efficient and competitive system, modernized and attuned with the demands of the users, operators, workers and society.

LIST OF ABBREVIATIONS

AALP: Área de Apoio Logístico Portuário (Port Logistical Support Area)

Abremar: Associação Brasileira de Cruzeiros Marítimos (Brazilian Association of Maritime Cruises)

ABTP: Associação Brasileira dos Terminais Portuários (Brazilian Association of Port Terminals)

AEB: Associação de Comércio Exterior do Brasil (Brazilian Association of Foreign Trade)

ANTAQ: Agência Nacional de Transportes Aquaviários (National Agency of Waterway Transports)

AP: Autoridade Portuária (Port Authority)

APEC: Antwerp/Flanders Port Training Center - Centro de Treinamento do Porto da Antuérpia

BIC: Bureau International des Containers

CBC: Câmara Brasileira de Contêineres, Transporte Ferroviário e Multimodal (Brazilian Chamber of Containers, Railway and Multimodal Transport)

CDP: Companhia Docas do Pará (Port Authority of Pará)

CDRJ: Companhia Docas do Rio de Janeiro (Port Authority of Rio de Janeiro)

Centronave: Centro Nacional de Navegação (National Navigation Center)

Cesportos: Comissão Estadual de Segurança Pública nos Portos Terminais e Vias Navegáveis (State Commission of Public Safety at Port Terminals and Navigable Waterways)

CLPI: Cadeia Logística Portuária Inteligente (Intelligent Port Logistics Chain Project)

CNAP: Comissão Nacional para Assuntos de Praticagem (National Commission for Piloting Affairs)

Codesp: Companhia Docas do Estado de São Paulo (Port Authority of São Paulo)

Conaportos: Comissão Nacional de Segurança Pública de Portos, Terminais e Vias Navegáveis (National Commission of Public Safety at Port Terminals and Navigable Waterways)

Consad: Conselho de Administração (Administrative Board)

Direx: Diretoria Executiva (Executive Board)

DUV: Documento único virtual (Unique virtual document)

ETC: Estação de Transbordo de Carga (Cargo Transhipment Station)

FENCCOVIB: Federação Nacional dos Conferentes e Consertadores de Carga e Descarga, Vigias Portuários, Trabalhadores de Bloco, Arrumadores e Amarradores de Navios, nas Atividades Portuárias (National Federation of Loading and Unloading Gate Clerks and Repairers, Port Security Officers, Group Workers, Ship Ushers and Masters, at Port Activities)

Fenamar: Federação Nacional das Empresas de Navegação Marítima (National Federation of Maritime Navigation Companies)

Fenop: Federação Nacional dos Operadores Portuários (National Federation of Port Operators)

IDA: Índice de Desempenho Ambiental (Environmental Performance Index)

ISSO: International Organization for Standardization - Organização Internacional para Padronização

IPT: Instalação Portuária de Turismo (Tourism Port Installation)

ISPS: International Ship & Port Facility Security Code - Código ISPS

LPS: Local Port Service - Serviço local do Porto de monitoramento aquaviário

MBA: Master of business administration - Curso de especialização em nível de especialização na área de administração

MDIC: Ministério do Desenvolvimento, Indústria e Comércio Exterior (Ministry of the Development, Industry and Foreign Trade)

MMA: Ministério do Meio Ambiente (Ministry of the Environment)

MT: Ministério dos Transportes (Ministry of Transport)

OCR: Optical Character Recognition - Conhecimento óptico de caracteres

OGMO: Órgão Gestor de Mão de Obra (Workforce Management Body)

OHSAS: Occupational Health and Safety Assessments Series - Serviços de Avaliação de Segurança e Saúde Ocupacional

PAC: Plano de Aceleração do Crescimento (Growth Acceleration Program)

PCE: Portal Único de Comércio Exterior (Foreign Trade Unique Portal)

PDZ: Plano de Desenvolvimento e Zoneamento (Port Development and Zoning Plan)

PGO: Plano Geral de Outorgas (General National Leasing Plan)

PIB: Produto Interno Bruto (Gross Internal Product)

PIL: Programa de Investimentos em Logística (Logistics Investment Program)

PMGP: Programa de Modernização da Gestão Portuária (Port Management Modernization Program)

PND: Programa Nacional de Dragagem (National Dredging Plan)

PPA: Plano Plurianual (Pluriannual Plan)

PDTI: Plano Diretor de Tecnologia da Informação (Information Technology Director Plan)

PNLP: Plano Nacional de Logística Portuária (National Ports and Logistics Master Plan)

PRGAP: Programa Federal de Apoio à Regulamentação (Federal Program of Support to Regulation)

Pronatec: Programa Nacional de Acesso ao Ensino Técnico e Emprego (National Program of Access to Technical Education and Employment)

PSP: Porto Sem Papel (Port Without Paper)

RFID: Radio Frequency Identification - Identificação por Rádio Frequência

SEP/PR: Secretaria de Portos da Presidência da República (Ports Secretariat of the Presidency of the Republic)

SIGA: Sistema Integrado de Gestão Ambiental (Integrated System of Environmental Management)

SGA: Setor de Gestão Ambiental (Environmental Management Sector)

Syndarma: Sindicato Nacional das Empresas de Navegação Marítima (National Union of Maritime Navigation Companies)

TEGRAM: Terminal de Grãos (Grain Terminal – São Luís/MA)

TEU: Twenty Feet Equivalent Unit - Unidade equivalente de contêiner de 20 pés

TI: Tecnologia da Informação (Information Technology)

TUP: Terminais de Uso Privado (Private Use Terminals)

VTMIS: Vessel Traffic Management Information System - Sistema de informação e gerenciamento de tráfego de embarcações

ZAL: Zona de Apoio Logística Portuária (Port Logistics Activity Zones)

LIST OF FIGURES

LIST OF GRAPHS

LIST OF CHARTS