



Production Platform P-56



Product Tanker Rômulo Almeida

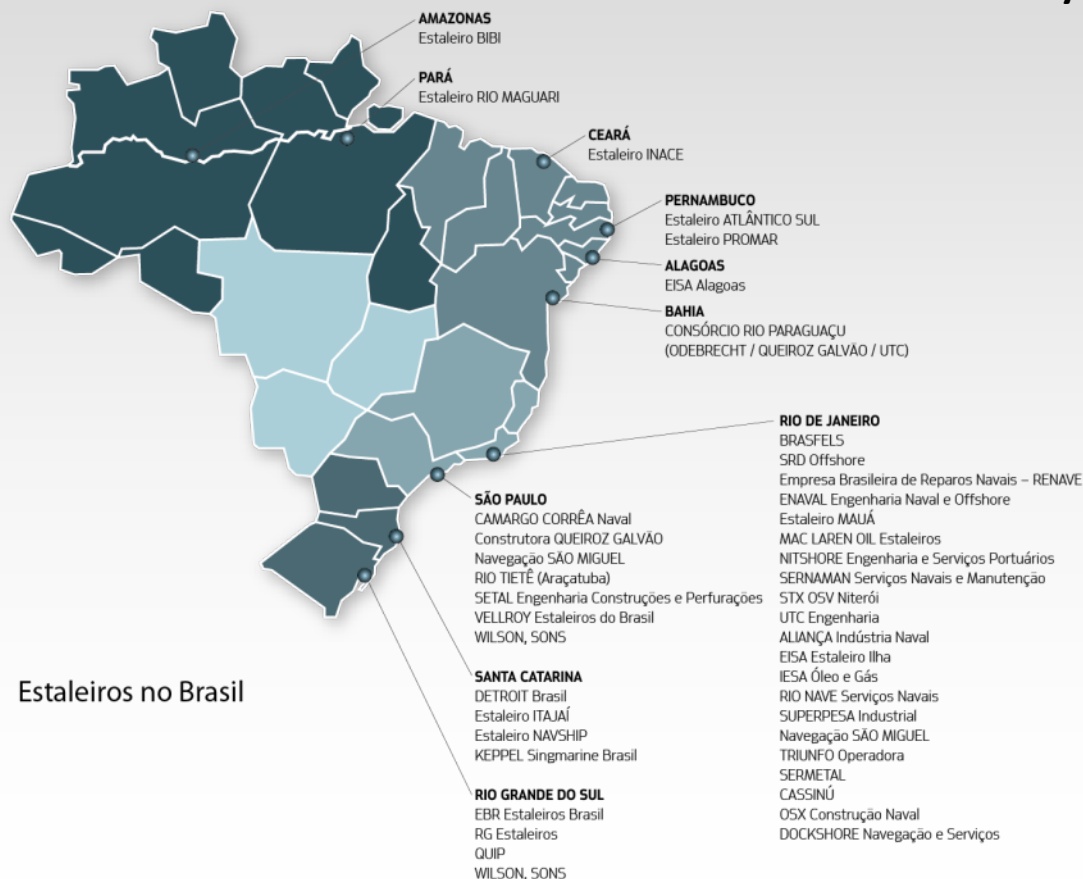


Box ship Log-In Jacarandá

BRAZIL

Offshore and Shipbuilding Industries Overview

January 2012





P-56



Rómulo Almeida



Log-In Jacarandá

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Foreword

SINAVAL is the shipbuilders Union institution.
It's mission:

- To defend shipyards interests
- Represent shipyards in Government forums
- Negotiate with the labor Unions
- Generate the sectors statistics and public information
- Built an international network
- Promote social and economic development



P-56



Rómulo Almeida



Log-In Jacarandá



Foreword

Challenges:

- Human Resources Development
- Increase Productivity
- Increase Local Content for Ships and Platforms



Brazilian Shipyards

Today's business environment

47 Shipyards

11 New yards under construction

59,000 workers directly employed

6.2 Million DWT order book

18 Offshore Oil Platforms under construction

21 Offshore Deepwater Drilling Rigs Bid

Petrobras demand

Demand assured for the next 10 years (2011–2020) in the world's largest E&P investment program:

50 Production platforms

50 Drill rigs

500 Offshore supply vessels

130 Oil tankers



Foreword

Petrobras Business Plan

2011-2015 Business Plan (US\$ billion)

Segment	Investments 2011-2015 Business Plan	%	Investments 2010-2014 Business Plan	%
Exploration and Production	127.5	57%	118.8	53%
Refining, Transportation and Marketing	70.6	31%	73.6	33%
Gas & Power	13.2	6%	17.8	8%
Petrochemicals	3.8	2%	5.1	2%
Distribution	3.1	1%	2.4	1%
Biofuels	4.1	2%	3.5	2%
Corporate Overhead	2.4	1%	2.9	1%
TOTAL	224.7	100%	224.0	100%



Foreword

Merchant Marine Fund Disbursements

The FMM annual disbursements on loans for ship construction covers up to 90% of total investment.

Brazilian Merchant Marine Fund

Is a clearly defined and well-regulated legal system for the financing shipbuilding, in place for over 50 years.

FMM disbursements	
Year	R\$ millions
2001	305
2002	338
2003	591
2004	721
2005	465
2006	658
2007	1,100
2008	1,300
2009	2,600
2010	2,019
2011	2,113



Brazilian Shipyards Scenery

DWT under construction

Ranking	Estate	DWT	Orders	DWT Part. %
1º	Pernambuco	3,072,000	30	49.79
2º	Rio de Janeiro	1,367,900	76	22.17
3º	Rio Grande do Sul	1,120,000	13	18.15
4º	São Paulo*	330,500	108	5.36
5º	Santa Catarina	146,736	48	2.38
	Others	133,000	37	2.16
Total		6,170,136	312	100



Brazilian Shipyards Scenery Work Force

Ranking	Estate	Jobs	Part. %
1º	Rio de Janeiro	25;020	42.29
2º	Amazonas	11,987	20.26
3º	Pernambuco	9,798	16.56
4º	Rio Grande do Sul	5,500	9.30
5º	Santa Catarina	2,125	3.59
6º	Bahia	2,125	3.59
	others	2,612	4.41
Total		59,167	100



Brazilian Shipyards Scenery

Today's Order Book* and New Orders**

Ship type	Order book	New Orders
Offshore Support Vessels	22	89
Tankers / Products / Bunker	55	21
FPSO / Semi-Subs / TLWP	16	-
Box	3	4
Bulk	1	2
River Barges and Tugs	37	72
Drill ships	7	21
Chemical	4	5
Gas	8	-
Port Tugs	5	27
Total	158	241

*Today's order book covers main projects and does not includes 2011 deliveries.

**Merchant Marine Fund loans priorities approval amounts to US\$8.3 billions, in 2011.

Those totals may not all become new orders.

Offshore oil Platforms does not Include two hull for Top Sides Integration.



Brazilian Shipyards Scenery

Main shipyards production capacity

Yard	State	Steel process. 1,000 t. year	1,000 m ²	Dry dock	Slipway	Dock
Eisa	RJ	52	150	0	2	3
BrasFELS	RJ	50	410	1	3	2
Mauá	RJ	36	334	1	1	4
STX OSV						
Niterói	RJ	15	120	1	1	1
Aliança	RJ	10	61	0	1	2
UTC	RJ	ND	112	0	0	2
Wilson, Sons	SP	10	22	1	1	1
Navship	SC	15	175	0	1	2
Rio Grande	RS	30	100	1	1	1
Quip	RS	0	70	0	0	1
Atlântico Sul	PE	160	1.500	1	2	2
Subtotal		378	3,054	6	13	21
Outros		184	1,257	13	8	21
Total Geral		562	4.311	19	21	42

Brazilian Shipyards Scenery



BrasFELS - Angra dos Reis (RJ)
specializes in offshore production
platforms.

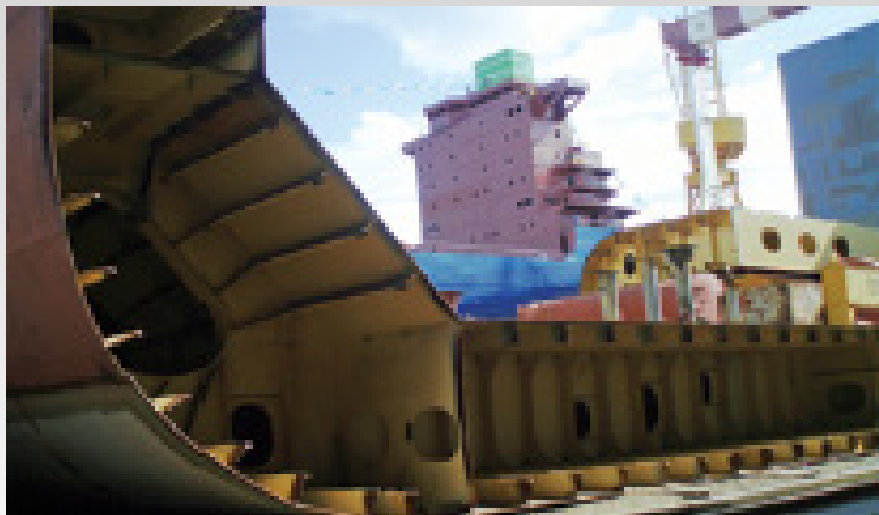


Atlantico Sul Shipyard – Suape (PE)
Large crude carriers, offshore platforms and
drill ships

Brazilian Shipyards Scenery



RG Shipyards – Rio Grande (RS)



EISA Shipyard – Rio de Janeiro (RJ)



Maua Shipyard – Niteroi (RJ)

Brazilian Shipyards Scenery



STX OSV Shipyard – Niteroi (RJ)



Aliança Shipyard – Niteroi (RJ)



Offshore Oil Production Platforms

Unit	Status	Brazil	International
P-55 semi-sub	construction	Hull + top sides	No
P-56 semi-sub	delivered	Hull + top sides	No
FPSO P-57	delivered	Hull + top sides	Hull
FPSO P-58	construction	Hull + top sides	Hull
FPSO P-62	construction	Hull + top sides	Hull
FPSO P-63	construction	Top sides	Hull
FPSO Cidade de Paraty	construction	Top sides	Hull
FPSO Cidade de São Paulo	construction	Top sides	Hull
FPSO twins	8 units under construction	Hull + Top Sides	No
FPSO (Inhaúma)	4 units under bid	Hull + Top Sides	No

Offshore platforms local construction: two deliveries and 18 on going building projects.

Offshore Drilling Platforms



Sete Brazil, a joint ventures of Petrobras, Pension Funds and the largest Brazilian private banks, was announced by the press as the winner of the bid to build in local yards 21 drilling rigs.

Seven drilling ships are in construction at Atlantico Sul Shipyard.

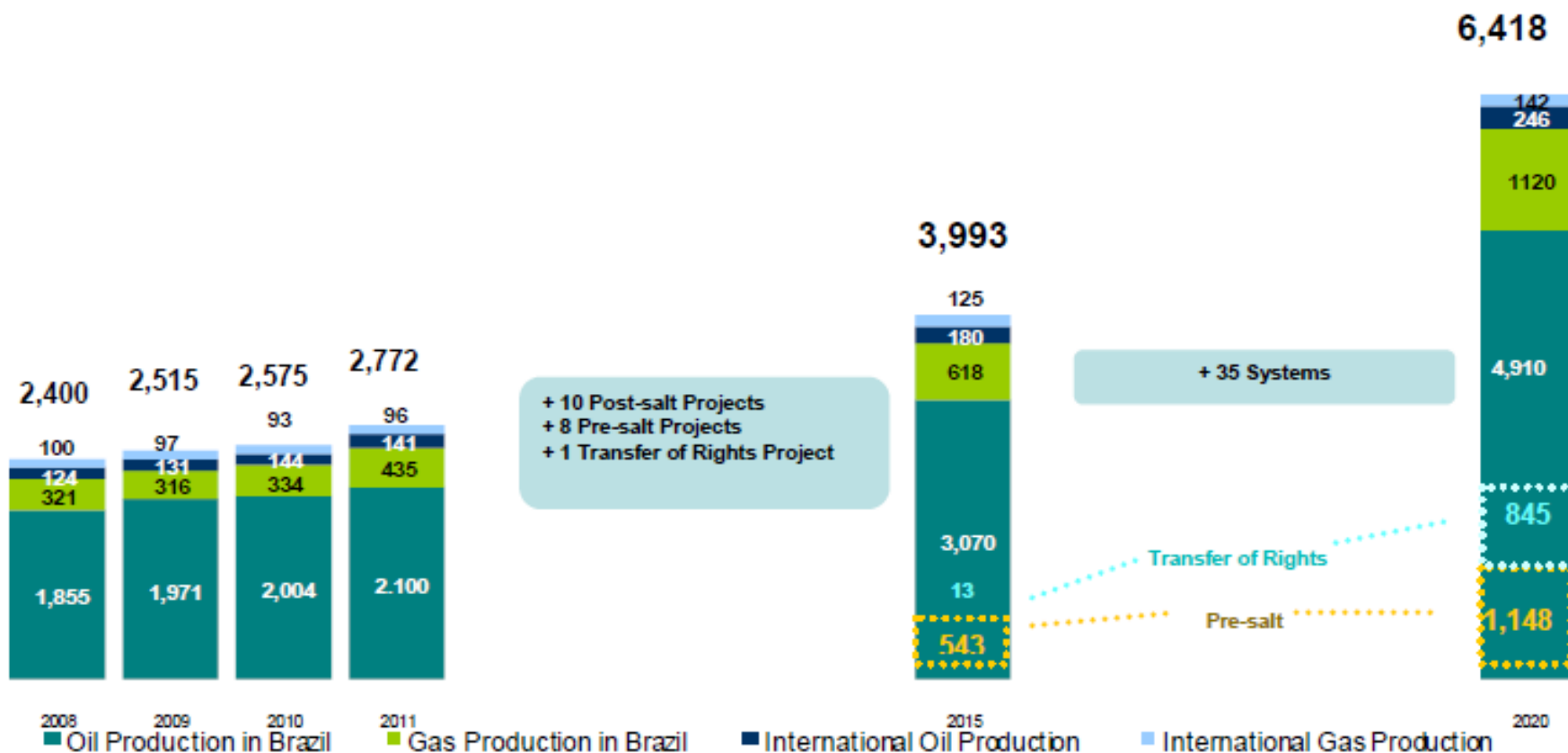
Two jack ups drilling rigs are finishing construction at the Consorcio Rio Paraguaçu (Maragojipe – BA).

Petrobras announced the program for drilling 66 exploratory wells. 12 drilling rigs build in international yards by Brazilian operators will start operations in 2012 and 2013.



Offshore Drilling Platforms Petrobras offshore projects

Oil and Gas Production Targets ('000 boed)





Shipyards in construction and expansion



Aliança Offshore



Jurong Aracruz

New Yards situation – January 2012

New operations

1 new industrial unit began operations in december 2011:

Aliança Offshore - São Gonçalo (RJ)

Yards in construction

4 new yards began construction

Estaleiro Rio Tietê – Araçatuba (SP)

Estaleiro Jurong Aracruz (ES)

Estaleiro OSX- São João da Barra (RJ)

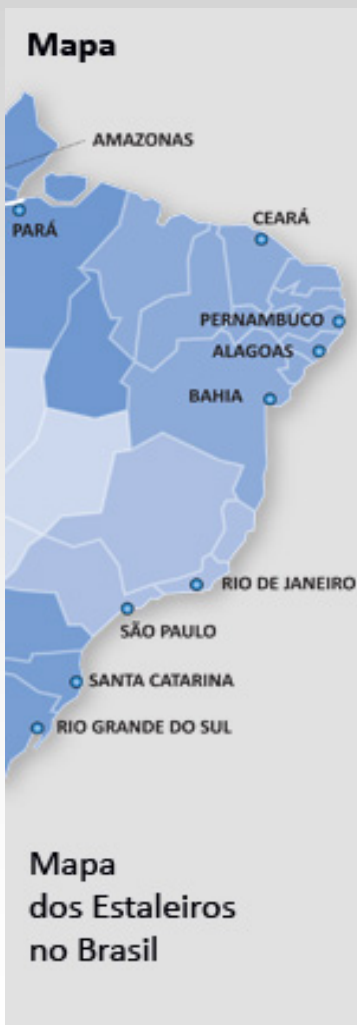
Estaleiro Inhauma – Rio de Janeiro (RJ)



OSX



Shipyards in constructions and expansion



Yards with loans priorities awarded by the Marine merchant Fund (FMM):

Construcap – Suape (PE)

Estaleiro Promar – Suape (PE)

Eisa Alagoas – Coruripe (AL)

Estaleiro Enseada do Paraguaçu – Maragogipe (BA)

Estaleiro Corema – Simões Filho (BA)

P2 Estaleiro – Itajaí (SC)

Estaleiros do Brasil – EBR – São José do Norte (RS)

Estaleiros Amazônia EASA – Belém (PA) – expansion

Estaleiro Aliança – Niterói (RJ) – expansion

CQG Construções Offshore – Rio Grande RS – expansion



EBR Shipyard

Time Line



In the last 50 years Brazilian shipyards went through two expansion periods (1960-1979 and 2000-2011).

Local demand is the main drive.

Years	Workers
1960	1,400
1970	18,000
1979	39,000
2000	1,900
2006	19,000
2011	59,000



Time Line

Years	Workers
1960	1,400
1970	18,000
1979	39,000
2000	1,900
2006	19,000
2011	59,000

Yard Recovery Wave

2000

Construction of OSV – Offshore Supply Vessels (on going building program) 115 new vessels built up to 2010.

2005

Transpetro tanker fleet expansion program (Promef):

49 Ships (on going building program):

10 Suezmax oil tanker

5 Aframax oil tanker

4 Panamax oil tanker

4 Oil products tanker

8 Gas tankers

3 Bunker ships

8 Oil products tanker

2007

Start up of the offshore platforms local construction:

two deliveries and 18 on going building projects.

Achievements



Guido Mantega, Finance Minister, and Ariovaldo Rocha, SINAVAL president.

SINAVAL support the sector recovery through institutional action, producing studies and documents.

SINAVAL institutional action

SINAVAL has chair in government departments to assist on regulatory decisions in the shipbuilding industry:

- Finance / GAC –Group for Accelerate Growth
- Industry development
- Labor and Employment
- Technology and Innovation

Chain of events

In 1998 de shipyards recovery started based on the construction of offshore supply vessels (OSV).

Since 2003 the shipbuilding industry became again a priority for the Brazilian government.

Labor Relations



Jorge Antonio de Faria – SINAVAL; Luiz Carlos Lumbreras – DSST/SRTE-RJ; Alcino Vieira dos Santos – SRTE/AM; Edson Carlos Rocha – CNM/CUT. Sinaval, Labor Department and Workers Union representatives in a regulatory meeting (2011).

SINAVAL, Federal Gov. Labor Dept. and Workers Union developed the new regulatory guide lines for the workers safety in the shipyards environment, in a three way committee.

The new regulation published (NR 34) was considered by the International Organization of Labor an exemple of sucessfull best pratices worldwide.



Marcelo Carvalho,
SINAVAL Coordinator of
New Labor Regulations.

Labor Relations – New Jobs



Labor Union president, of Niteroi and Itaboraí, Reginaldo da Costa e Silva; Ariovaldo Rocha, SINAVAL president; the director of the Iron Workers Union, José Mascarenhas; and the SINAVAL executive secretary, Sergio Leal; during the signature of the Coletive Workers Agreement, in 2011.

More jobs

SINAVAL conservative estimates sees the creation of 15,000 new jobs up to 2014, considering three main drives:

- 1 – The opening of new shipyards;
- 2 – Petrobras demand on the 2011-2015 Business Plan;
- 3 – The ship building program in place and the approval of new loans to assure the maintenance of today's 59,000 jobs.

Labor Relations – New Jobs



New Jobs by categories

Engineers - 10%	1,500
Technicians - 10%	1,500
Especialised Workers - 70%	10,500
Administrative personnel - 5%	750
Others - 5%	750

Local Content for ships and platforms



Franco Papini, SINAVAL executive vice-president, coordinates the “Local Content Initiative”.

SINAVAL and ONIP developed the data base of equipments, products and materials needed by shipyard, based on real case purchases for a Platform Supply Vessel, a tanker and a FPSO platform.

The data base is shared with the supply chain to increase local production.

Type	Local	Import
Tanker	70.8%	29.2%
OSV	61%	39%
FPSO	64.2%	35.8%

Local Content



Ships Work Groups

Items needed:

- A – Structural steel, steel plates, sections of steel and steel shapes;
- B – Machinery, motors, compressors and pumps;
- C – Piping and valves;
- D – Electric systems, wiring, cables and control panels;
- E – Hull accessories;
- F – Finishing materials;
- G – Paint and corrosion protection.

Local Content



Ships Work Group

The “electric package” reached 100% of local content:

- Electric cables;
- Control Panels;
- Auxiliary motors for energy generation.



Local Content



Ships Work Group

Most critical items for suppliers:

- Propulsion Motors above 650 HP;
- Cargo and ballast pumps;
- Navigation, communication and safety equipments.



Local Content



Platform and drill rigs Workgroup

- 11 families of equipments;
- 111 sub-groups;
- Total: 534 items.

Platform electric comand center





Conclusions

- 1 – Brazilian modern shipbuilding industry is active since the 60's, experienced downfalls from the middle of the 80s until the end of the 90's. Since 2003 became a government priority.**
- 2 – A consistent regulatory and legislation arraignment is in place.**
- 3 – Demand is clearly visible for the next 10 years and beyond, based on the offshore demand of high valued drill rigs, oil production platforms, OSV and tankers.**
- 4 - Labor relations is recognized as an example by the International Labor Organization.**
- 5 - Challenges are identified and the industry works closely with the government departments to develop sustainable solutions.**



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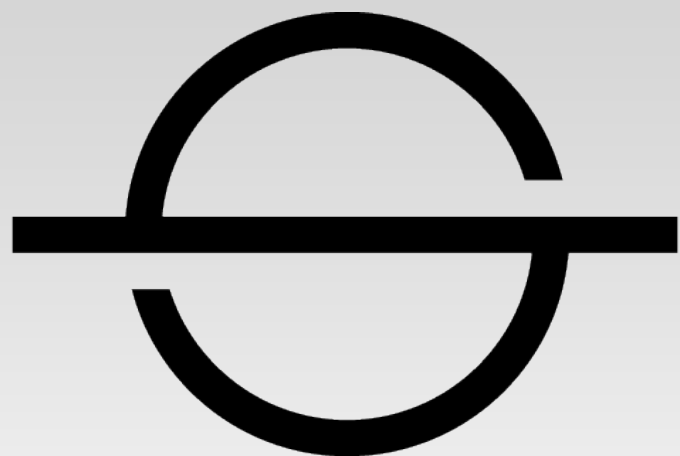
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