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Rigs in Brazil: Less in More Out

Tonnage blockages give
Owners & Petrobras a headache

Going Forwards: an overview of
viesel efficiency & propulsion



WESTSHORE
DO BRASIL

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Ocean Rig/Ocean Rig Mylos

The drillship has departed to Campos Basin, in BM-C-33 block, where it will drill three wells (Pão de Açúcar, Seat and Gávea prospects) for Repsol Sinopec. The campaign is part of the evaluation plan of the area until August 2016 with investments of over USD 1 billion. The first well should be drilled until February 2014.

Diamond Offshore/Ocean Quest and Ocean Star

After reports of unpaid debts during OGX drilling campaign, the Houston driller has cancelled Ocean Quest's charter and the unit left Brazil in the end of October, heading to Asia on top of the Dockwise Vanguard, the world's largest semisubmersible Heavy Transport Vessel (HTV). Ocean Star remains in the country under a new contract with Queiroz Galvão since September this year, mitigating some of the losses to Diamond.

Transocean/ Sedco 710

The semi Sedco 710 is on its way to Las Palmas, Canary Islands, after Transocean reached an agreement with Petrobras to terminate the charter sooner than was foreseen in the contract. The rig is being towed by the AHTS vessels UOS Challenger and UOS Liberty after they concluded their operations with Anadarko in Brazil, and they are expected to arrive in Las Palmas on November 30th. The American company did not disclose the reasons that led to the termination of operations in Brazil.

Ensco/Ensco 5002 and Ensco 5004

According to the market the company plans to keep the Ensco 5002 in Brazil under contract with another oil company while Ensco 5004 is under negotiation to leave Brazil and departure to the Mediterranean. An AHT from Fairmount is expected to tow it from Rio. Ensco had a deficit of USD 45 million after both units did not receive part of the payment in the latest months, when they were working for OGX.

Petrobras/P-VI

The jack up rig Petrobras VI has concluded its campaign with Queiroz Galvão after being chartered to drill the block BM-J-2 in Jequitinhonha basin, Northeast of Brazil. The unit was under a contract which lasted 5 months firm plus options, that started in May 2013.



Block, Block, Block...

In our June 2013 edition, we looked into the Brazilian flag preference system and how market players are taking part in that. Owners' right to validate the preference of its Brazilian flag vessels over foreign flag is usually exercised through a movement known as "blockage", which can be a headache for Charterers and Owners who are trying to extend OSVs under existing contracts.

In a nutshell, the "blockage" means a foreign flag vessel is being prevented from starting or keeping work in Brazilian waters due to the availability of a theoretically suitable Brazilian flag vessel. It is usually a lengthy and painful commercial process: Owners seeking return for an expensive investment which is to build an OSV with higher CAPEX and OPEX but allied in a flag protection/preference system, while Charterers feel obliged to use a vessel which is more expensive and that they did

not chose according to its criteria but have imposed upon them. We can also add to this the risk of losing vessels with a crew already acquainted to an on-going operation.

Petrobras seems to be struggling with a lot of "blockages" lately which has led to an intensive round of negotiations with Owners of Brazilian tonnage available in order to not jeopardize its existing contracts for foreign flag vessels. It is important to remember that since 2008, Petrobras tenders for foreign flag OSVs have been offering four years contract period, plus options for a further four years. However, this is subject to a yearly early termination clause with no compensation, to be invoked in case ANTAQ (Maritime Regulation Agency) charter license (valid for one year) is not renewed i.e. in case it is blocked during its firm contract period.

Despite the provision of the early termination clause, it is repeatedly said to have never been used, enabling Petrobras so far to “honour” the initial firm contract period offered to foreign flag vessels but at the same time obliging them to deal with the Brazilian flag OSV Owners through new or anticipated demands. The big question mark is: How long can such demands still cover the availability of local flag vessels without compromising existing contracts for foreign flag ones?

Due to this scenario, the market recently experienced a foreign flag PSV under a Petrobras long term contract not able to renew its Charter Authorization Certificate from ANTAQ due to the blockage exercised by local vessels. The negotiation with local Owners to suspend

“The risk of having a charter contract which was initially expected to be for four years terminated after one or two years brings a liability not only to Owners but also to Petrobras.”

the blockage took so long that the Foreign flag vessel’s charter certificate expired forcing it offhire due to its inability to operate in Brazilian waters. The risk of having a charter contract which was initially expected to be for

four years terminated after one or two years brings a liability not only to Owners but also to Petrobras. If the international market perceives that the risk of having the contract terminated early is a real threat and there is evidence and

history of this taking place, this could impact Petrobras commercially. It may lead to Foreign Owners inserting a level of contingency on the dayrate, spreading fixed costs over a shorter period instead of the usual four years period.

There is no sign of anything on the flag protection system changing, except perhaps for the validity of the Charter Authorization Certificate being changed to two years instead of the current one year. The aim of this is to enable Companies to better plan their operations and allow Owners more planning on their availability. Although this subject has been part of ANTAQ’s agenda, there is no certainty that this measure will actually materialize due to pressure from Brazilian Owners. So in the meantime, nothing is currently expected to change: Owners of Brazilian tonnage will surely keep “blocking”, while Charterers continue complaining. But the law is the law, and one must be sure he know the rules before starting to play any “game”.



MAERSK - AHTS The Maersk Provider has been chartered by ENSCO on a second contract for 6 days firm and is expected to be available 20th November. The vessel will be docked in January for regular docking and upgrades.

DEEPSEA SUPPLY - AHTS Sea Tiger has been chartered by OGX in late November for 30 days firm plus options.

FARSTAD - AHTS Far Senator has started its contract with Shell in support of the Noble Max Smith rig.



VEGA - The PSVs Vega Chaser and Vega Challenger are set to arrive in Brazil in December to commence their charters with Petrobras on 4+4 year contracts.

SEACOR - Brazilian built and flagged DP2 PSV Seabulk Angra has been chartered on the spot market by Transocean and then by Schahin at rates above last month's average. The PSV market for spot hires has been tightening up in the last 30 days.

MAERSK - AHTS Maersk Terrier has been operating on the spot market and under final stages to commence with Shell Brasil in support to their upcoming rig move.

BOURBON - Brazilian flagged AHTS Haroldo Ramos has been chartered by OGX for general purposes including taking part in Oil Spill response plans for the local oil company, 30 days plus options.

DOF - Brazilian flagged AHTS Skandi Ipanema has been chartered by Mammoet Salvage for 25 days firm plus options to assist on sunken Ramco Crusader off Fortaleza, northeast Brazil.

DEEPSEA SUPPLY - AHTS Sea Leopard has been chartered on the spot market by BP for 7 days firm plus options, and then fixed to EnSCO drilling for rig support for 2 days firm plus options. The vessel will be then uncommitted on the spot market at time of writing.

SEACOR - Brazilian built Seabulk Brasil finished some repairs in Niterói in mid November and is back in operation.

FARSTAD - PSV Far Swift has been extended with Shell until late November.

LABORDE - Yet movement on OGX tackling several vessels in the market included Brazilian built and flagged PSV Lab 151 from Laborde for 30 days firm plus options, also for general purposes including taking part in Oil Spill response plans.



Karoon sells a 35% stake in four blocks in Santos Basin

ANP has approved the sale of the Australian oil company's 35% stake to Canadian Pacific Rubiales in the blocks S-M-1101, S-M-1102, S-M-1037 and S-M-1165 with an option for a fifth block, S-M-1166, over which negotiations are still going on. The area is expected to contain 135 million boed and includes the Kangaroo-1 discovery made this year.



ONGC set to acquire stake in Parque das Conchas field

The Indian company already has a 15% participating interest in the block, formally known as BC-10, and recently signed a deal with Petrobras to acquire an additional 12% interest in the field for USD 529 million, totalling a stake of up to 27%. The negotiations are subject to approval by ANP.



Statoil Plans New Drilling Campaign

Norwegian company Statoil is studying plans for the drilling of ten new wells and is collecting around 4,000 km² of seismic data in Espirito Santo Basin, according to the company's President of South America. The assets were acquired in the 11th Round where the company has participating interest in six offshore blocks and is the operator of four of them..



Sonangol Exits Offshore Market

Sonangol has decided to stop offshore operations in Brazil and will return two blocks acquired in the 9th Round, C-M-498 and C-M-622. The exploratory operation on the blocks required seismic 3D and the drilling of three wells, of which one has proven to be dry. From now on the company will be limited to the onshore market in the country where it has participating interest on Potiguar Basin, in the North of Brazil. The official statement will be released soon by company's headquarter and by ANP.



OGX Still on Spot Market

OGX has recently chartered four OSVs to keep its production campaign going in Campos Basin. Haroldo Ramos, Lab 151 and Sea Tiger were awarded OSRV contracts for 30 days firm plus options each, while A.H. Liguria was chosen to execute anchor handling duties for 30 days firm as well. The company plans to keep producing in Tubarão Azul in order to manage its recovery and continue its presence in the offshore market.

Petrobras goes deep in Pará-Maranhão basin

Rumors have been hanging around the market that Petrobras has found oil with commercial viability in the prospect called Harpia, in Pará-Maranhão basin, but this still needs to be confirmed by ANP. The exploration well, which began drilling in January 2013 in water depths of 2,060 meters, was finally drilled to its final depth of 5,880 meters, uncorking a significant reservoir, which has not yet had its volume or net pay revealed. This is the first exploration well in the area to strike oil. A second exploration well, named Gavião, is planned by Petrobras for the area. These wells are located over 220km off the coast of the city of Salinas, in Pará state.

Petrobras Orders FPSO from Modec

The FPSO baptized as Cidade de Caraguatatuba is expected to be delivered by June 2016. Modec with Schahin signed a contract with Petrobras for the engineering, procurement, construction, mobilization, installation and operation of the FPSO, including topsides processing equipment as well as hull and marine systems. The unit will be deployed at Carioca field in the BM-S-9 block in the pre-salt region of the Santos Basin in water depth of 2,100m.

Pre salt exploration reached 100% success rate in 2013

Graça Foster revealed that 13 wells were drilled in 2013 in the pre salt area and Petrobras found oil in all of them. In total 144 wells has been drilled attaining 82% success rate. She celebrated as "spectacular" the company's performance reinforcing that adding onshore and offshore wells the State major has a 65% hit rate, which is far higher than the global average.

How many platforms are expected for Libra?

According to Graça Foster, 12 is the minimum number of drilling rigs required to be operating on the giant Libra to attend the growing demand of oil and gas. During the next six years the company's ultimate priority is the E&P area (Exploration & Production) and 'P' will be more important than the 'E', she said at OTC Brasil 2013. Libra's first oil is expected between 2016 and 2019.

Northeast Basin

Petrobras has demonstrated even more interest in Northeast Brazil, especially on the Sergipe-Alagoas basin. After the pre salt area, the region is being considered, according to the market, as the biggest bet of the company to find good quality and large reservoirs of oil. An LDT is planned for 2015 to get the dimensions of the discovery and to determine the flow capacity of the oil. The commercial production is scheduled for 2018, this is also the reason why Petrobras has been in discussion over the mobilization of a FPSO.

AHTS 18000 Awards

The tender issued in 2012 for AHTS 18000 type for 4 years + 4 years contract had its contracts awarded. A.H. Liguria will work for Petrobras on AHTS 18000A category for commencement in February 2014 while Pacific Defiance and Asso Trentuno were awarded on AHTS 18000A-GD category with commencement by July 2014.

SV OSRV

The tender issued on September 04th 2013 for SV OSRV type for 4 years + 4 years contract, with commencement in June 2014, for batch 1, and December 2014, for batch 2, had its offers revealed. On batch 1, the sole offer of CMM (Consolidated Marine Management from Greece) through Internacional Maritima is still in negotiation, while batch 2 with three offers of CMM and two of Angel Shipping through Acamin will only be considered if demand is not covered by the offer on batch 1.

SV OSRV Offers

LOT 1						
Ranking	EBN	Bidder	Vessel	Daily Rate	Mob fee	VTV
1	Internacional Maritima	CMM	Hull N° 547288	19,250.00	577,500.00	24,747,635.70

LOT 2						
Ranking	EBN	Bidder	Vessel	Daily Rate	Mob fee	VTV
-	Internacional Maritima	CMM	Hull N° 547291	Not opened. Only if demand is not covered by offers on LOT1.		
-	Internacional Maritima	CMM	Hull N° 547292			
-	Internacional Maritima	CMM	Hull N° 547293			
-	Acamin	Angel Shipping	Hull N° 547298			
-	Acamin	Angel Shipping	Hull N° 547299			

RSVs

Five vessels are competing on the tender for RSVs type. Petrobras received offers for two batches: batch 1 (1 year contract) and batch 2 (1.5 year contract) as follows. The vessel REEF DESPINA was disqualified for no compliance with the tender requirement. The value of the proposals has not been revealed.

LOT 1 Offer Received	
COMPANIES	VESSEL
DOF/DOF	GEOHOLM (A)

This Month's Requirements and Consults

This month Petrobras issued a tender for PSVs 1500 DWT Brazilian flag for one, two or three years contract with the option to be renewed for the same period with commencement up to September 2014 and deadline for proposals on November 28th 2013. The company is also consulting the market for AHTS with 177ton bollard pull for commencement on March 2014 and deadline for proposals until November 19th 2013.

LOT 2 Offers Received	
COMPANIES	VESSEL
SEALION/SUBSEA 7	TOISA CORAL (B)
BOSKALIS/CONTINENTAL	SMIT KAMARA (B)
DOF/DOF	SKANDI FLUMINENSE (B)
DOF/DOF	GEOHOLM (B)
TBN/REEF SUBSEA	REEF DESPINA (B)



Efficiency is a short word with a strong meaning. Often people think of efficiency of a car, or of a vessel, mainly in regards to fuel: the less fuel spent to drive more miles the more efficient the car or the vessel is. But what if a car or vessel is purposely designed to deliver lots of power, or to carry more cargo? Then, fuel efficiency could suddenly become less fuel for more power, or less engine space used in the same body or hull allowing more people or more cargo to be transported at lower consumption per tonne. Indeed efficiency can also mean more reliability and less maintenance, increasing operational safety and reducing downtime altogether.

Therefore, generation of value and lower bottom-line cost can be triggered from modern concepts helping

reduce waste and delivering an overall more efficient result. An example of how such technology is being used comes from the newest generation deepsea container ships, Maersk's Triple-E. Its energy efficient lower-revolutions engine is combined with a hull design and lower cruising speeds allowing for a considerable CO2 emissions reduction of nearly 40%. Furthermore, the exhaust gas is used to produce energy which is used to help propel the ship. The new concepts have also allowed for a redistribution of the command bridge and engine bringing several economies and optimized space.

When it comes to offshore support the more distant it gets from the VW Golf analogy however. That is because some OSVs are power beasts, purposely designed to

deliver strong bollard pull but also to safely and reliably operate in dynamic positioning alongside an offshore unit to deliver as much cargo as possible, and the more cargo it can carry the better. The science of placing all these in one energy efficient system is extremely complex, and is where some designers have excelled. A combination of Diesel Electric (DE) systems and in some cases the use of Hybrid Technology is the key to efficiency as opposed to the conventional Diesel Mechanical (DM) systems.

A DE system will be wire connected between the generator and the propulsion electric motor; it will not spend power in transmission and thrust. At the same time, the absence of components such as a long and heavy shaft with pitch propeller control systems will grant much desired hull space, on top of power savings. Moreover, DE engines run at optimum load condition, and there is a relevant interaction between the modes of operation of an OSV and the load conditions.

Typically, an engine's highest efficiency is obtained at 85% load. At 50% load, close to 10% efficiency can be lost, and over 30% in lower loads. A conventional DM vessel will operate in several load conditions, i.e. when alongside an offshore unit. Industry studies from designers such as Wartsila and Rolls-Royce suggest that DE systems will generate losses of no more than 10% on average, as they operate in constant engine load. Traditional DM systems however, having to work at variable engine load conditions, will have around 30% losses, on average.

In addition, some variables could gain more importance in terms of fuel efficiency. In Brazil, where offshore fields are commonly located at over 100 nautical miles from shore, the

sailing consumption of vessels is ever so relevant. A DE engine is 100% more efficient than its comparable DM engine in terms of losses, and can be set up in such a way that a single generator can be used for steaming. Such reality is translated into a 250 tonnes bollard pull anchor handler steaming at comparable fuel consumption of a traditional PSV of 4,500t dwt, that is something around 12m³/day at economical speed. When operating in DP alongside it takes full advantage of its optimum engine load condition to operate more reliably and at less average loss, and lower consumption. Eventually when total power output is required, the vessel can be lightened up to deliver all it can.

“Charterers have definitely opened their eyes to this economical aspect and it is at a point of no return.”

As brought to you by our last Brazilian Wave edition Petrobras news, charterers have definitively opened their eyes to this economical aspect and it is at a point of no return. Energy efficient vessels will be those to achieve economic

success. If you want to hear more on energy efficiency and what else is out there please feel free to contact us.



Drilling Units in Brazil - Less In, More Out



In our Drilling and Production section this month you can find a series of rig moves which happened in a very short period of time. Unfortunately, most of the rigs are leaving the country instead of coming in.

This change is reflecting a higher demand and potential returns for these rigs elsewhere in the world, such as in the Gulfs of the US and Mexico, Mediterranean and Asia. Even though there is still ongoing and upcoming drilling campaigns in Brazil, the overall drilling activity in the region has declined. We can note that the deepwater fleet of drilling rigs has remained steady, but a few mid-water rigs have finished their contracts (or were unfortunately “forced out” of them), thus they left Brazil or may leave soon. These semis include the EnSCO 5004, Sedco 710, Ocean Quest and Blackford Dolphin.

Meanwhile, semi EnSCO 5002 is concluding its commitments to OGX and Repsol Sinopec this month and it is likely to leave Brazil, unless it secures a new contract.

Meanwhile, the brand new deepwater drillship Ocean Rig Mylos recently arrived in Brazil, set to commence a long term contract with Repsol Sinopec in the “Pão de Açúcar” drilling program. Also, we can point out some rigs that are at present on sublet agreements, and therefore, do not generate an increase in the overall support vessels demand in Brazil, as for example the jack-up Petrobras-VI which has just concluded a campaign with Queiroz Galvão, the semisub Ocean Star in its second sublet agreement from OGX this year (now with Queiroz Galvão), and the drillship Norbe-VIII, which Petrobras will sublet to Total as from the beginning of 2014.

In the beginning of 2014, Statoil also plans on hiring a rig for its Juxia drilling campaign, but it is still undefined

whether the rig will be a sublet or if it will come from abroad. Regarding Petrobras, the next incursion of new rigs is not due for delivery until the first quarter of 2016, when three newbuild drillships are scheduled to begin long-term contracts. Petrobras currently has 40 ultradeep water drilling units and 20 shallow/midwater units, according to its last Business and Management Plan. Until 2020, 28 locally built ultradeep water drilling units are expected to be delivered, focusing on pre-salt exploration.



Even though so many new drilling units will start operating before the end of this decade, Petrobras expects that its rig fleet will consist of 42 ultradeep water units in 2020, which means that it will be an increase of only 2 units in seven years, if you compare this with the current fleet.

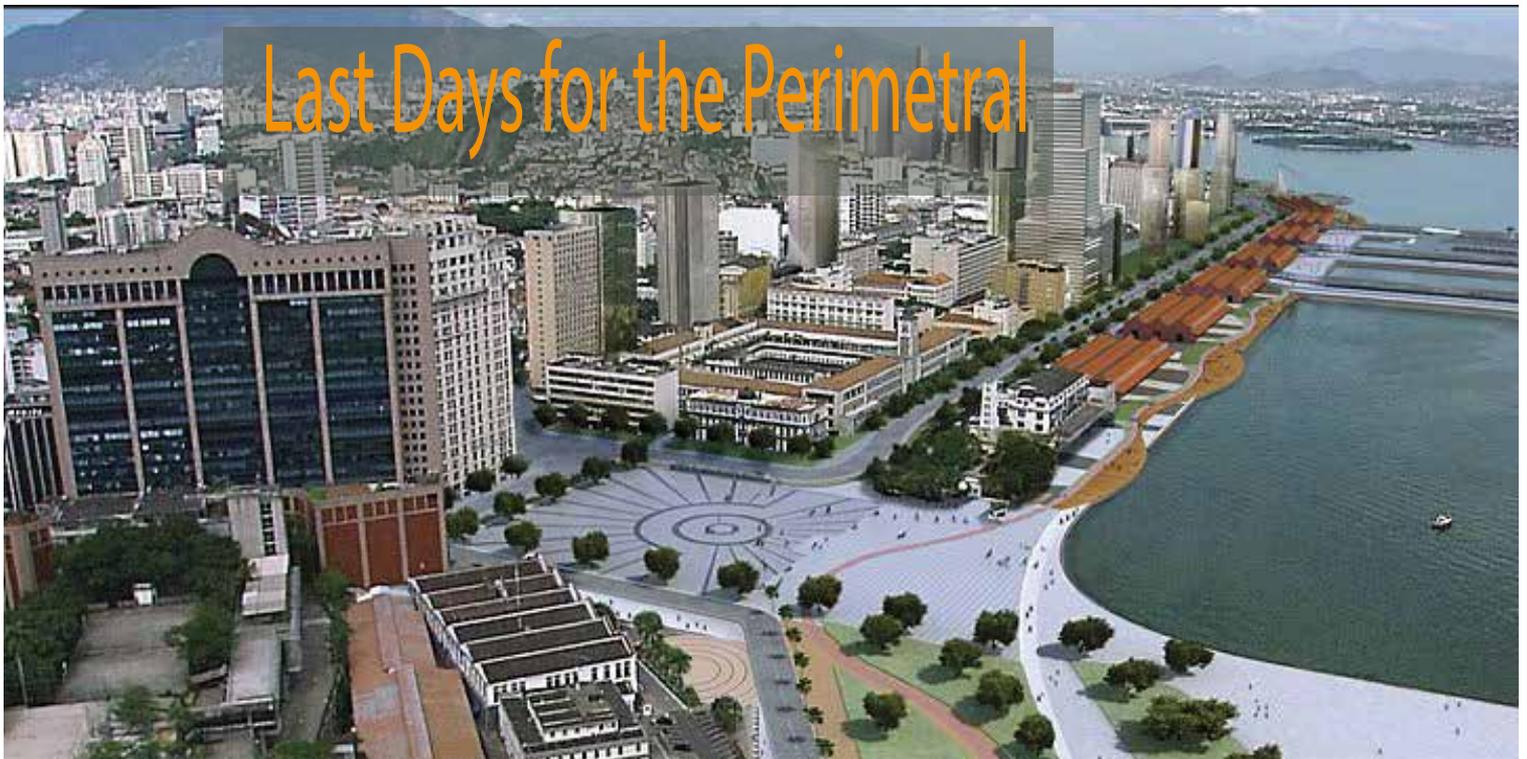
This is in line with ANP's local content requirement, replacing foreign rigs which would be either gradually

“Even though so many new drilling units will start operating before the end of this decade, Petrobras expects that its rig fleet will only increase by 2 units in seven years.”

leaving Brazil or remaining in the country for IOCs. Nonetheless, with a lack of infrastructure and qualified personnel to get this local project going, the forecasted volume of new rigs may suffer some delays, so these foreign rigs may stay longer than expected in the country.

Regarding floating production units, Petrobras plans an increase from 55 to 86 FPSOs until 2020, clearly showing its focus on production growth at least during the next three to four years. The development projects will also need to see some drilling activity but the demand is anticipated to be practically covered by the UDW 42 units which are so far planned.

Given this scenario, we can expect an increasing demand for OSVs focused to support development fields rather than exploratory projects. On the exploratory side, Petrobras may focus its efforts on deepwater projects out of Sergipe-Alagoas basin as well Espirito Santo, added to by the IOCs that will carry out its drilling campaigns on the offshore blocks awarded earlier this year by ANP, mostly concentrated on the Northern part of Brazil.



A key phase of Rio's "Porto Maravilha" ("Marvelous Port") urbanization project got underway on November 2nd with the start of the demolition of the "Perimetral" highway. The removal of this viaduct which connects Avenida Brasil, Linha Vermelha and the Rio-Niterói bridge to Downtown Rio will reveal some interesting historical sites of Rio's business district. It will also make way for the construction of new office developments, hotels, apartments and leisure facilities. The current downside of this project is the increased traffic jams in rush hours, since other avenues and streets in this region have had to absorb all the traffic from Perimetral. The city of Rio is currently preparing some alternative routes to minimize these impacts. This is an ambitious urban regeneration ahead of the 2016 Olympic Games which can bring both commercial and residential development as well as new infrastructure to the area. An example of this is the MAR (Rio's Museum of Art) which was an early part of the project and has already become a symbol of the area's potential. The elevated Perimetral road, which was built in stages between 1950 and 1970 along the edge of Guanabara Bay, effectively condemned the area to become a forgotten place with economic activity grinding to a halt and property prices plummeting. However, the development seeks to reverse this and also to create an estimated 8,000 hotel rooms expected to accommodate visitors during the 2016 Olympics and the conversion of a motel into the exclusive Le Paris five-star hotel, scheduled for completion in 2014. The construction and the area's rejuvenation are expected to continue for about fifteen years, offering an interesting long-term option for companies that want to invest on this massive project set to transform the city.

When Brazil became a Republic

Proclamation of the Republic Day is a public holiday in Brazil which commemorates the establishment of Federal Republic of Brazil by Marshal Deodoro da Fonseca on November 15th, 1889. The holiday also marks the downfall of the monarchy system in Brazil led by D. Pedro II.

