

# *Rumos* PRÁTICOS

Brazilian Maritime Pilots' Association Magazine - 59<sup>th</sup> edition - June-September 2021



Crossing the bar  
to the Port of  
Rio Grande



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# Rumos PRÁTICOS



In this edition of *Rumos Práticos*, we made a concerted effort to address safety, both in pilot embarkation/disembarkation and in port projects.

We invited pilot Arie Palmers who works in the Scheldt region (Netherlands) to write an article on irregularities in combined ladders with a trapdoor. After his two accidents in 2019, Arie Palmers is now an active inspector for problems found in general embarkation arrangements and is cofounder of the #DangerousLadders group on Facebook.

An overview follows about how pilotage worldwide is coping with situations involving trapdoor ladders. In his article, pilot Marcio Fausto, from the São Francisco do Sul and Itapoá pilot station (Santa Catarina-SC), now suggests a checklist before boarding for different kinds of arrangement, including trapdoors. Palmers and Fausto are emphatic when recommending postponing boarding in event of irregularities, an approach that has proven effective in solving any observed shortcomings.

Also on the matter of safety we have an article showing how the preliminary risk analysis is more and more often adopted in port operation and construction designs, with the contribution of pilotage expertise.

After addressing the São Francisco simulator in the last edition, we describe here the maneuver simulation center of the Rio de Janeiro pilot station, installed in April. The training space was visited by Isaquias Queiroz, the canoeing athlete, soon after winning his gold medal in the Tokyo Olympic Games. Check out his welcome on the following pages.

Lastly, continuing our series on pilotage zones, we visited the historic pilot station of Barra do Rio Grande (Rio Grande do Sul-RS), origin of Francisco Marques Lisboa, patron of our profession, and father of Admiral Tamandaré, Joaquim Marques Lisboa. If in the past he and his contemporaries helped brave the so-called devil's sandbar, until the construction of breakwaters that lowered the risk of the crossing, today the pilots still collaborate to overcome congestion of infrastructure and increase the efficiency of operations in the port.

Good reading!

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# New obstacles in the originally called “devil’s sandbar”

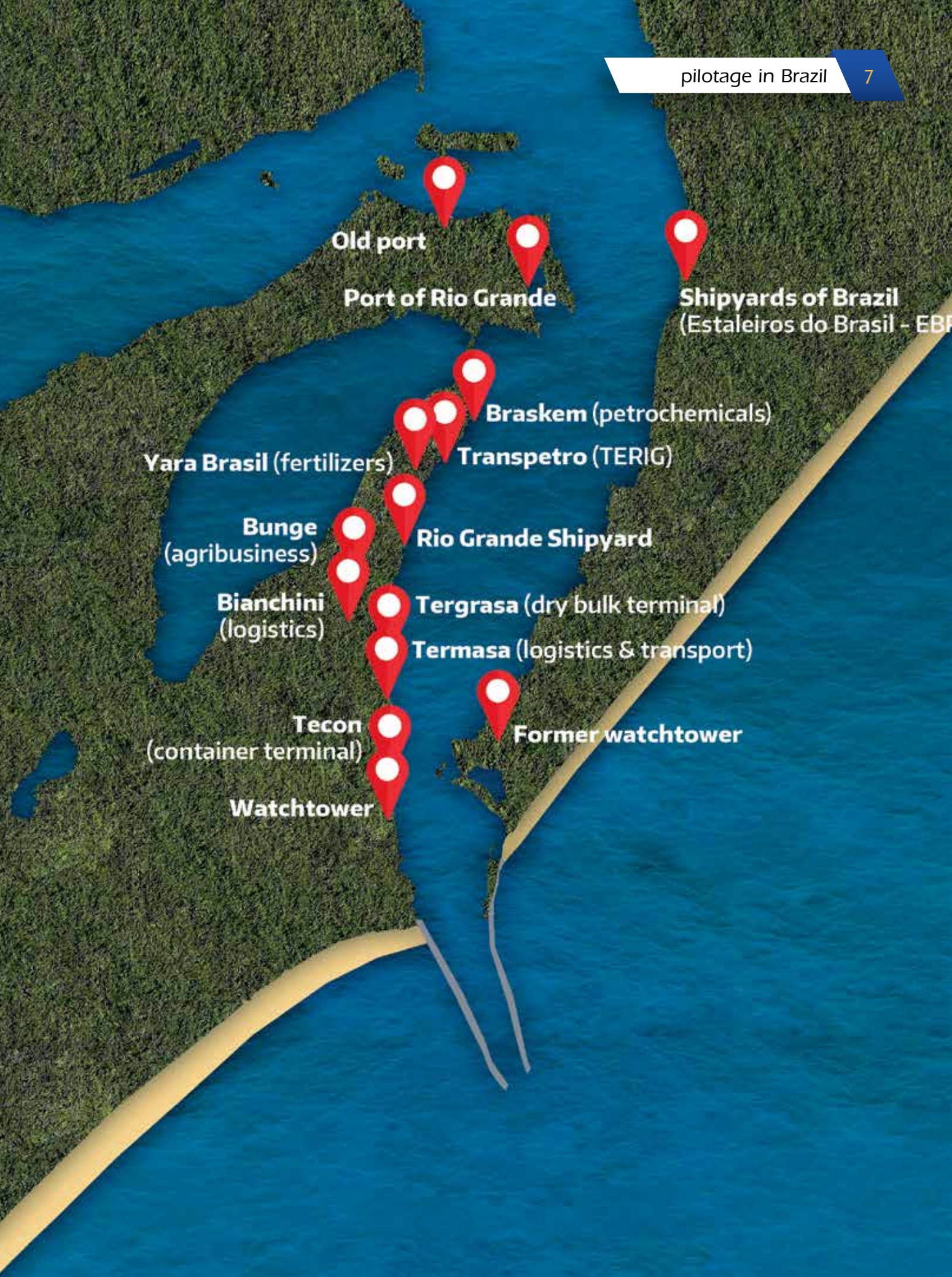
*In addition to the adverse environmental conditions, pilots in Rio Grande overcome structural challenges and have contributed to the best six months in the port’s history*

RIO GRANDE

photo: Gustavo Stepien



SPECIAL MANEUVER INTO THE RIO GRANDE SHIPYARD DRY DOCK



**Old port**

**Port of Rio Grande**

**Shipyards of Brazil**  
(Estaleiros do Brasil - EBF)

**Braskem (petrochemicals)**

**Yara Brasil (fertilizers)**

**Transpetro (TERIG)**

**Bunge**  
(agribusiness)

**Rio Grande Shipyard**

**Bianchini**  
(logistics)

**Tergrasa (dry bulk terminal)**

**Termasa (logistics & transport)**

**Tecon**  
(container terminal)

**Former watchtower**


**Watchtower**



PRÁTICO IRUA

CROSSING ON LEAVING THE SANDBAR BREAKWATERS



A large cargo ship is docked at a pier, with the ocean and a lighthouse in the background. The ship's deck is visible, showing various structures and equipment. The water is a deep blue, and the sky is clear. In the distance, a small white lighthouse sits on a rocky outcrop.

Tourists who cross the Rio Grande sandbar in *vagonetas* – sail cars on tracks along the breakwaters – find it hard to imagine that it was once called the devil’s sandbar. Its crossing was once very difficult, until the turn of the 20<sup>th</sup> century when the breakwaters were built to prevent the accumulation of sediments from the rivers flowing into the Patos Lagoon. Despite the hazardous crossing, between 1846 and 1882, well below 1% of ships who entered the port were lost thanks to the experience of pilots, whose predecessor was Francisco Marques Lisboa, patron of Brazil’s pilotage. The pilots aboard skiffs (light rowboats) would guide the vessels between sand banks at a time when the depth in the sandbar was no more than four meters. Today, the inner channel is 16 meters deep, but the challenge to further port efficiency in complete safety remains.

At the end of August, *Rumos Práticos* visited pilot station 19, spending two days visiting this project. The channel outside the breakwaters is eighteen meters deep and extends for six nautical miles. The inner channel extends as far as the new harbor entrance (public), passing through private terminals for containers, agricultural bulk, fertilizers, oil products and petrochemicals – more than 25% of the GDP of Rio Grande do Sul state. There is also a shipyard on each bank. In 2020, the port of Rio Grande handled 38,090,430 tons. In the first half of 2021, 20,805,726 tons were handled, a 4.43% rise compared to the same period the year before, and unprecedented despite the pandemic.

On the frontline of this operation are 24 pilots who undertake between 4,500 and 5,000 maneuvers a year, considering arrivals, exits and internal movements. The first challenge they mention concerns weather conditions, especially in the winter. Rio Grande is the first port to feel the cold fronts, always more intense there. *Rumos Práticos* brought good weather when it visited.

“The weather is very severe here, both when ship handling and when boarding and disembarking. We must move fast on embarkation and disembarkation since we have strong currents in the channel and we very often maneuver in strong winds, otherwise the port would stop”, explains pilot Bernardo Campos.

To brave the sea and ensure the service in more limited situations, the pilotage has fast modern boats fitted with state-of-the-art equipment. There are four boats for navigation outside the sandbar and one in port (internal). Master Valdenir Lopes, known as Pinto, is one of the pilots. He has worked on board since 1971:

“The most difficult boarding is when there is a sudden change in the wind direction. But we’re used to it.”

The pilotage has also invested in an ocean current gauge and a 24-hour weather station. To assist the turning of large ships, portable pilot units (PPUs) were procured, as they provide more accurate information on the vessels’ positioning.

Since 2012, the port has been operating with containers of up to 340 meters long. The pilotage investments in technology and bathymetry (measuring underwater depth to the seabed) help turn this size of ship in an inner 230m-wide channel, because outside the channel no dredging has been done. Even so, there is a limit on ship loading: an 11.20-meter draft for ships between 306 and 340 meters in length. In June 2020, the first night-time turning maneuver was made. Pilot Rodrigo Linck participated in the job on the 330-meter ship *Kota Pemimpin*.

“That ship had already called at Rio Grande, but only day-time turnings were allowed. After years of experience, we believe that, with the proper PPU equipment and in certain weather conditions, it would be possible to maneuver at night. I was fortunate to do this with pilot Reginaldo Pantoja.”

In the new port, Terraplano Island (formed in the past by dredging sediments) makes it impossible to turn in the narrower channel.

“The ships must enter or leave astern, which makes the maneuver more complicated, if added to our extreme weather conditions,” comments pilot Guido Cajaty.

As for the Rio Grande Shipyard, its position across the channel also makes it a delicate maneuver since any ebb or flood tide current acts on the stern of the ship entering or leaving the harbor. *Rumos Práticos* watched as the oil well-stimulation vessel *Siem Helix 1* entered for repairs, a task lasting almost four hours using only four tugs and no machinery. The shipyard had been shut down for five years. Pilot Andre Cola was in charge of the maneuver planned by Pedro Luppi, executive secretary of pilotage.

The latest focal points in the pilotage zone (ZP) are outside the sandbar. The marking system of the outer channel was not concluded and, after the breakwater extension work in 2011, the East and West branches were aligned, leaving vessels to undergo the other very strong crosscurrent with the southerly wind during the turning at the mouth of the sandbar. If this current reaches four knots, the port will be closed. For loaded bulk carriers (above 13.20-meter draft), the limit is 2.50 knots. Pilotage estimates the current at the site by extrapolation and is studying how to install a doppler flowmeter there. Other investments in progress in the ZP involve forecasting waves, fog and tide levels.

Fernando Estima, superintendent of the Rio Grande do Sul ports, says that pilotage has been essential for overcoming the challenges:

“All further technical data, since we don’t have Vessel Traffic Management and Information Systems (VTMIS), are provided by the pilots, going beyond their role when sharing the data with the port and maritime authorities.”

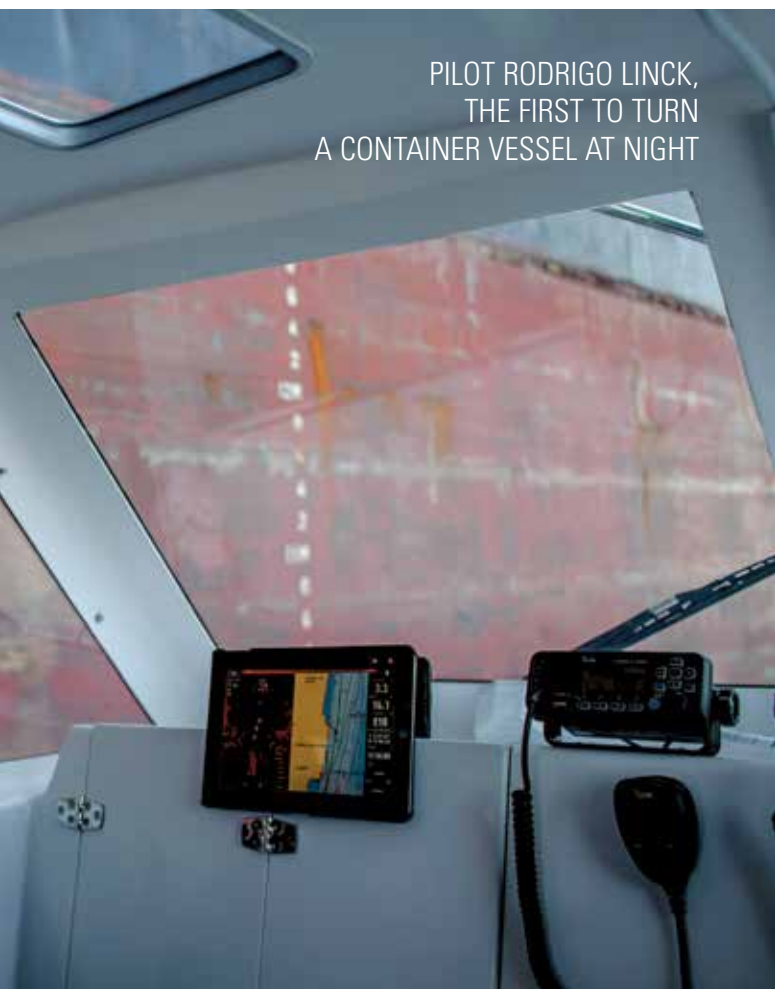


photos: Gustavo Stephan





PILOT BERNARDO CAMPOS  
DIRECTING COMMANDER MOON



PILOT RODRIGO LINCK,  
THE FIRST TO TURN  
A CONTAINER VESSEL AT NIGHT

He tells us he intends to do different contracting to equip the port with VTMISS:

“We will not procure equipment. We are forming a partnership with the Federal University of Rio Grande (Furg) to have a permanent area for developing nautical signage technologies. Therefore, we will only lease the data of the company that wants to develop the technologies here, making the Rio Grande channel an ongoing upgrade laboratory through research.

After the access channel was dredged, closed in October 2020, signs of sedimentation are already visible. The Port Authority promises to contract maintenance dredging to start in early 2022, while the concession modeling of the channel of Paraná Ports is being studied by the Logistics and Planning Company (EPL). The model for a long-term dredging service will be a benchmark for other ports.

Regarding the need for an evolution basin for large ship turnround, the superintendent states that the design is being licensed by the Brazilian Institute of the Environment and Renewable Natural Resources (Ibama) and the area will attend grain container (Termasa and Tergrasa) and container (Tecon) terminals:

“Tecon will undertake the investment in exchange for expanding its lease site.”

Captain Claudio Silva, shipmaster of Rio Grande do Sul Ports, emphasizes that the synergy with the pilots, who according to him indicate where the port bottlenecks are, has been very beneficial:

“The pilots are valuable advisors and a considerable help by pointing out to me the infrastructural problems, and they play a direct role in the movement of setting new operating parameters, recently adopted in Rio Grande.”

In September simulations in Furg are expected to approve draft and arrival of new ships in the channel, including those 366 meters in length. The Barra do Rio Grande pilot station is ready for this next challenge. More than half the pilots have trained on a simulator and small-scale manned models, which reproduce the behavior of the megaships.

### CENTURIES OF OVERCOMING

Pilotage has been around for thousands of years, and the first records in Rio Grande date from before the Empire. The service became official when in 1775 Francisco Marques Lisboa, arriving in Brazil from Portugal, set up as a merchant in what was then the town of Rio Grande, where he recognized the importance of providing the region with a pilot service. He was the first pilot appointed by a viceroy and held the position of chief patron of the city until 1832, when he ceased his activities. It was through him

that Joaquim, one of his 12 children, dedicated his life to the sea and became renowned as Admiral Tamandaré, patron of the Brazilian Navy.

Francisco Marques Lisboa took part in the construction of the pilottage watchtower in 1820 in São José do Norte, from which they would fly a flag to tell the pilots of any ship arrivals. The watchtower operated until 1972 and it is today a visitors' site maintained by the Brazilian Maritime Pilots' Association. In 2007, after its restoration, it was the venue of the ceremony awarding Lisboa the title of Patron of Brazilian Pilottage.



THE OLD PILOTAGE WATCHTOWER

PILOT ANDRE COLA  
HANDLING  
A GAS TANKER



PILOT GUIDO CAJATY  
HANDLING A BULK CARRIER  
LEAVING THE PORT OF  
RIO GRANDE





The pilots at that time were crucial to crossing the devil's sandbar, as it was referred to in the 18<sup>th</sup> century, because of its shifting sandbanks. In 1875, the English civil engineer John Hawkshaw, hired to analyze the port situation in Brazil, was the first to consider building breakwaters as a solution for the sediment accumulation. His measurements confirmed that the depth of the sandbar was no more than 3.90 meters. In 1882, the pilots reported that 100 ships were moored for more than three months, unable to enter or leave due to the access problem.

It was due to engineer Honório Bicalho in 1883 that the breakwater project advanced. When landing in Rio Grande, he confirmed the construction as a solution to unblocking the passage.

"When the southerly wind blows for a long time, the sea water starts to rise in front of the breakwaters and invades the Patos Lagoon during the flood tide phenomenon. When the wind veers to the northeast, it begins to push the water back and starts to ebb, sometimes with a current of as fast as six knots. When narrowing the passage, the breakwaters increase the speed of the ebb flow and prevent sedimentation", explains Pedro Luppi, executive secretary for pilotage.



During breakwater construction in 1912 the depth increased to 4.50 meters. In 1915, the training ship *Benjamin Constant*, with a draft of 6.35 meters, crossed the bar toward the new port inaugurating one of the world's greatest maritime engineering achievements. That same year, the first part of the harbor walls was inaugurated. This whole story is told in detail in the book *Sonhos de pedra* (Dreams of stone) by Klécio Santos. ●



PEDRO LUPPI, PILOTAGE EXECUTIVE SECRETARY



DEPARTURE ASTERN OF BULK CARRIER *YASA JUPITER*.  
ON THE RIGHT, THE ISLAND OF TERRAPLENO



# Non-compliant embarkation platforms

Arie Palmers

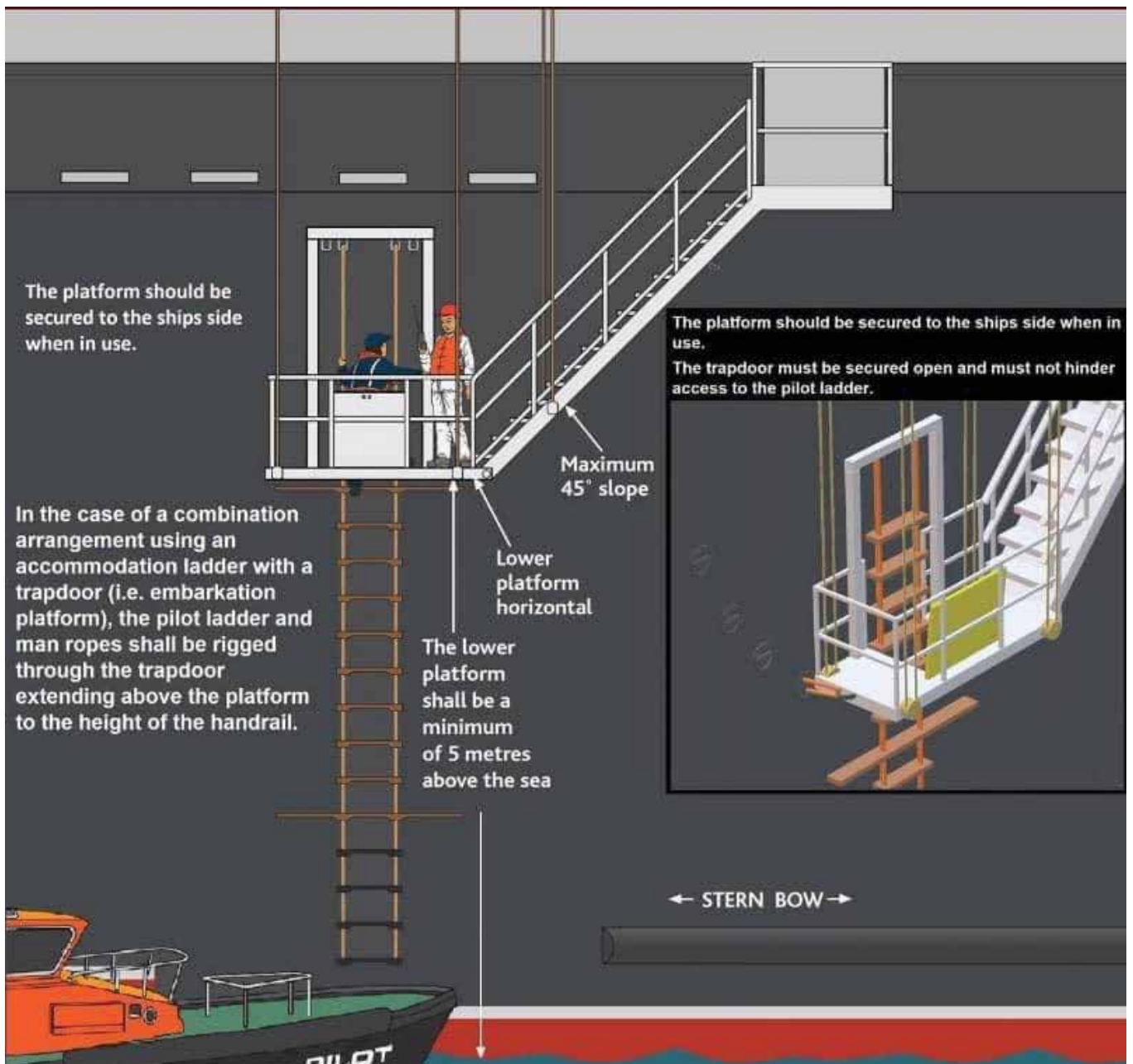


FIGURE 1



Good day,

My name is Arie Palmers and I have been working as a maritime pilot in the Scheldt region since 2008. After I had 2 accidents in one week in 2018 with minor injuries I started wondering how that could have happened, because I consider myself a cautious person, always paying attention to safety. I started developing an interest in pilot transfer arrangements (PTAs) and started keeping a tally from May 2018 and I am still doing that now. To my surprise I found out that over 50% of PTAs are non-compliant and therefore dangerous. On the 30<sup>th</sup> of December 2019 a colleague from Sandy Hook had a fatal accident whilst trying to board a container vessel with a non-compliant embarkation platform (aka trapdoor). Recently I came in touch with the *Rumos Práticos* team and we discussed the possibility of writing something on these "trapdoors". In this article I would like to explain to you some things about these types of PTAs, what to look for and what to do when you encounter a non-compliant trapdoor.

The PTA that goes by the official name of "embarkation platform", but better known by the alias "trapdoor" in certain versions which I will describe in this article have been declared non-compliant since 2012 in SOLAS ch. V reg. 23 and already in IMO A. 426 since 1979. Which means IMO has considered them unsafe for 42 years already, and they are still around... What went wrong?

In Figure 1, in the style of the well-known pilot ladder poster, you see an embarkation platform that complies with all present requirements and recommendations that are in force today. Further down in the article I will show the different rules that are valid for this system at the moment.

Figure 2 also displays a fully compliant embarkation platform that has been considered safe by IMO and SOLAS to use in boarding and disembarking vessels.

photo: personal file

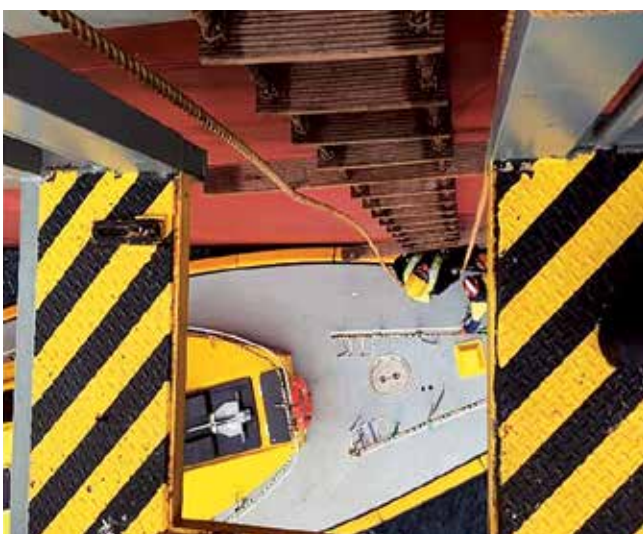


FIGURE 2

## APPLICABLE REGULATIONS:

SOLAS ch.V reg. 23 3.3.2.1: In the case of a combination arrangement using a combination ladder with a trapdoor in the bottom (i.e. embarkation platform), the pilot ladder and manropes shall be rigged through the trapdoor extending above the platform to the height of the handrail.

SOLAS ch. V reg. 23 3.3.2 "...so as to ensure that the lower end of the accommodation ladder and the lower platform are held firmly against the ship's side..."

IMO A. 1045(23) 3.7: "...and the ladder should extend above the lower platform to the height of the handrail and remain in alignment with and against the ship's side".

IMO A.1045(23): "The trapdoor should open upwards and be secured either flat on the embarkation platform or against the rails at the aft end of the outboard side and should not form part of the handholds".

These rules tell us how a trapdoor should be constructed and rigged to comply with the present regulations. Furthermore SOLAS ch. V reg 23 also states in 2.1 regarding safety: "All arrangements used for pilot transfer shall efficiently fulfil their purpose of enabling pilots to embark and disembark safely." 3.1: "Arrangements shall be provided to enable the pilot to embark and disembark safely on either side of the ship." Basically, when someone dies trying to use a non-compliant trapdoor, it can never be considered safe....

Regardless of the regulations, we come across dangerous trapdoors on a regular basis, and I would like to bring to your thought again the tragic accident in Sandy Hook in 2019. The picture in Figure 3 displays the PTA that killed our American colleague. When reaching the top of the ladder, one must lean back and pull himself using his arms through the gap in the platform... at about 5 meters above sea level. This contraption has been approved by the USCG, but as we can see it is non-compliant. Class approved does not necessarily mean safe and compliant.

- The ladder has been suspended under the platform, the pilot must pull himself up by his arms, and must twist himself 90 degrees to reach the platform. All he has to hold on to are some steel pipes.

- Ladder and gangway not secured to the ship's hull as required.

- The steel pipes on which you have to pull yourself up can be slippery when wet so it's easy to lose your grip when you're leaning backwards attempting to get onto the platform, and that is exactly

what went wrong. Just before the pilot fell down, he shouted to the launch crew: Guys, this is wrong, I need help....

photos: personal file



FIGURE 3

Ships built before 2012 often claim their PTA has to be considered under the so-called grandfather clause described in SOLAS ch. V reg. 23 in 1.3. Basically, they are stating that they do not have to rig a safe and compliant PTA because of a loophole in the regulations.

The predecessor of SOLAS ch. V reg. 23 is Resolution MSC.99(73) and in 2.1 states, just as his successor: "All arrangements used for pilot transfer shall efficiently fulfil their purpose of enabling pilots to embark and disembark safely."

Already in 1979 IMO declared this particular system unsafe in IMO A.426, 9: "If a trapdoor is fitted in the lower platform, the aperture should be no less than 750mm x 750mm. In this case the after part of the lower platform should also be fenced as in paragraph 6 and the pilot ladder should extend above the lower platform to the height of the handrail."

IMO A.426 was succeeded in 1999 by IMO A. 889(21) that states exactly the same as IMO A.426 in 3.7. And in 2012 this resolution was followed by IMO A.1045(27), which has been in force up until today.

Even though these types of trapdoors were banned by IMO 42 years ago, we still come across them even until today, unfortunately, as you can see in the recently taken photos below.



FIGURE 4

In the photo in Figure 4 you can see the ladder has been rigged behind a steel beam hampering unobstructed access, which means non-compliant.

We can see another example of a non-compliant trapdoor in Figure 5, and this particular trapdoor also has the hatch opening the wrong way: upon reaching the top of the ladder you will have to pull yourself up, hanging on this hatch that has only been secured by two little pins.

Luckily not everything goes wrong. I have had extensive contact with both Maersk and MSC who are now in the process of retrofitting all their non-compliant trapdoors. Maersk has issued a safety notice as well, after we had a meeting with them, declaring the old trapdoors non-compliant. MSC is almost finished and Maersk is looking for yard space to replace the old trapdoors with a totally new and tested design. Again, these companies are leading the way to safety.

Recently I boarded a vessel from OOCL with a non-compliant trapdoor and refused to bring it to sea (Figure 6).

I explained to the Captain and crew what had to be done to convert it into a compliant arrangement and a few hours later, all work had been done and she sailed. Now OOCL is also looking into the PTA's on their fleet to make them compliant.

The photo in Figure 7 shows shows the retrofitted trapdoor, which is now fully compliant. It's just a few hours of work to change from dangerous to safe.



FIGURE 5



FIGURE 7



FIGURE 6

photos: personal file

Regarding compliance, earlier this year I had contact with the Bahamas and as a result they are now conducting a concentrated inspection campaign for all Bahamian flagged vessels. It can be done, but as long as we keep climbing, they will keep coming. Every pilot has a fundamental right to reject a dangerous PTA. We do not have to endanger our lives because a shipping company is reluctant to comply with the present regulations. ●



## Arie Palmers

PILOT IN THE SCHELDT REGION  
(NETHERLANDS) AND COAUTHOR OF  
THE #DANGEROUSLADDERS GROUP  
IN FACEBOOK

# GLOBAL PRESSURE RISES AGAINST IRREGULARITIES IN TRAPDOOR COMBINATION LADDERS

*In Brazil, pilotage is producing reports that subsidized complaints and boarding refusals*

Since the death of Dennis Sherwood, a pilot from Sand Hook (New York), who fell from a trapdoor combination ladder in 2019, global pilotage has been mobilizing to put an end to the irregularities in this means of access to the ships.

According to the International Convention for the Safety of Life at Sea (Solas), supplemented by Resolution A.1045 of the International Maritime Organization (IMO), in the case of trapdoor combination

ladders, the pilot ladder must be firmly resting against the ship's side and extending through the trapdoor, with no overlapping structure to the height of the boarding ladder.

IRREGULAR ARRANGEMENT  
OF THE MAERSK MEMPHIS



After Sherwood's fall from the ship *Maersk Kensington*, where the pilot ladder was not leveled with the handrail, the American Pilots' Association asked the state pilotage authorities to remind the pilots and the seagoing community about the possible refusal to board in off-standard conditions. In Canada the Pacific Pilotage Authority gave a similar reminder to the industry.

The Panama Canal Authority, in turn, advised the shipping agents, navigation companies and operators that irregular arrangements incur delays in the transshipment until they are corrected. Also, the Bahamas Maritime Authority issued a technical warning informing about the start of an inspection campaign from July to December, on all vessels in the country. Compliance of 45 items will be checked, and the crew will have mandatory training on the subject.

### THE SAME ARRANGEMENT OF THE MAERSK MEMPHIS ADAPTED AFTER PILOTAGE INTERVENTION



PHOTO: CEARA MARINE PILOTS

In February 2021, pilots in London refused to board the ship *Maersk Kingston* (the same class as the *Maersk Kensington*), which preferred to continue its voyage to the next port in Rotterdam. The president of the UK Maritime Pilots' Association, Mike Morris, informed that the firm position of its members produced positive results. After the episode, Maersk published a safety warning for its vessels to correct the failures in the trapdoor installations.

In Brazil, the Brazilian Maritime Pilots' Association (Conapra) presented a guide to help pilots identify trapdoor-related problems. The work was sent to the Navy's Directorate of Ports and Coasts (DPC), Brazilian Cabotage Shipowners' Association (ABAC), Brazilian Shipping Agencies (Fenamar), Transpetro (Petrobras logistics) and National Union of Maritime Shipping Companies (Syndarma).

Since Transpetro shipping traffic is common in Rio de Janeiro, Rio Pilotage, also through its Technical Committee, produced a supplementary document to the port authorities and the company, suggesting temporary alternative measures to adapt its fleet. The Petrobras subsidiary claims that it has certification from classification societies, which, however, would contradict the prevailing safety standards.

Pilot Siegberto Schenk, technical director of Rio de Janeiro pilotage, understands that even the current

regulations do not ensure the safety of the trapdoor combination ladder arrangements, when they define that the pilot ladder must extend to the height of the pilot ladder's handrail. In his opinion, it would be enough for the regulation to repeat the provision for combination ladders with no trapdoor, which determines that the pilot ladder extends two meters above the platform:

"When the ladder ends at the handrail, the pilot's feet have not yet reached the boarding platform's height. So, when it is secured two meters above the platform, the pilot only needs to step sideways at the end of the climb, as in normal combination ladders. Although they are not ideal, the minimum trapdoor requirements must be complied with. Most important, however, is not whether the devices conform to the conditions or not, but if they are, in fact, safe.

Schenk emphasized that the problems are not limited to Transpetro and tells how he has seen some adapted arrangements, which, he says, is already the result of this global pressure.

Conapra also published an article by Marcio Fausto, pilot from São Francisco do Sul and Itapoá (Santa Cararina-SC), in which he suggests a checklist before boarding and indicates the main inspection points for each arrangement.

Pilot Bruno Fonseca, technical director of Conapra, believes that progress has been made. He mentions the case in Itajaí (SC), of the ship *Maersk Memphis*, which was in breach of the trapdoor regulations. Pilot Alexandre Rocha informed this fact to the Port Authorities based on the first guide produced by Conapra. The vessel was fined and the shipowner agreed to repair it at the next stopover in Santos (São Paulo-SP). When it arrived in Pecém (Ceará-CE), it no longer had any inconsistencies.

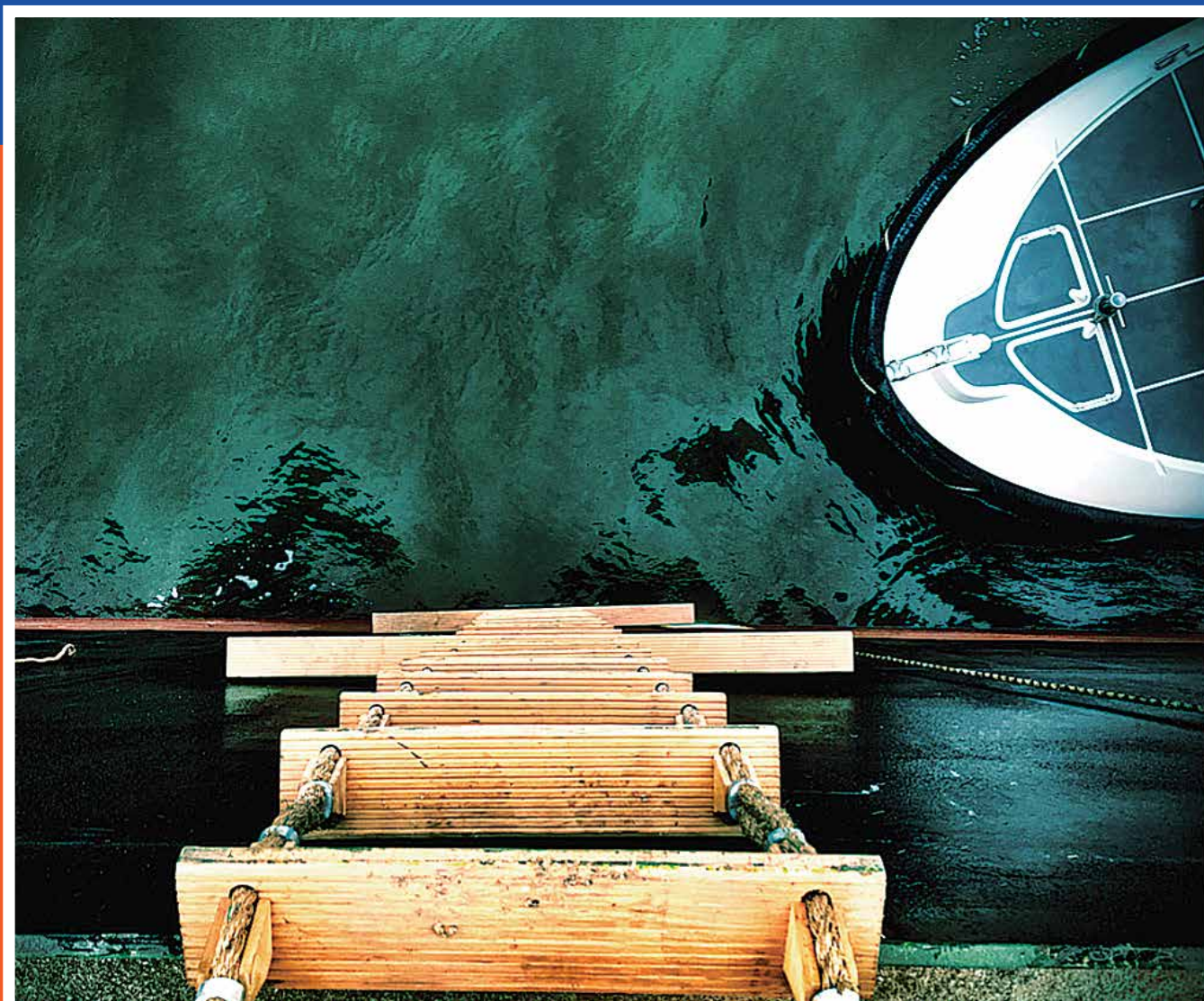
"Captains are sensitive and trouble shooters. The truth is that they don't know the state of the ladder because they don't go on deck. This responsibility lies with the first officer delegated by the chief officer", says Bruno Fonseca, who sees signs of a better future in vessels' transshipment operations.

"The pilots are increasingly aware that they are responsible for their own safety, rejecting boarding, complaining to the captains and informing the captaincies." ●

# “Stairway to Heaven”

## OR “HIGHWAY TO HELL”

Marcio Fausto



No. This is not a debate about religion or rock'n'roll. Or about whether you prefer Led Zeppelin or AC/DC. We're going to talk about boarding devices for pilots. That interface between pilot boat and ship. That place in time and space where you are neither in the water nor onboard and, depending on preparation or maintenance conditions of the arrangement, you will be taken to one or the other. Either the boarding device will be your Jacob's ladder taking you to paradise, to the ship's bridge or pilot maneuver, or it will be the ill-fated ladder carrying you to the ninth and final circle of Dante's Inferno as a man overboard.

There is a famous IMPA poster with excellent drawings of the main points to be noted in the boarding arrangements set out in the IMO resolution A-1045 (27) and Solas V/23. This poster is fixed in all ships, which does not necessarily guarantee its full compliance nor prevent the most varied and bizarre examples of improvisation and negligence. There are tiny details that escape the less discerning observer and are potential hazards. Let us recall in this article some points to be noted in the arrangements and that could prevent accidents or the ladder's premature deterioration.

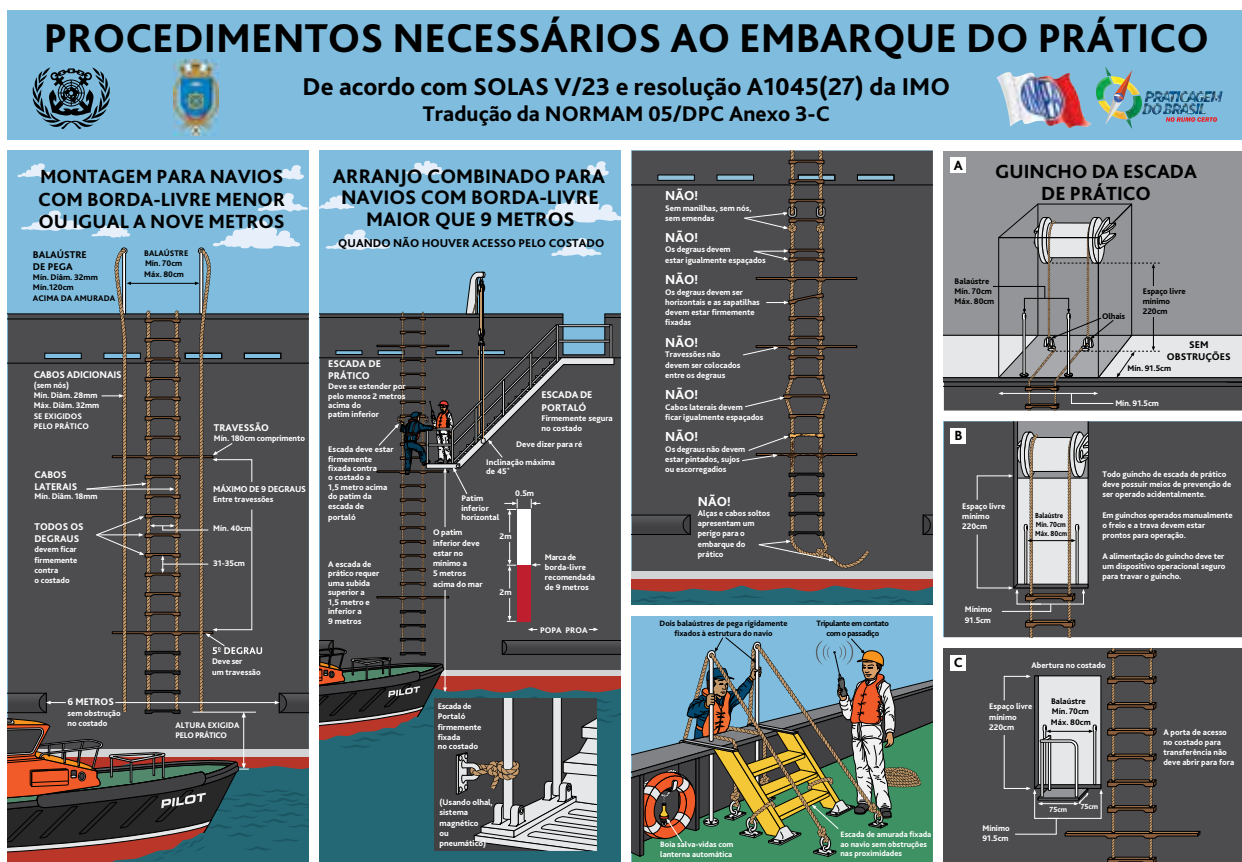


FIGURE 1

The first of them to be addressed when undertaking the preliminary inspection before embarking/disembarking is that you, the pilot, have your assessment ability slightly askew by anxiety. There is a certain predisposition to maneuver or embark/disembark bearing in mind the consequences of not doing so. This intrinsic anxiety in human nature could cause us to overlook some detail, sometimes obvious, about a non-conformity in the boarding arrangement, which will only be perceived at a critical moment: that moment I mentioned when you are neither on the pilot boat or aboard...

One way to mitigate this possible flaw in judgment is to remember by heart or fix to the pilot boat a checklist with the main items to be noted. Another good idea is to engage the pilot boat crew in the task of examining the arrangement for any potential hazards. Since the sailors would not be directly involved in transshipment, they could perceive these details more clearly.

However, undoubtedly the best way to control this anxiety is to understand that CANCELLING or POSTPONING the boarding is part of the game, especially when your life is in danger. Every pilot is entitled to refuse an arrangement that fails to comply with the regulations.



## SO WHERE SHOULD I START WITH THIS INSPECTION OR CHECKLIST?

The suggestion is to examine the arrangement from the bottom up and look upwards before you are actually on the ladder when it would be too late. Or from the top down, if you're disembarking offshore having boarded onshore. Let's go!

### Bottom part of the arrangement/pilot ladder

- a) Distance of the ladder above the sea as requested.
- b) No obstacles, such as strakes or protrusions on the ship's side along a lateral 6m length centered on the ladder.
- c) General state of repair of the last four steps, which should be made of rubber.
- d) No loose cables, knots or splices at the bottom part of the ladder that could get caught up with the rigging of the pilot boat. The ladder must finish with a step and have no "loose elements".
- e) Presence of a spreader on the fifth step from the bottom upward.
- f) Pilot ladder must rest firmly against the ship's side and not be separated as a result of strakes or protrusions in the hull.
- g) Equal spacing (between 31cm and 35cm) and parallel between steps and spreaders.
- h) General state of repair of the ladder, steps and spreaders.

### Middle part of the arrangement in pilot ladders (freeboard 9m or less)

- a) Regular spacing and parallel between steps and spreaders, with no knots or shackles.
- b) The steps should not be painted, dirty or slippery.
- c) Ladder to be secured close to the ship's side throughout and not separate as a result of strakes or protrusions in the hull.

### Intermediate part of the arrangement in combination ladders (freeboard over 9m)

- a) Bottom of the accommodation ladder at least 5m above the sea or higher in order to avoid collision with the pilot boat's rigging. *Caution! If the ship errs this distance, be prepared because things will get worse. It is a sign that common sense and discernment have already disembarked.*
- b) Platform of accommodation ladder on the horizontal.
- c) Accommodation ladder at least 45°.
- d) Pilot ladder firmly secured to the ship's side 1.5m above the bottom of the accommodation ladder.

- e) Accommodation ladder secured to the ship's side, either by a pad eye, magnetic or pneumatic system. The accommodation ladder should not be rigged to the pilot ladder.
- f) Foot of the accommodation ladder should not obstruct the pilot ladder. The arrangement must allow the pilot to pass easily from the pilot ladder to the accommodation ladder. It must have a 10-20cm clearance from the pilot ladder. If there's a problem in crossing over from the pilot ladder to the accommodation ladder, something is wrong!
- g) Presence of handholds (inside and outside) at the bottom of the accommodation ladder.
- h) Pilot ladder must extend at least 2m above the bottom of the accommodation ladder.
- i) Regular and parallel spacing between steps and spreaders.

### Top part of arrangement/arrival on board

- a) Presence of handhold stanchions rigidly secured to the deck. It is quite common to find loose handholds with loose fittings.
- b) Boarding by main deck and not over the guardrail.
- c) Ship's officer with radio in contact with the bridge waiting for the pilot. This communication with the bridge could be vital in case of an accident.

### Side door (common in large container carriers, cruise ships and suppliers)

- a) The door opens inwards to the ship.
- b) If there is a platform (when the pilot ladder runs alongside the door), it should not offer any risk of collision with the pilot boat rigging (should be at least 5m above the sea);
- c) Size of the boarding door must be at least 2.20m x 0.915m.

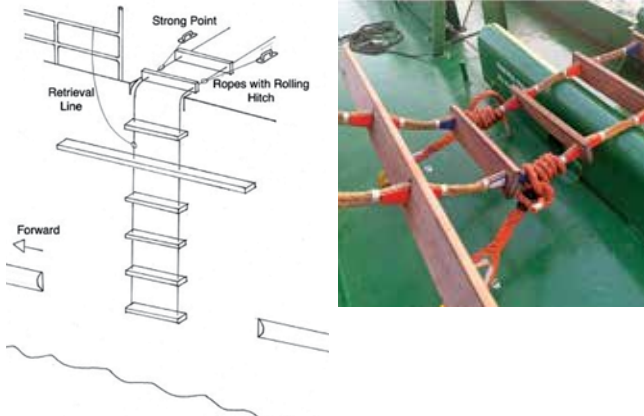
### Ladders lowered by winch reel

- a) The hoist/winch must have at least a 2.20m clearance above the boarding deck at a distance of at least 91.5cm.

Some of the items we will only be able to look at more closely when already in the course of boarding. Although by then it could be too late for you, it would be opportune to comment and notify the Captain. Remember that you will also disembark, and other colleagues will also do so by the same arrangement. These items are:

- a) General status of the ladder regarding repairs, knots and cleanliness;
- b) The ladder must not be tied to the guardrail;
- c) The ladder should be correctly secured to the deck. It must be fixed at points rigidly fixed to the ship's deck and preferably specific for that purpose. The ladder must be tied **with knots** by side ropes between two steps. It is inadmissible to moor/secure the ladder using fittings of steps or spreaders on the deck or by shackles directly on side ropes. This type of mooring is unsuitable

since it generates a force on a part of the ladder that is not designed for that. The most recommended knot to tie the ladder to the strong point on deck is the rolling hitch knot.



FIGURES 2 AND 3 – LADDER CORRECTLY SECURED TO THE DECK WITH KNOTS

### Trapdoor combination ladders

When hearing the word trapdoor we are reminded of those cartoons in which trapdoors have below them a pool with crocodiles or sharks, which in our case is quite suggestive if the arrangement fails to meet recommendations.

Sadly in 2019 we lost a colleague, American pilot Dennis Sherwood, who fell when boarding the *Maersk Kensington* with this kind of ladder that failed to comply with prevailing legislation.

With this type of ladder the transition from pilot ladder to accommodation ladder is very important. The pilot ladder must extend to the height of the handhold of the lower platform of the accommodation ladder. The idea is for the pilot to be able to cross the trapdoor platform without obstruction, and then cross from the Jacob's ladder to the bottom platform of the accommodation ladder instead of pulling up over the trapdoor.

Unfortunately, some older ships that visit our coast still have this type of ladder against recommendations. Although ship owners are aware of this problem and are providing readjustments, the rate of correcting the discrepancies may well mean that one of us will be the next casualty. Requesting that the ship is provided with the main accommodation ladder in combination with the pilot ladder could be a solution to prevent an irregular arrangement.

While nothing better has been invented and with accessible cost for transshipment of the pilot from the pilot boat to the ship, the



FIGURE 4 – LADDER NONCOMPLIANT. NOTE THAT TO CROSS THROUGH THE TRAPDOOR YOU'LL NEED MOUNTAIN-CLIMBING SKILLS...



FIGURE 5 – LADDER CORRECTLY INSTALLED

boarding arrangements with pilot ladders and combination ladders will continue as part of our routine.

Until then, not worsening what is standard would be to achieve a sensible and plausible goal, not without an effort from the main stakeholders (us!!!) to alert and guide crews, captains, shipping companies and authorities concerning the perceived discrepancies and potential hazards.

If the boarding arrangement will lead us to paradise or to hell, it will not be the result of a criterion of belief, but by ongoing exercise of vigilance and assertiveness.

By the way, I prefer Led Zeppelin... ●

# HALL OF SHAME

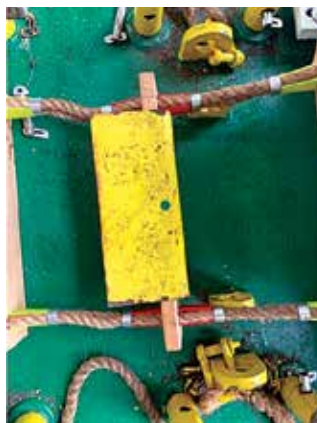
photos: website pilotaddersafety.com and FG Pilots archive



FOOT OF THE ACCOMMODATION LADDER LESS THAN 5M ESPECIALLY DESIGNED TO DESTROY THE SHACKLES OR DECAPITATE THE PILOT...



FOOT OF THE ACCOMMODATION LADDER BLOCKING THE PILOT LADDER: ONLY IF THE PILOT WORKED IN CIRQUE DU SOLEIL WOULD HE HAVE NO PROBLEMS



ALL EFFORT APPLIED TO A WOODEN STEP THAT WAS NOT DESIGNED FOR THAT PURPOSE



INCORRECT MOORING WITH SHACKLES IS THE WINNER. DON'T BE MISTAKEN, IT IS INDEED WRONG, SINCE IT APPLIES UNWANTED FORCE ON THE LADDER. IT'S THE USUAL SUSPECT WHEN THE LADDER HAS IRREGULAR SPACING BETWEEN STEPS...



THE PILOT LADDER MUST EXTEND AT LEAST 1.5M BELOW THE FOOT OF THE ACCOMMODATION LADDER. YOU SHOULD NOT NEED TO CLIMB LESS THAN 1.5M OR MORE THAN 9M ON A PILOT LADDER (JACOB'S LADDER)!



YOUR LIFE ON A SPREADER



AT LEAST YOU WILL NOT TURN IN A CLOCKWISE DIRECTION...



**Marcio Fausto**

PILOT IN THE SÃO FRANCISCO DO SUL & ITAPOÁ PILOTAGE ZONE (ZP-18)

# CONSTRUCTION PROJECTS AND PORT OPERATIONS INCORPORATE THE PRELIMINARY RISK ANALYSIS

## *São Paulo University Laboratory is now a benchmark for project assessments*

Preliminary risk analysis is increasingly relevant in port business and operations designs that affect shipping in restricted waters. In Brazil, the Laboratory of Risk Analysis, Assessment and Management (LabRisco) of the University of São Paulo (USP) has developed a dozen studies for companies and has others in progress.

These studies are undertaken together with simulations both for port or terminal works and for operations, such as increased vessel size and new inland waterway shipping lanes. They indicate main hazardous events, classifying them according to the risk level (tolerable, moderate or intolerable) and helping to propose mitigation and contingency measures.

According to LabRisco, the analyses result in, for example, modifying the access channel profile (normally using dredging) in order to reduce the chances of running aground and minimizing the consequences; defining preferential lanes for convoys and ships in order to diminish the possibilities of collision, and the suggestion of using scout boats to free shipping lanes for ships in regions with heavy traffic of small vessels.

The laboratory's proximity to companies has increased with the requirements from the Maritime Authority's Regulations on Works, Dredging, Research and Mining below, above and on the banks of Brazilian Jurisdictional Waters (Normam-11/DPC). Moreover, the lab's initial work with pilotage contributed to highlight the topic, by investigating the contribution of the human factor in ship handling hazards. Another contribution to shedding light on this topic was the defense by the Brazilian Maritime Pilots' Association (Conapra) of project planning, recommended by the World Association for Waterborne Transport Infrastructure (Pianc).

The risk analysis is based on the opinion of specialists. They include maritime pilots, ship and tug captains, terminal designers and other professionals, as well as the LabRisco researchers.

"Due to their in-depth knowledge of local shipping conditions, pilots play a vital role during the analysis, contributing with their insight regarding the different types of hazardous events, their chances of occurring and potential consequences. They also participate in real time simulations (immersion and in real time), which provide key information for consolidating the work", explains professor Marcelo Ramos Martins from LabRisco.

Pilot Siegberto Schenk, a scholar on the subject, and technical director of Rio de Janeiro pilot station, comments that this kind of analysis is essential since the risks are detected from a more structured angle, "including the use of simulators to look at some situations and check if the control measures are appropriate":

PILOT SIEGBERTO SCHENK



## SOUTHEAST PORT WILL NOW WELCOME TANKERS

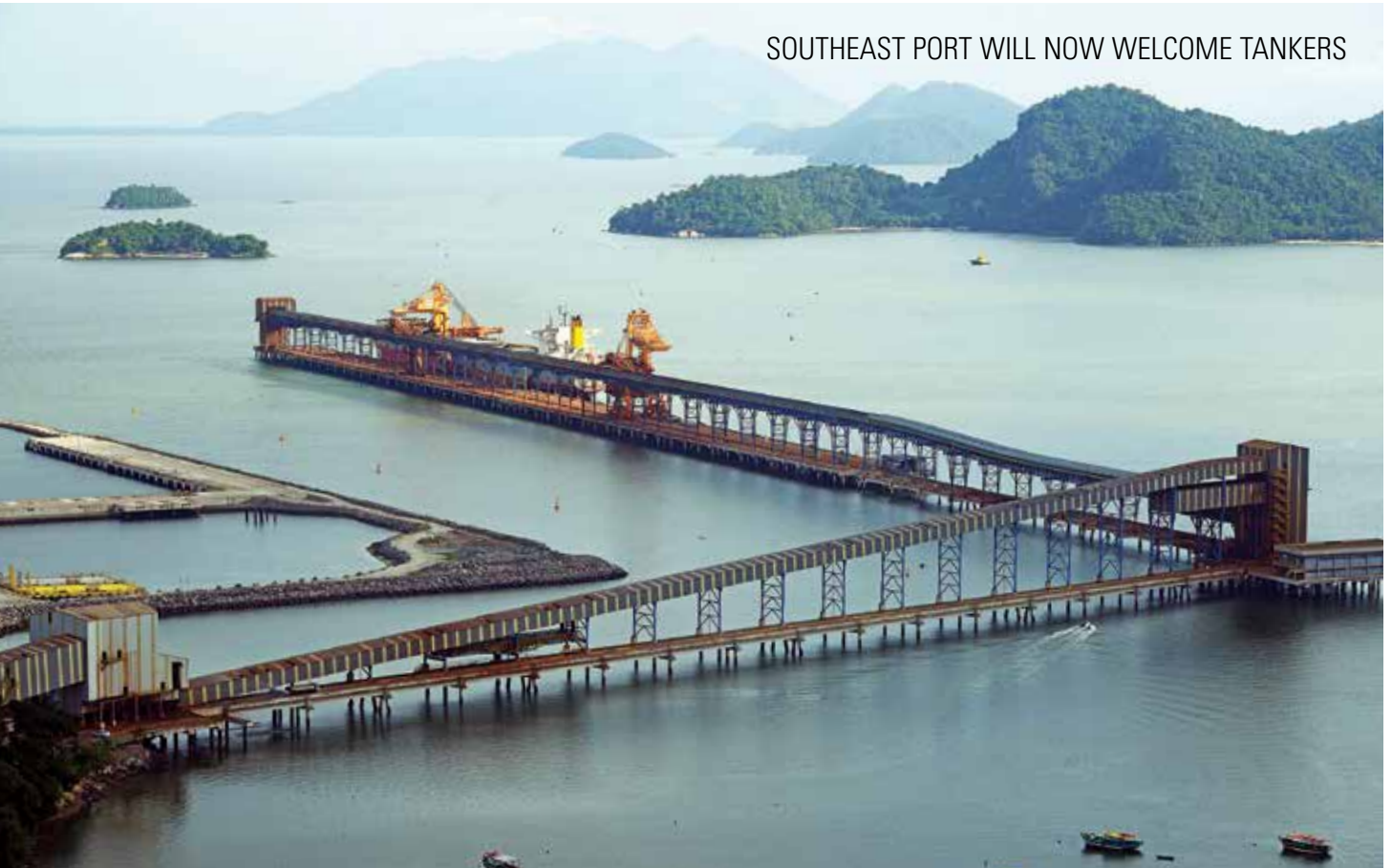


photo: Southeast Port

## PROF MARCELO RAMOS MARTINS



photo: Daniel Werneck

“It is a way for everyone to understand and speak the same language on what could go wrong and what to do to prevent it.”

Schenk recalls that one of the first risk analyses in Brazil in 2009 preceded the construction of the first Valemax class vessel. The study was carried out by the *Fundação Homem do Mar* (Seafarer Foundation) of the National Union of Merchant Navy Officers. At the time, hazardous scenarios were examined with potential damages to the facilities, to workers and to the environment. Forty-six recommendations were made for the Port of Tubarão (Espírito Santo), 40 for Ponta da Madeira Terminal (Maranhão) and 47 for Guaíba Island Terminal (Rio de Janeiro).

One of the companies that adopted risk analysis in project implementation is Southeast Port (*Porto Sudeste*) as a result of a change in the cargo profile. The port, installed on Madeira Island in Itaguaí (Rio de Janeiro), was designed for solid bulk loading but will also start handling liquid bulk, conducting ship-to-ship operations in one of the two existing berths (in the future, dolphins will be used). Consequently, not only bulk carriers with a cargo of iron ore (Capesize) but also a new class of tankers (Suezmax) loaded with oil will enter the port.

The study recommended safety restrictions for maneuvers, standard approach in the maneuvering basin, the type of tugs to be deployed and even the proper moment for running the cable through them.

“The port’s entire infrastructure was already adequate for Suezmax ships. The port took this initiative so that we can foresee and thus mitigate the risks. It is a practice that is being set as a procedure and that increases overall safety. Although Rio pilot station is ready and extremely capacitated for these and other maneuvers, each site has its own specifics. And any accident that interrupts the operation is extremely costly for the port and public – says Guilherme Caiado, Port Operations director of Porto Sudeste, adding that the response capacity was increased in an emergency.

Professor Marcelo Ramos Martins stresses that the analyses are always undertaken based on the knowhow of the group of experts at the time when developing the design:

“At later stages, monitoring will be important, since it will help to update risk perception as evidence arises in day-to-day operations.”

Another major step in the progress of assessing port projects is the training of waterway professionals, technicians, designers and representatives of regulating agencies. This is why LabRisco and the USP Numerical Offshore Tank, which relies on a simulation center, plan to offer a course on basics and application of nautical and port assessment for members of the Port Authority and the Brazilian Navy Directorate of Ports and Coasts (DPC).

The Maritime Authority is on the case. In June, the Rio de Janeiro Port Authority held a symposium on risk management in ship-to-ship operations, with representatives from the DPC, Rio Dock Company and pilotage.

On the work front that focuses on the human factor contribution to maneuvering hazards, LabRisco is now working on developing a set of performance influencing factors (PIF). They are factors that influence human performance and have no specific taxonomy for pilotage, as in the case of aviation and nuclear industries. The intention is to create a factor base that helps improve the existing models and allows inclusion of empirical evidence, such as accident data and real-time simulation results. ●



SIMULATION OF THE SALVADOR-ITAPARICA BRIDGE



photo: Bahia Pilotage

## PROJECTS COMPLETED IN LABRISCO

### **Risk analysis related to the operation of new vessel types:**

- Port of Rio Grande (Rio Grande do Sul-RS)
- Barge shipping in configurations 3x3, 3x4, 4x4 and 3x5 on the Madeira and Amazon rivers

### **Risk analysis for port terminal designs:**

- Novo Remanso Port Terminal (Amazonas-AM)
- Guará Port (Paraná-PR)
- Liquid Bulk Terminal in Abaetetuba (TLA) (Pará-PA)
- Santarém terminals (TUP-ATEM) (Pará-PA)

### **Assessment of admission of new ships and modifications in the access channel:**

- *Porto Sudeste do Brasil* [Southeast Port of Brazil] (Rio de Janeiro-RJ)

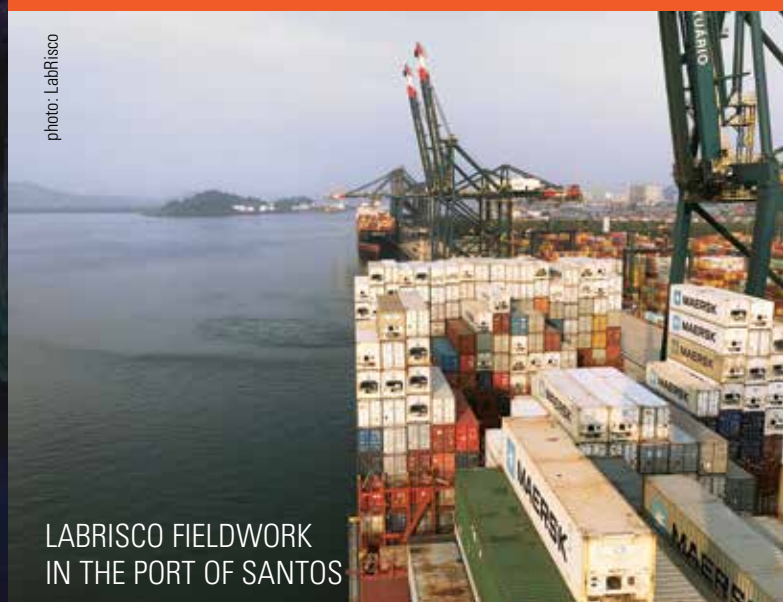
### **Risk assessment associated with pilotage exemption for specific maneuvers:**

- Pilotage Stations 01 and 03

### **Bridge designs:**

- Salvador-Itaparica Bridge and Port of Salvador (Bahia-BA)

photo: LabRisco



LABRISCO FIELDWORK  
IN THE PORT OF SANTOS

# ANOTHER PILOT STATION INSTALLS A SIMULATION CENTER

*Rio de Janeiro pilotage simulators reproduce maneuvers in all the state's ports and terminals, as well as in their access channels*

Ongoing upgrade, technological innovation and striving for professional excellence. Rio de Janeiro pilots are now able to accurately simulate ship handling under the influence of specific environmental conditions and in scenarios created for all ports and terminals comprising the Rio de Janeiro State Pilotage Zone (ZP-15), in addition to their access channels. In April, Rio de Janeiro Pilotage installed a high-tech ship handling simulation center with two simulators, attached to its operations control center.

In July it also signed a cooperation agreement with the University of São Paulo Numerical Offshore Tank (TPN-USP), which will provide data of relevant laboratory-reproduced simulations.

In the Rio simulation center, one of the appliances used by the pilots is called Full Mission. With a 240° display of the outside environment, it alternates models of different vessel types, with controls for different propulsion systems, including the azimuth.

The other simulator, integrated into the first system, is the Part Task type. Displaying 90° of the outside environment, it simulates the action of a port tug with azimuth propulsion, commanded from an armchair with azimuth controls in its arms.







The integration of both simulators allows the pilot to interact with the tug captain during the simulated maneuver.

The center also has a control room where different types of pilot tasks are created, in any port, terminal or access channel of the ZP-15, as well as more tugs and other ships to interact with the simulated vessel. The entire system was developed and installed by *Technomar Engenharia Oceânica*.

“The simulation center is used to train our pilots, who can there perform any maneuver that they do in real life, enhancing their expertise, including in emergencies, such as machinery and rudder losses. It also helps become acquainted with new vessels that will operate in our ZP, such as the 366-meter long container ships, and with newly developed terminals, channels or berths”, explains Marcello Camarinha, president of Rio de Janeiro pilotage.



photos: Gustavo Stephan

## USP COOPERATION

With our TPN-USP partnership, technical information of interest on ship handling and environmental conditions (waves and currents) will be shared with the Rio de Janeiro pilot station in cases when the laboratory is hired to study maneuvers in the ZP-15 area.

The university laboratory is a benchmark in Brazil on simulations of designs by port administrators or operators, shipping companies, and so on. These studies always have pilot participation, both when conducting maneuvers and when checking and measuring the simulation models.

“All information used in the simulations, such as meteorological and ship calibration data, will be provided by TPN-USP for downloading to the pilotage simulators, so that all pilots of the ZP are trained and not only those who have been in USP”, concludes Camarinha. ●

# ISAQUIAS QUEIROZ: "I'D RATHER STAY IN CANOES, IT'S MORE PEACEFUL"

## *Tokyo Olympic gold medalist repays the Brazilian Pilotage support with a visit to Rio de Janeiro*

Isaquias Queiroz, Olympic champion in the C1 1000 meters Canoe Sprint, came to repay the support provided by Brazilian Pilotage, one of his sponsors. On his return from Tokyo in August, soon after landing, the athlete visited the pilot station and the ship-handling simulator of the Rio de Janeiro pilotage zone and accompanied a disembarkation of pilots in Guanabara Bay.

Accompanied by his wife Laina Guimarães, he was welcomed by pilot Otavio Fragoso, vice-president of the Brazilian Maritime Pilots' Association (Conapra), and by the president and vice-president of Rio de Janeiro Pilots, Marcello Camarinha and Everton Schmidt, respectively.

Isaquias Queiroz was able to simulate ship handling at the simulations center:

"I felt a little seasick. I'm still dizzy..." (he laughs). "But it was a great experience to see what ship handling simulation is all about. On the Internet it seemed like a game, but the feeling was real, not fake."

After his visit, the champion boarded a pilot boat and watched the pilots disembarking from a container ship, without losing his characteristic good humor:

"I'd rather stay in canoes, it's more peaceful" he laughs. "Pilotage is a very hazardous profession, you have to have a lot of courage. And the sea wasn't even that rough. On worse days, I would prefer not to come along..."

Isaquias Queiroz said that the partnership with Brazilian Pilotage has opened up a window of learning about the occupation, and he added:

"Many people don't know what a pilot's job is like. I even thought that it was the captain of a seagoing vessel that moored the ship when, in fact, it's someone with special skills. Each port has different depths and currents and needs its own pilot service."

When the partnership began, he had 55,000 followers on Instagram. Now with his victory, there are more than 500,000 in response to his aspiration to make both canoeing and pilotage better known:

"The Olympic Games showed that the Brazilian citizen has created a closer link with canoeing. This gave my sport and my dedication more visibility. Wherever I go, everyone says that they cheered for me and were thrilled by my victory.

The athlete will rest until the end of October without canoeing. Then he will start with some light training, gearing up to more intensive training only in February. In 2022, he will be competing in the Canoe Sprint World Cup, South American Games and the World Championships. But the Paris Olympic Games are not far away in 2024, a shorter cycle due to the Tokyo Games having been postponed as a result of the pandemic.

In addition to the C1 1000 meters, Isaquias Queiroz will compete in the C2 500 meters, which will substitute the C2 1000 meters, a race in which he finished fourth with Jacky Godmann. If, on one hand, the preparation for the C2 500 meters is less stressful, he will, on the other, need to improve each year in order to stay on top. "I have to base my training on the previous year. Therefore, I will have to row more than in 2021. It becomes even more tiring to progress at each cycle. In the team boat, we're trying to take advantage of the shorter race and gain speed for the C1 1000 meters", explains the Olympic gold medalist, who is also three-times world champion in the C1 500 meters.

The duo formed only four months prior to the Olympic games with Jacky Godmann, after his partner Erlon de Souza's injury, is initially still maintained, but the canoeist points out that it will be up to the coach:

"We did well in the Olympics, it was a closer contest than in the Rio Olympic Games. But it's the coach that decides the partnership. And other kids are coming to the fore. It will be a contest worth watching."

Here's to more medals and Isaquias Queiroz's dream of becoming the best athlete in Brazil, surpassing the records of yachtsmen Robert Scheidt and Torben Grael, with five medals each. Brazilian Pilotage is very proud of its support. ●



photos: Gustavo Stephan



## INFRASTRUCTURE

### BRAZILIAN PILOTAGE PRESENT IN ANOTHER EDITION OF FORUM BRASIL EXPORT

Sponsored by the Brazilian Port Infrastructure and Logistics Forum (Brasil Export), Brazilian Pilotage was represented through the Brazilian Maritime Pilots' Association (Conapra), at all of the regional events: Rio de Janeiro (Rio de Janeiro-RJ), Belém (Pará-PA), Rio Verde (Goiás-GO), São Luís (Maranhão-MA), Guarujá (São Paulo-SP) and Rio Grande (Rio Grande do Sul-RS). The Forum congregates the main stakeholders in overcoming challenges in the sector, an opportunity where pilotage has proven to be a problem-solving partner. The national event of Brasil Export was held September 28-29 in Brasília (Federal District-DF).



photo: Publicity

## INVESTMENT

### AMAPÁ PILOTAGE TO INSTALL BUOYS AGAINST TIDES IN THE NORTH BAR

Amapá Pilotage will install three weather buoys in the muddy arc of the North Bar of the Amazon River – a shallow stretch of 24 nautical miles that limits the vessel draft in the Amazon Basin. At a cost of BRL 3.6 million, the equipment will provide more accurate information for forecasting tide windows, essential for heavier ships to be able to cross the North Bar safely. The facility will be the start of installing a dynamic keel system, similar to that in Port of Santos, which will indicate how much ships can carry without risk of touching the riverbed. The announcement was made during the North Export event in Belém (Para-PA).



photo: Publicity

## RECEPTION

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### NAVAL WAR COLLEGE STUDENTS VISIT SÃO PAULO PILOTAGE



photo: Publicity

In July, a group of 50 student officers and instructors from the Naval War College visited the headquarters of São Paulo State Pilotage. They were welcomed by pilot Bruno Tavares, the institution's president, and by pilot Carlos Alberto de Souza Filho, director of Institutional Relations, who gave a presentation. The students also visited the facilities at the Center of Traffic Operations, Communications and Coordination (C30T). The captain of São Paulo State Ports, Marcelo de Oliveira Sá, accompanied the visiting group.

## RESCUED

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### BAHIA PILOTAGE PROVIDES RESCUE SUPPORT



photo: Publicity

Fifteen people on a vessel sailing from Morro de São Paulo were rescued in June with the help of *Pilot Boat V* of the Bahia pilotage. The vessel's engines broke down and the boat drifted approximately eight nautical miles to the south of Salvador. That same month, the Port Authorities had just awarded the pilot station a Certificate of Merit for Navigation Safety in recognition of its involvement in another rescue. On this occasion, three crew members were rescued from a fishing boat with engine failure.

## CALL US

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### COLLABORATE WITH *RUMOS*

*Rumos Práticos* always hopes for the participation of everyone who is active in pilotage, in addition to our readers in general. Please send us texts, technical articles, photos or any suggestions to [conapra@conapra.org.br](mailto:conapra@conapra.org.br) or via the *Praticagem do Brasil* homepage.

# MEDIA SUCCESS



## IT'S GOLD!

The post published shortly after Isaquias Queiroz won gold in the Tokyo Olympic Games was the highlight for the period of Brazil Pilotage social media. The content linking the pilotage brand to the athlete was shown to thousands of visitors, generating excellent engagement in likes, comments and sharing the post.



## TBT

Another highlight in the timeline was the video recalling the explosive cyclone that hit the Port of Paranaguá (Pará-PA) just over a year ago. The communication team of the National Pilotage Council edited pilot Bruno Aguiar's rough draft. Readers acknowledged the post concerning the pilots' roles in preventing an accident that day. Pilot Vanessa Moraes maneuvered the ship that appears in the images.



## SAVING LIVES

Good media engagement was also created with the photo of Christ the Redeemer dressed in a lifejacket in an image projected on the monument. The act marked the start of the Rio de Janeiro Port Authority's "Saving Lives" campaign, with support from the 1<sup>st</sup> Naval District Command, the Brazilian Navy's Directorate of Ports and Coasts and the Maritime Court. More than 500 lifejackets were collected for artisanal fishing communities around Rio de Janeiro, in partnership with several institutions, one of which is Rio de Janeiro Pilotage.





**DO NOT MISS THE CHANCE, JOIN US.**

**Conferences - Networking - Parties**

**20**

**PRESTIGIOUS  
KEYNOTE  
SPEAKERS**

**5**

**SOCIAL ACTIVITIES  
FOR NETWORKING**

**600**

**PARTICIPANTS**

**40**

**DIFFERENT  
COMPANIES**

**POSTPONED**

**June 12<sup>th</sup> - 18<sup>th</sup>, 2022  
Cancun, Mexico**

**[www.impa2021.com](http://www.impa2021.com)**

# Magalhães-Elcano 1519–1522

a primeira viagem ao redor do mundo



*Magalhães-Elcano: a primeira viagem ao redor do mundo* [Magellan-Elcano 1519-1522: the first expedition around the world] tells the story of the pioneering circumnavigation and was based on textual, iconographic and cartographic records from institutions such as the National Library of Spain, National Library of France and the John Carter Brown Library (USA).

The book is part of the 500-year commemorations of the expedition that left Seville under the patronage of the Spanish kings and the command of Portuguese explorer Ferdinand Magellan. The objective was to discover a sea passage to the South Seas (Pacific Ocean), sailing around the New World and reaching the Moluccas, also known then as the Spice Islands.

The voyage around the globe began with around 240 men on board five ships, and ended three years later with only one vessel and 18 expedition members, among them the Spanish commander Juan Sebastian Elcano. Nevertheless, it was considered a success for having marked the discovery of a sea route to Asia, sailing around the tip of South America.

The chapters address topics such as writings on the art of navigation and use of spices; the impacts of the announcement of the first news of the voyage, among them the report by Antonio Pigafetta, the only author on board; the geopolitical disputes between the European kingdoms, namely Portugal and Spain; the role of the indigenous populations on the Brazilian coast in the success of the undertaking; and the controversies and different appropriations of the facts.

In addition to Heloisa Meireles Gesteira (organizer of the material), the following are signatories of the texts of the publication: Carlos Ziller Camenietzki, Marcello José Gomes Loureiro, Elisa Frühauf Garcia and Marcelo da Rocha Wanderley. The publisher is Andrea Jakobsson Estúdio Editorial.

