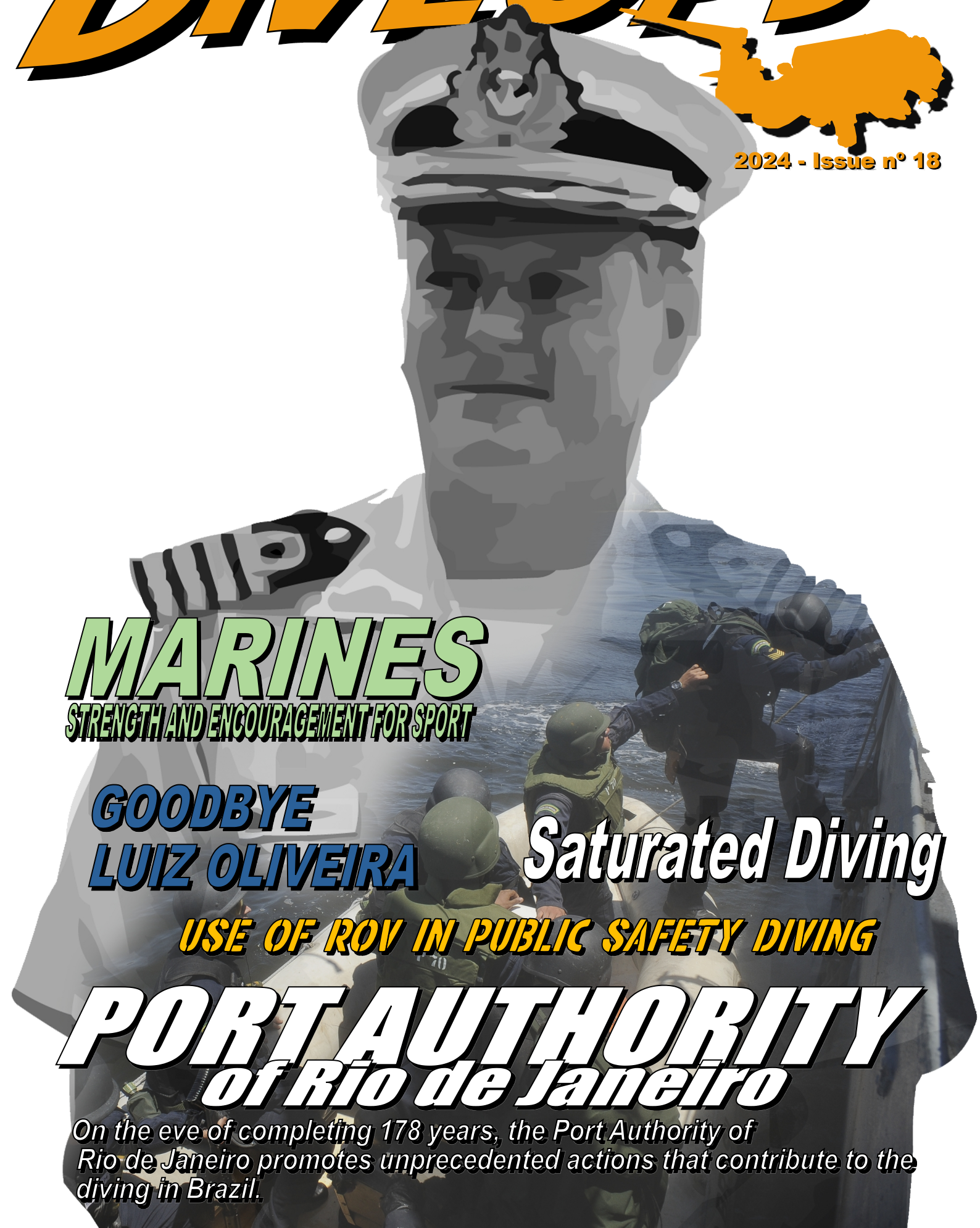
Magazine

DIVEOPS

2024 - Issue nº 18



MARINES
STRENGTH AND ENCOURAGEMENT FOR SPORT

GOODBYE LUIZ OLIVEIRA

Saturated Diving

USE OF ROV IN PUBLIC SAFETY DIVING

PORT AUTHORITY of Rio de Janeiro

On the eve of completing 178 years, the Port Authority of Rio de Janeiro promotes unprecedented actions that contribute to the diving in Brazil.

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EDITORIAL

Diveops magazine brings its readers an edition full of content and reaffirms its commitment to the diving community in Brazil. Our editorial, always aimed at serving divers, aims to instruct and encourage the activity, whether in the military, commercial or recreational segment. On behalf of our advisory board, we present to our readers issue 18 of Diveops.

Notice:

"All reports published in this magazine are the exclusive responsibility of their respective authors, and do not necessarily reflect the opinion or editorial position of the publication. Authors are fully responsible for the content, accuracy and authenticity of their texts, as well as the opinions expressed in reports."

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CONSELHO CONSULTIVO



LUIZA ALVES
EDITORA-CHEFE

DIVEOPS magazine was born out of the need for a publication focused on the military, public safety and commercial diving segment, for this reason its editorial line is based on consultancy from Divers who are references in their segments and who together form our Advisory Board.



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Instrutor de Mergulho

JONE TILLI



Instrutor de mergulho, mergulhador militar e de segurança pública

SANDRO AZEVEDO



Marinha do Brasil
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How much do you earn a diving instructor?

The truth behind the numbers and how you can achieve success!

By: Ivan Costa Santos.



Due to the growing popularity of diving as a leisure activity, the aspiration of

working in paradisiacal destinations and the search for a more rewarding and

exciting, many people come to us to do the

PADI Professional Development by Acqua Sub (GoPRO). Among the most doubts

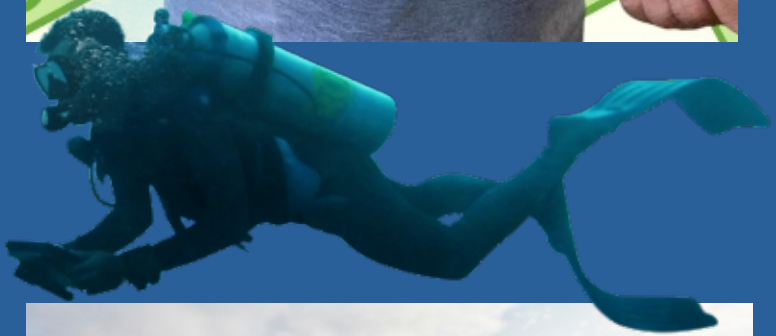
common is to know what is the average salary of a diving instructor in Brazil and in

World. Understandable, as it involves decision-making that, in some cases,

implies choosing a career as a once-in-a-lifetime career. Unfortunately, a few years ago, certain blogs and videos from websites in Brazil were

publishing articles with overestimated values.









This ended up generating discredit
to those who spread this information.

In this article I will try to be as clear and realistic as possible on the subject. Also
I will be open to new information and questions you may want to ask, as in this matter
I believe it should be as transparent as possible.

Salary Value Concept

First of all we must understand a market law: the salary of a
employee must be determined in proportion to the value he adds to the company.

> **"You should only pay a salary when the employee is capable of producing more than he costs." - Michael E. Gerber, "The Myth of the Entrepreneur"**

Factors that Influence Salary: Ultimately, there is no global minimum salary, as there are instructors who receive amounts based solely on commissions and others receive a fixed salary plus commissions, in addition to a series of variables that affect this calculation, such as:

Full or part-time work: in most cities and capitals in Brazil, instructors work on demand alongside their main professional careers. Only in places like Fernando de Noronha and in some locations is the instructor a full-time employee.

Commissions are for students on courses, certified divers in guided tours, course package sales, equipment rentals, equipment sales, trips, tours in other activities, etc.
Monthly income for full-time instructors in Brazil ranges from R$2000.00 to R$5000.00. However, they can go much further when they receive tips and have skills





extras, such as: mechanics (engines, naval, diving equipment and compressors), vessel pilot license, sales, etc.
Instructors who work part-time in addition to commissions are motivated to travel with the dive operator they work for and also purchase their equipment at cost. In addition other facilities can be offered.

Overall an instructor can make between US$2000 and US$4000 per month.

Region: Instructors who work in popular tourist destinations generally earn more than those who work in lesser-known locations. In order of the highest salaries on average by region in the world:
1st place: Australia
2nd place: Caribbean, Mexico, Central America and some tropical regions of the Atlantic
3rd place: United States
4th place: South Pacific, Indo Pacific and other tropical regions of Asia
5th place: Europe

Another regional factor is the cost of living. An instructor in Europe has a much higher cost of living than in Thailand.

Some of our former students and friends are working in places like Australia, the Caribbean, Europe, Asia and in some places in Brazil, which confirms this information collected on the internet and in on-site research.

Employer: another variable is who employs, it could be: Diving Center, Luxury Resort, Cruise, Live Aboard, etc.
In a luxury Resort and on a Cruise, salaries are usually fixed and can vary from US$1000 to US$2000, in addition to extra earnings from commissions and tips. However, you usually have good food and good accommodation available. However, you will possibly have several extra duties including organizing and cleaning, among others.
On a Live Aboard the conditions are similar, but the earnings are lower, approximately US$25 to US$35 per day plus tips per trip, which tend to be very generous depending on the level of the vessel. You also won't spend anything on your subsistence and you'll still dive in fantastic places around the world.
Instructors on Live Aboards on the Great Barrier Reef in Australia usually earn more than AU$5000. According to a Brazilian instructor who was once the manager of a Live Aboard company in Cairns.

Level of experience and certification: the higher the instructor's level of certification, the greater the possibility of earning. A technical diving instructor earns twice as much as a recreational instructor. For example: in a technical rebreather course the student only pays the instructor's fees of US$ 1500, in addition to paying all the instructor's expenses (food, accommodation, tickets, absorption, etc.) It is worth noting that these courses are for 1 to 3 students only, like most Tec courses.
Course Directors and Instructor Trainers usually earn much more than beginners.
Specialty Instructors tend to have more job possibilities than OWSI instructors.

Seasonality: Salaries also have seasonal variation, in winter demand is lower and so are earnings.

As discussed above, diving instructor salaries vary greatly depending on the following variables: full or part-time work; region; employer; level of experience and certification; seasonality.

Tips to Increase Earnings
However, it is worth highlighting that it all depends on your attitude. When you have a positive attitude towards your work and your clients/students, your earnings tend to increase every day. Show professionalism by being excited and providing fun. Remember that you will be working in a place where most people pay to have fun, perhaps a paradise with crystal clear waters and in contact with nature, a true privilege. Also have fun working.

Dedicate yourself to your professional growth by investing in courses. This way, you will see that your income increase will be proportional. You can also think about starting your own business. What was the case of a former student and employee who opened her own school in SP ■


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MARINES

Supporting National Sport



The Navy Olympic Program (PROLIM), developed within the scope of the General Command of the Marine Corps (CFN) and directed by the Commander-General of the CFN, aims to prepare Navy athletes (MB) to join military teams Brazilians in different sports. He achieved significant participation during the 2011 Olympic Games, in addition to being responsible for a significant improvement in the sporting results obtained by Brazilian teams in recent years. In this context, Brazilian ultramarathon runner Roberto Stael, Diver Sergeant of the Brazilian Navy, will participate in the largest ultra-endurance race in the world, the Ultra Triathlon 2024.

It will be necessary to cover 114 kilometers of swimming, 5,400 kilometers of cycling and 1,260 kilometers of running, continuously, equivalent to a total of 30 Ironman races. The competition will be held in September 2024, in Italy. What makes Brazil's participation in Ultra Triathlon 2024 even more unusual is the fact that Sergeant Stael is a career Navy soldier and takes part in the biggest endurance race contested by PROLIM athletes, a cinematographic feat that was only made possible thanks to personal commitment of another figure who wrote his name in the history of military sport: Naval Fleet Admiral CARLOS CHAGAS VIANNA BRAGA, current Commander-General of the Marine Corps. He was the man who made it possible for women to be included in the Marine Corps along the same lines as men, giving them the same career opportunities from then on. Commander CARLOS CHAGAS in January 2024, organized a meeting of Digital Influencers where he opened the floor to members of the press and showed the evolution of the force in relation to the preparation of its personnel and their personal commitment, mainly in relation to the human factor.



Naval Fleet Admiral CARLOS CHAGAS VIANNA BRAGA

In an Olympic year and on the eve of the biggest sporting competition in the world, it is still too early to try to make a guess as to how many medals Brazil will win in the competition. The fact is that thanks to PROLIM and Admiral CARLOS CHAGAS, Brazilian sport, regardless of the medal table, has already won, since athletes from different modalities today can receive encouragement, support and the opportunity to develop their maximum potential ■









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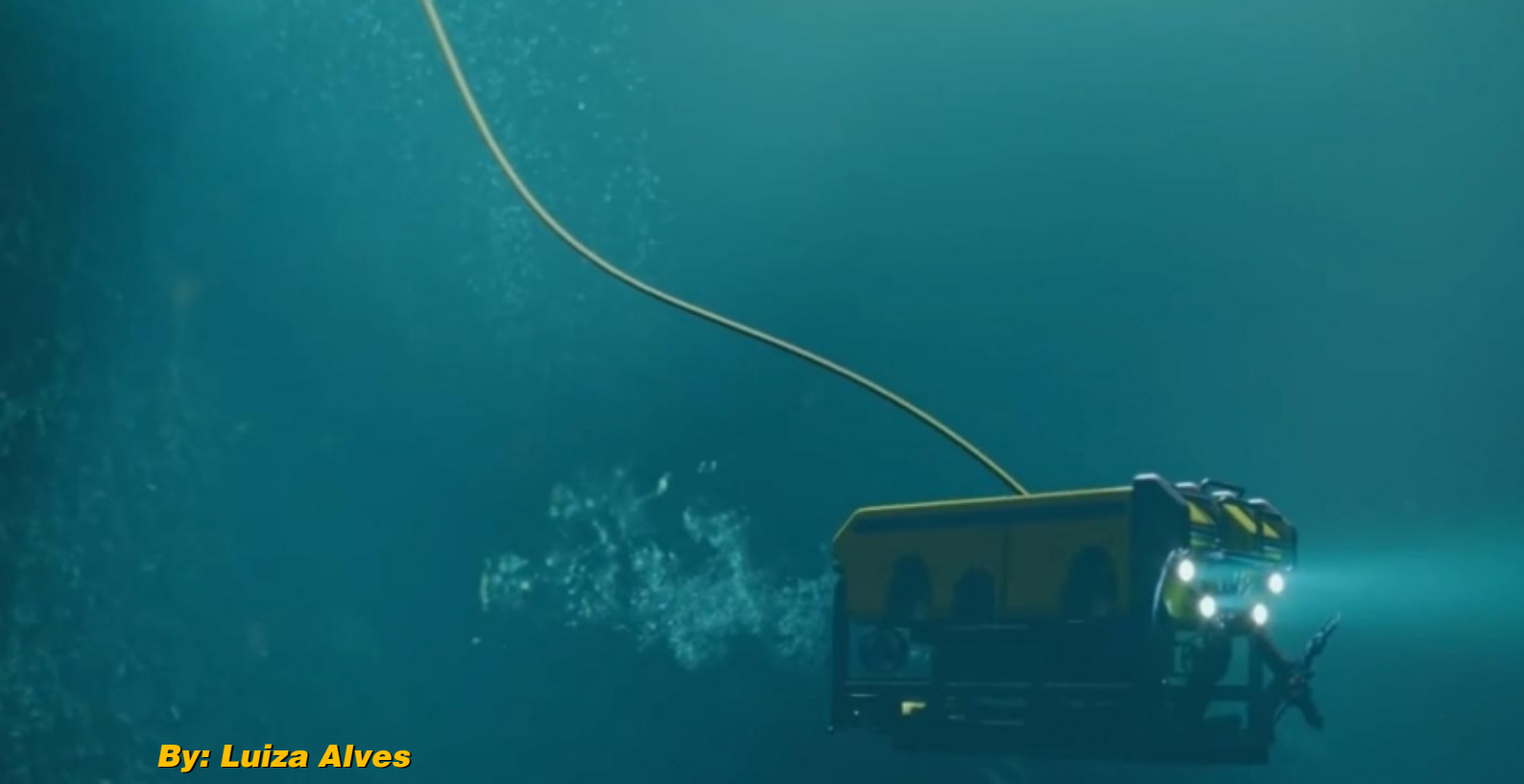
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AQUAFISH

PRATIQUE SEU BEM ESTAR.

SALT

NUTRINO



By: Luiza Alves

PETROBRAS REPLACES SATURATION DIVERS

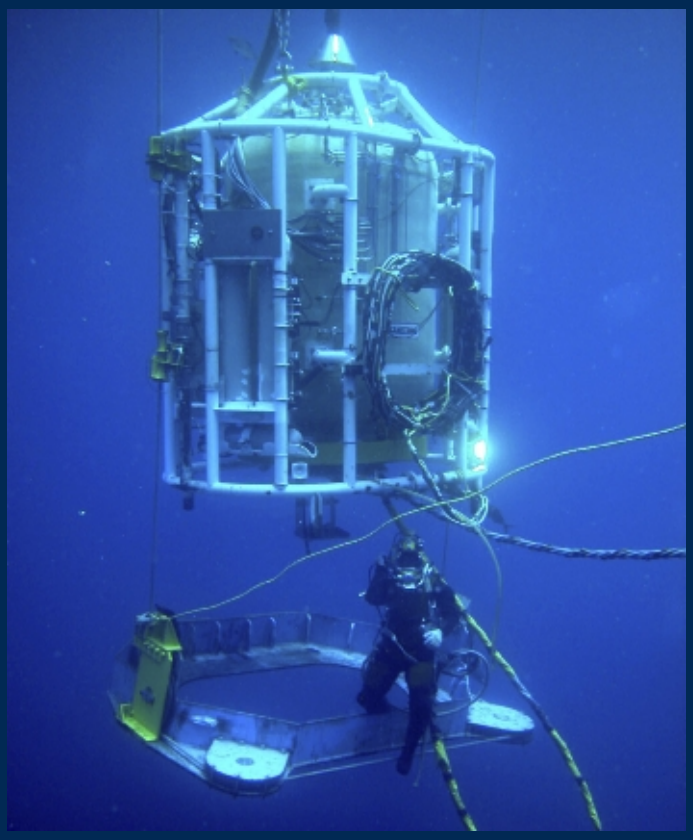
Petrobras took the commercial diving community by surprise when it announced that it will replace saturation divers with ROVs (remotely operated vehicles), increasing safety and efficiency in its operations. Previously, the company carried out around 2,000 dives annually at depths greater than 50 meters, exposing workers to great risks. Now, with 100% diverless technology, the company hopes to reduce the risk to humans to zero. During adjustments on the Mexilhão platform (PMXL-1), in the Santos Basin, in 2023, Petrobras used underwater robots instead of divers to change umbilicals and adapt connections of six ESDVs (Emergency Shutdown Valves). The innovation brought savings of US$10 million in the operation, with a projection of up to US$400 million in the next four years.



Flaubert Machado, executive manager of Safety, Environment and Health at Petrobras, highlights that the company seeks modern technologies to increase safety: "The use of robots is already applied in fire fighting and maintenance at height, making Petrobras an international reference in operational safety."

Suen Marcet, executive manager of Subsea Systems, highlighted the collaboration between Petrobras teams as essential for the success of the project. Additionally, the company continues to train divers to operate underwater robots, reinforcing its commitment to safety and respect for life and the environment.

With the adoption of diversless technology, Petrobras positions itself as a leader in innovation, reaffirming its commitment to worker protection and environmental sustainability■





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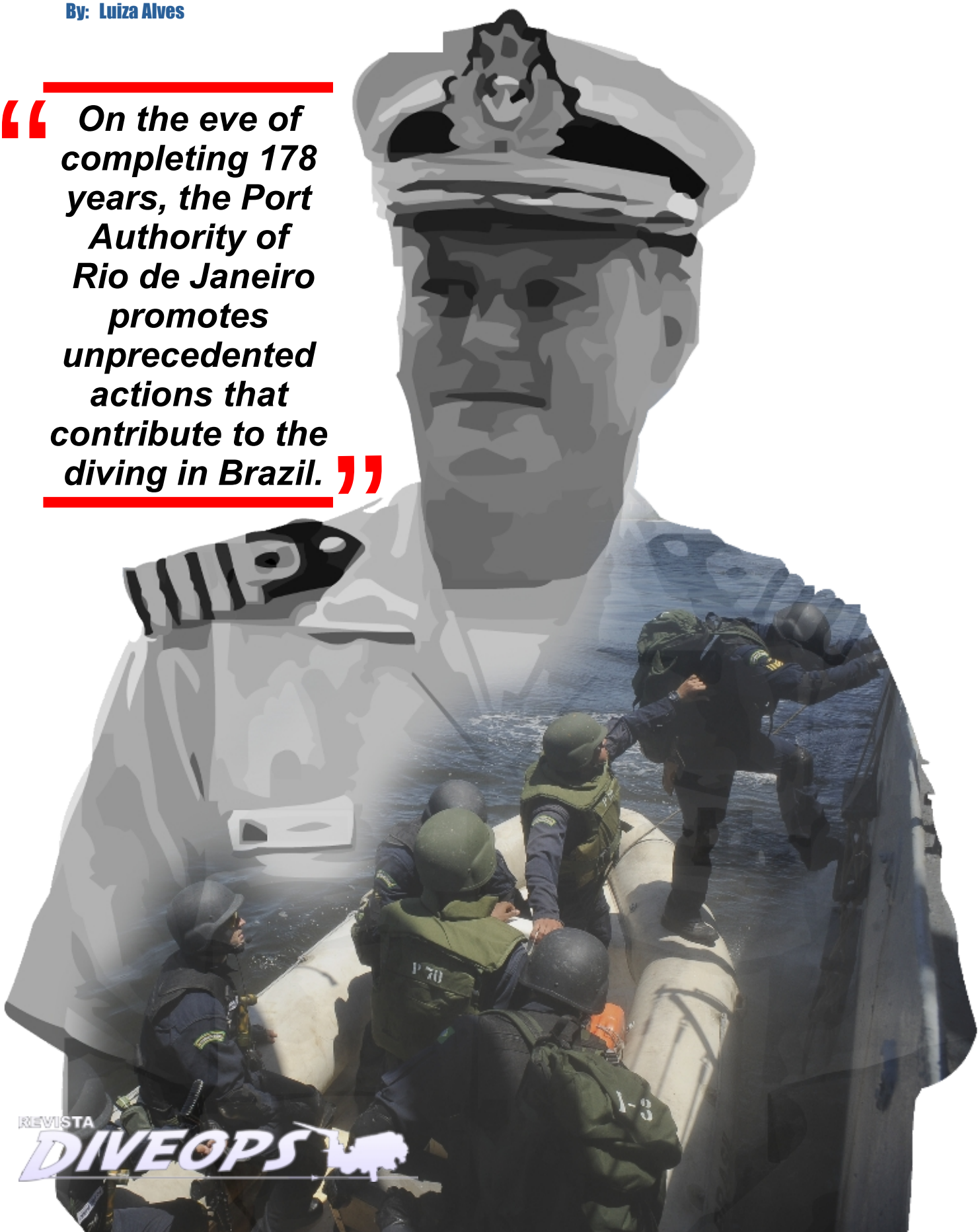
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Foto:Kadu Pinheiro

PORT AUTHORITY from Rio de Janeiro

By: Luiza Alves

> *"On the eve of completing 178 years, the Port Authority of Rio de Janeiro promotes unprecedented actions that contribute to the diving in Brazil."*





Since assuming the Captaincy of Rio at the beginning of 2024, Sea and War Captain Luciano Calixto de Almeida Júnior has adopted a management model that allowed the CPRJ to speed up the processes of issuing Registration and Registration Booklets (CIR) for professional divers. This fact not only contributed to heating up the market for professional diving schools, but also to expanding the work fronts, which now have a greater quantity of qualified labor. Furthermore, the agility in regularizing these professionals provides greater competition, offering companies more hiring options and consequently increasing the selection of increasingly competent professionals, making the activity safer.

Environmental Safety



CPRJ's contributions to diving don't stop there. Having as second in command the Frigate Captain Sampaio, an officer trained in submarines and a PADI diver, and being subordinate to the Commander of the First Naval District, Admiral Lobo, also a submariner and diver, the actions undertaken by the Captain of the Ports of Rio de Janeiro for the benefit of divers go further. With the resumption of the project to remove the carcasses of abandoned vessels in Guanabara Bay, the result of a Task Force constituted by Portos-Rio, the State Government, Inea, among other entities, this removal work not only helps to generate jobs for divers, but it also moves the market for equipment used by these professionals, in addition to bringing unprecedented benefits to the environment, making navigation through Guanabara Bay safer.



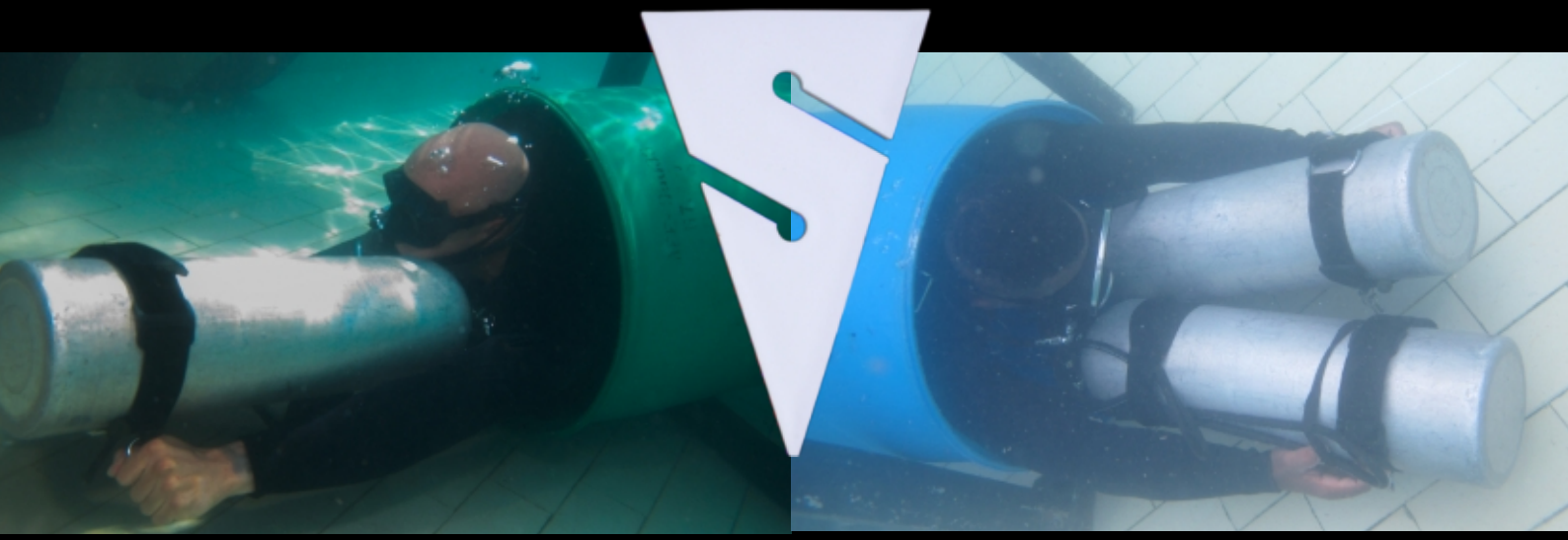


GLO

Still with regard to security, the CPRJ has been carrying out inspection actions within the scope of the Law and Order Guarantee Operation (GLO) carried out in the ports of Rio de Janeiro, a measure that has been extended and will initially be valid until June 4, 2024 .

The purpose of the GLO is to strengthen the fight against drug and weapons trafficking and other illicit conduct, through preventive and repressive actions. The Navy is responsible for strengthening prevention and repression actions against crimes in Guanabara Bay, State of Rio de Janeiro, in Sepetiba Bay, State of Rio de Janeiro, in the Brazilian area of Lake Itaipu, States of Mato Grosso do Sul and Paraná, and in the maritime accesses to the Port of Santos, State of São Paulo, in conjunction with the Federal Police and the Federal Highway Police, within the scope of their competences. In summary, the inspection carried out by the CPRJ, in addition to deterring the practice of illicit activities in the waters of Rio de Janeiro, makes tourist areas that can be frequented by divers from Rio and national and foreign tourists safer.

Pioneering and Training

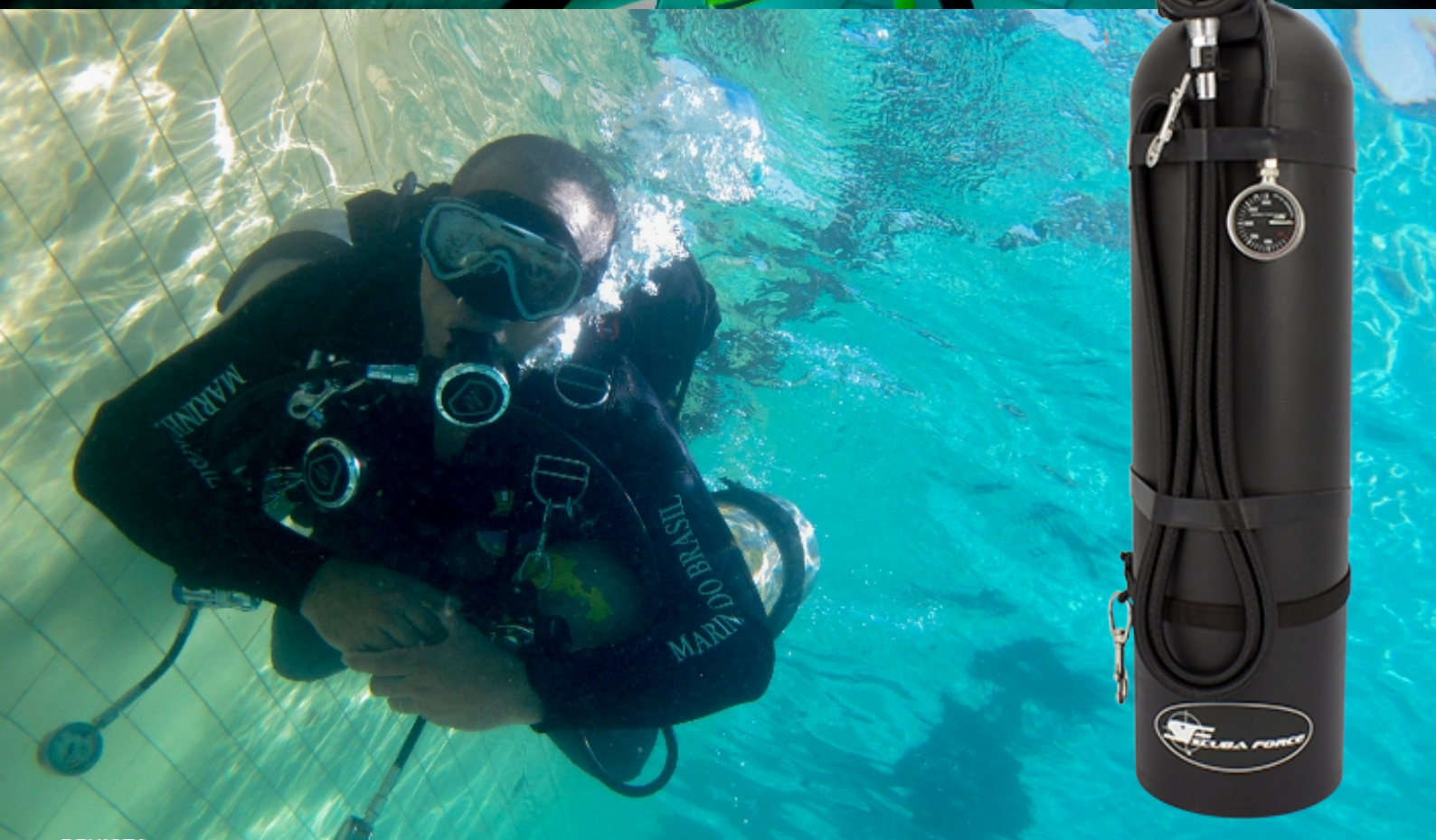


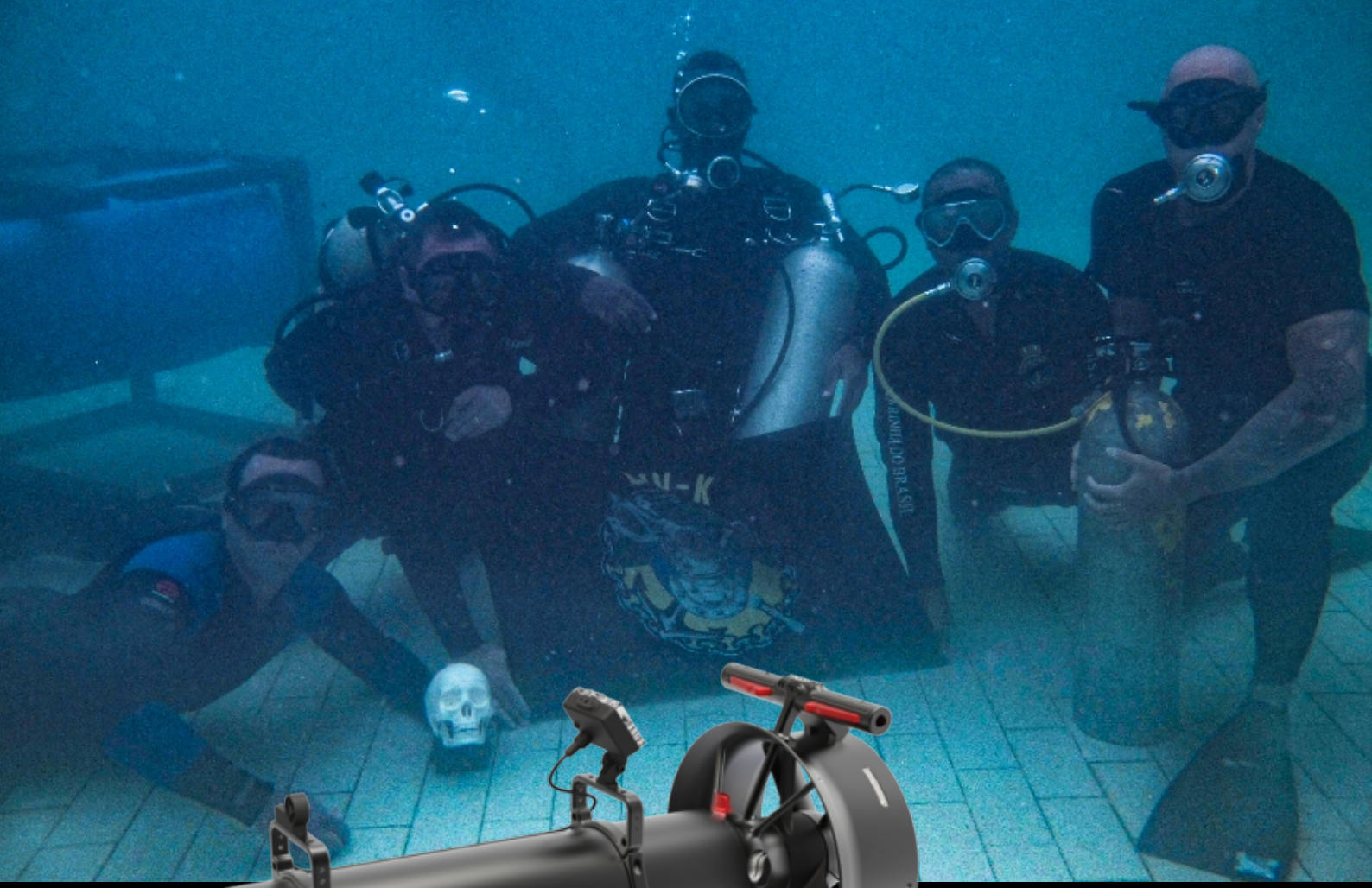
In April this year, a CPRJ instructor taught the 1st Sidemount and Nitrox Workshop in the Brazilian Navy. The initiative, developed at no cost to the institution, allowed the training of Navy divers to dive in places with restricted access, where a diver wearing traditional equipment would not be able to reach them. This same technique was used to rescue the football team in Thailand in 2018.



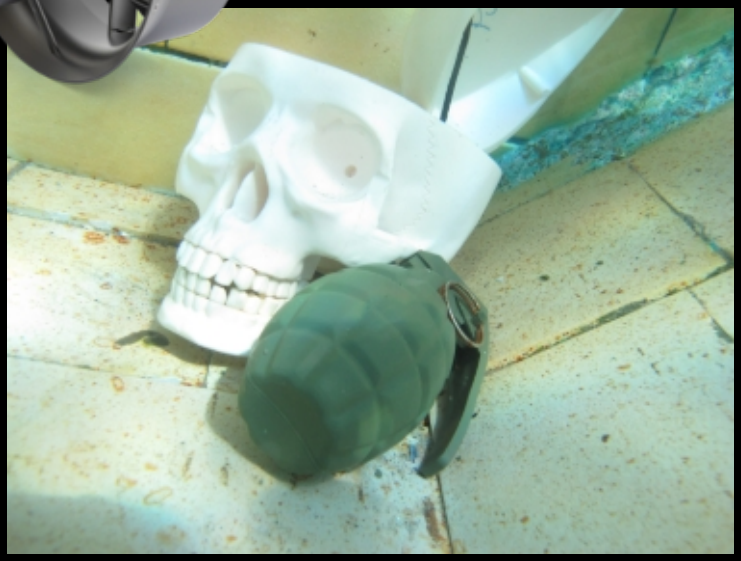
Techniques addressing Nitrox diving, on the other hand, allow military divers to perform underwater searches more efficiently, extending the no-decompression diving time during their operations. The Workshop in question was held at the Almirante Castro e Silva Base facilities two weeks before the tragedies that occurred in Rio Grande do Sul.




MARINHA DO BRASIL
SCUBA FORCE







At the time we finished this article, the Port Authority of Rio de Janeiro was in charge of collecting supplies, water and clothes to be sent to the victims of the tragedy that occurred in Rio Grande do Sul. It is important to highlight that unlike other military units in the Port Authority, there are no exercises, all missions are real ■

178 anos CPRJ



MARINHA
DO BRASIL

Goodbye Luiz Oliveira





On April 12, 2024, Brazilian diving said goodbye to the famous diver Luiz Oliveira, better known as Master Lula, one of the two Brazilians who, together with Carl Brashear, were part of the 1954 round of the US Navy diving course. portrayed in the film Men of Honor and covered in the book Operação Mergulho.

Mestre Lula passed away in Rio de Janeiro from pneumonia and left behind a wife, son, 5 grandchildren and a daughter-in-law who took care of him as one daughter. The cremation ceremony took place on Saturday, April 13th and included a military ceremony with the participation of family and friends. At the end of the ceremony, the National Flag was folded by two marines and handed over to his wife, Mrs. Maria José, shortly afterwards the responsible officer ordered the bugler to play the sound of silence, at which point everyone assumed a position of respect in farewell to Luiz Oliveira.

Mestre Lula's legacy will not be forgotten. His teachings, transmitted directly or indirectly, will continue to inspire and shape future generations of divers. His wisdom, courage and commitment will be remembered as a beacon to all who shared his journey.

Luiz Oliveira had his life portrayed in the book "Operação Mergulho", an inspiring account of her achievements and challenges in the underwater world. In December 2023, he was honored by joining DIVEOPS magazine's newly opened Hall of Honor, deserved recognition for his exceptional contribution to the world of diving ■



Luiz Oliveira alongside Carl Brashear



Operation Dive book



Men of Honor DVD

Istrategic importance from diving to the Navy

By: William Freitas

> **“Strategic importance of diving for the Navy: Discussion of the role of diving in naval operations, including vessel maintenance, salvage operations, technological innovations and how they improve the safety and effectiveness of missions.”**

THE ability to perform underwater maintenance is essential to ensure the operability and longevity of Navy vessels.

Specialist divers are trained to carry out hull inspections, repairs and cleaning, propellers and other underwater components of ships, without the need for docking.

This capability not only saves time and resources, but also increases the operational readiness of naval forces, allowing vessels to remain in operation longer and reducing downtime.



In emergency situations, such as the sinking of vessels or submarines, Navy divers play a vital role in search and rescue operations. Equipped with advanced diving and rescue technologies, these professionals are capable of carrying out underwater searches, crew rescue and material recovery at considerable depths. These operations not only save lives, but also protect the nation's strategic assets from significant losses.

Developing and maintaining diving capabilities requires ongoing investment in training, equipment and advanced technologies. Training highly qualified divers is a long and rigorous process, which involves mastering technical and physical skills to operate in extreme environments. Furthermore, the constant evolution of underwater threats requires the Brazilian Navy to keep its diving capabilities up to date, adapting to new technologies and procedures to face emerging challenges.

In recent years, military diving technology in Brazil has undergone constant updates. With the need to incorporate cutting-edge equipment such as Sonars and Underwater Navigation Equipment, where advanced sonar technology and navigation systems significantly improve divers' ability to guide and locate underwater, essential for operational effectiveness in search missions and seabed rescue, reconnaissance, and mapping.

Remotely Operated Vehicles (ROVs) that allow exploration and work at depths that would be inaccessible or too dangerous for human divers, they are equipped with cameras and tools that can be controlled remotely, making it easier to inspect underwater structures, deactivate explosives or collecting samples, among others. Therefore, constant improvement in technical training is necessary in view of the growing evolution in diving activity. This ensures that they are prepared to face any challenges that may arise during their missions.



The future of military diving in Brazil is full of challenges and opportunities. The growing importance of the underwater domain in national defense strategies points to continued investment in new technologies, specialized training and international cooperation.

The Brazilian Navy must invest in advanced training programs to ensure that its divers are able to use the full potential of new equipment and are always up to date with constant changes. This includes realistic simulations and exercises in controlled environments, which prepare military personnel for a variety of operational scenarios, from maintenance and repair of submerged vessels to rescue and recovery operations.



The integration of new technologies into diving activity not only increases operational capacity, but also the safety of divers. Modern equipment is designed to constantly monitor the diver's health, including vital signs and gas levels, alerting to any dangerous conditions. Additionally, improved underwater communication makes it easier to coordinate teams and perform complex tasks. ■








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INTERVIEW

Sandderson Barros

Sandderson Barros He is 60 years old, 45 of them working as a diving professional. He has lived in Arraial do Cabo for 35 years, where he runs Sandmar Nitrox, the first dive operator in the city that has just been made official by law as the ´´National Capital of Diving``. Sandderson is one of the founders and has just been re-elected president of ABCMAR – Brazilian Association of Scuba and Recreational Diving Centers and Operators. Check out!

DIVEOPS: You have been president of ABCMAR since its foundation. What moves you to pursue this challenge?

SANDDERSON: ABCMAR was founded in 2020 and began its activities that same year, by many professional entrepreneurs who were feeling without real representation in the adventure tourism industry. I assumed the presidency at the beginning and accepted this challenge because I deeply believe in the importance of supporting and strengthening the recreational diving community in Brazil. I wanted to contribute to the sustainable growth of this sector and promote better diving practices in the country.

DIVEOPS: Has the job of attracting members been more difficult than you thought? What are the challenges?

SANDDERSON: Attracting members has been a challenge, but no more difficult than I imagined. Some of the challenges include making people aware of the benefits of becoming a member, ensuring that ABCMAR offers value to its members and overcoming competition from other organizations in the sector.

DIVEOPS: Don't you think that given the number of schools and operators in Brazil, the number of members is low? Why does this occur?

SANDDERSON: I agree that the number of members is relatively low compared to the number of diving schools and operators in Brazil. This may be due to a lack of awareness about the benefits of membership, resistance to change, or simply a lack of time to become actively involved. We are working to change this reality.

DIVEOPS: What are your main achievements since assuming the presidency?

SANDDERSON: We were able to promote quality training and courses, establish important partnerships, represent the diving community in regulatory issues and increase ABCMAR's visibility in Brazil.

DIVEOPS: Any frustrations?

SANDDERSON: Of course, as with any endeavor there have been challenges and moments of frustration, but I believe these situations are opportunities for learning and growth.

DIVEOPS: What are the short, medium and long term objectives?

SANDDERSON: In the short term, our goal is to increase membership and improve the services offered. In the medium term, we seek to strengthen our national presence and continue promoting safety and education in recreational diving. In the long term, we intend to consolidate ABCMAR as a reference in the diving sector in Brazil.



DIVEOPS: Do you think Brazil, in general, is ready for associations?

SANDDERSON: I believe that Brazil is ready for associations, but a continuous effort is needed to educate the diving community about the benefits of associations and strengthen the associative culture in the country.

DIVEOPS: If there were more members and representation was greater, what achievements might the segment have already achieved?

SANDDERSON: With a greater number of members and broader representation, ABCMAR would have greater influence in defining regulations, promoting safety standards and expanding the recreational diving market in Brazil. We could have achieved significant progress in terms of recognition and development of the sector.

DIVEOPS: What scenario do you currently see in the recreational diving sector?

SANDDERSON: The recreational diving scene in Brazil is promising, but still faces challenges, such as regulation, environmental awareness and competition. However, I see great potential for growth as more people discover the beauty and importance of marine life.

DIVEOPS: Is this what you dreamed of when you started working in the sector?

SANDDERSON: Yes, I am lucky to fulfill my dream of contributing to the development of recreational diving in Brazil. I believe we are on the right path to achieving our goals.

DIVEOPS: What message would you like to give to everyone involved in the sector?

SANDDERSON: I would like to encourage everyone involved in the diving sector to come together, support ABCMAR and work together to promote safety, education and sustainability in recreational diving in Brazil. Together, we can achieve much more and build a bright future for diving in our country.■

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USE OF ROV IN PUBLIC SAFETY DIVING

By: Major PMESP Ronaldo Possato

A remotely operated underwater vehicle, or ROV (Remotely Operated Underwater Vehicle), is a submersible drone, operated by a person on the surface. Equipped with video cameras and sensors, they are piloted by remote control, on dry land or inside a vessel, the pilot sees where the underwater robot passes, through the images generated by the ROV, which are transmitted in real time on a monitor. TV.

Public Safety Diving sometimes takes place in extremely dangerous environments, such as waters with a high level of contamination, great depths, confined places, low or no visibility, removal of explosives, places with entanglements, machinery such as ships in operation, etc. In these cases, the ROV plays a very important role, as it preserves the diver's physical integrity, not exposing him to this dangerous environment.



Police diving operation to scan a ship's hull with ROV support in Santos.



The ROV does not tire, does not develop decompression sickness, can be operated by just one person, and has resources that surpass those of a diver, such as sonars, magnetometers, neutral buoyancy and enormous maneuverability, with thrusters on all axes, added to georeferencing equipment and location such as USBL positioning systems and depth sensors, which can act on more than 3 current nodes in various types of environments.

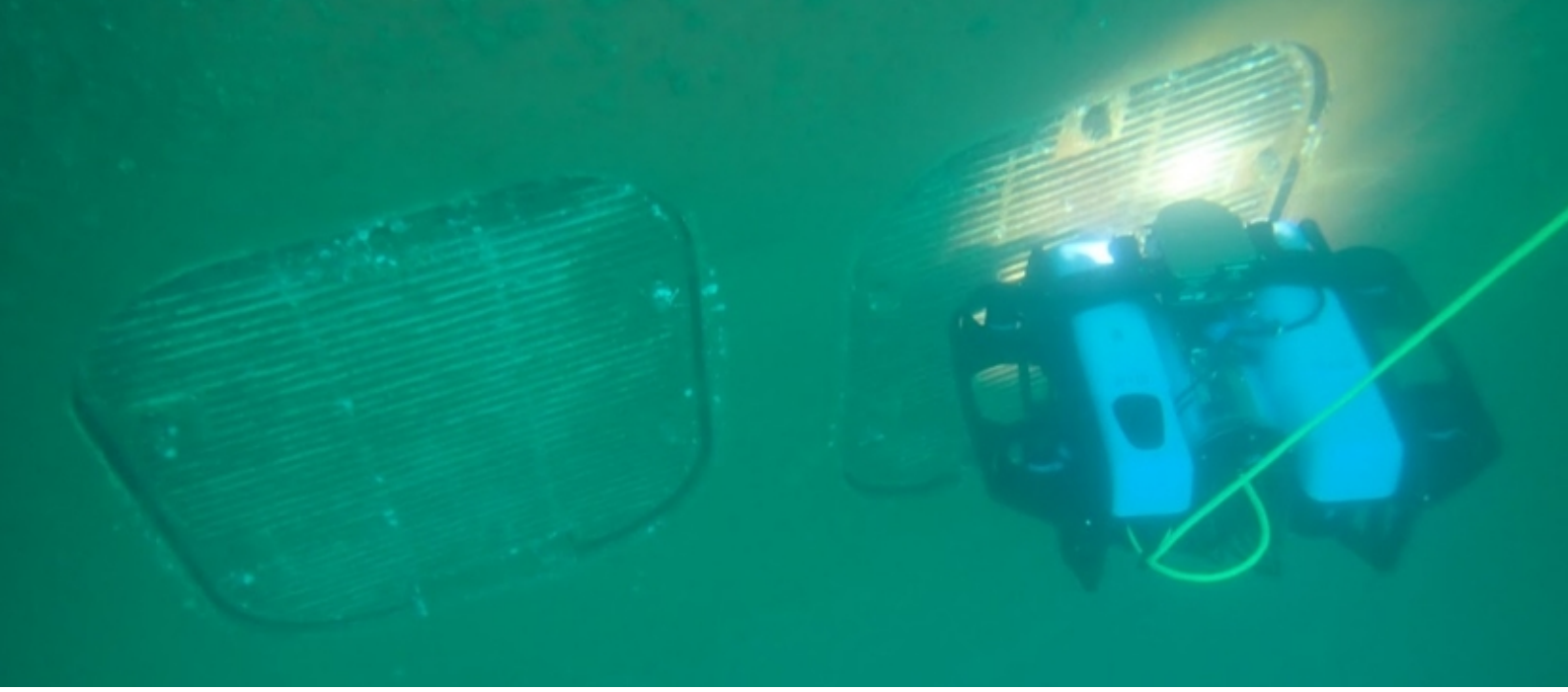
On April 22, 2024, an ROV equipped with multibeam sonar was used during a public safety dive in the city of Guarujá, São Paulo, by the police diving team from COE-Commands and Special Operations, from the Military Police of São Paulo. State of São Paulo. It was the first time that this type of equipment was used in a cadaver research event in Brazil.

ROV Applications in Public Safety Diving:

- Underwater searches and scans;
- Recovery of objects and bodies;
- Operations in risky areas, contaminated waters, deep waters, confined environments or any other risky or strenuous work;
- Sweeping ship hulls (combating international drug trafficking).
- Search for bodies or submerged vehicles, among others.
- Collection of evidence or proof.

The first time I had contact with ROVs was during my Police Diver course at the National Academy of Police Diver in Georgia, USA, in 2013. It was an observation ROV, without sonar, but it already made me aware of the possibilities of using this technology. In 2023 there was the possibility of investing in this equipment. To put together a good descriptive memorial, I ended up taking a sonar course and several consultations with American operators, in order to buy the most suitable equipment for our needs. We chose an ROV from Blue Robotics, with a heavy, claw configuration and 750 KHz multibeam sonar, which was more expensive than the ROV itself. Originally we opted for a 1400 KHz sonar, which would provide images with much more detail, but the cost would triple, not fitting into the budget available at the time.

This equipment was purchased almost a year ago by the COE and is used in all instances of ship hull scanning in search of drugs, in the ports of Santos and São Sebastião, reducing the time required for this type of inspection by more than 10 times. , given the no need to carry out a series of safety procedures and pre-dive inspection, as well as the agility of the device in the water.



The ROV was used in underwater searches on April 22, in the event of the disappearance of Private Luca Romano Angerami, who had already been missing in the region for 9 days. The suspicion is that local drug traffickers had killed and tied Luca's body to rocks, and thrown into a river in the region, according to the version of one of those arrested.

The option to use the ROV was made because the location has low visibility, and the use of sonar is extremely recommended, in addition to the fact that the water is highly contaminated, surrounded by communities without a sewage system and with industrial waste from Cubatão. The ROV would limit the exposure of divers to a minimum, increasing safety and streamlining searches.

Drones were also used for delimitation and situational awareness of the search area. All the images and the piloting of the drones and ROV were made inside an advanced command base, a VAN equipped with computers and high-resolution monitors, which provides all technological support and provides operational comparison in the area of operations.

A good riding team is as important as good equipment. We invested in qualifying our (aerial) drone pilots for the mission of piloting the ROV, as they already had good technological knowledge and piloting skills. We offer a sonar course in conjunction with the ROV qualification, with theoretical classes, confined waters and open waters, as well as a real scanning operation on a ship's hull. With this, our team was able to operate both in boats and from the VAN itself, which is always the best scenario, due to the possibility of greater technological resources ■




0.49
ppO2
0.50
Set point
1
Max (m)
0.0
DIL Depth (m)
10:07
ppO2
0
Dive time
199
CRA 02
POSEIDON MRS

BEETARGET





KIT GRANNUS

1 GRANNUS Silhueta 3D
1 Bee Cola Reparadora
1 Bee Base em madeira



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The Hall of Honor's primary mission is to recognize and pay homage to all the men and women who stood out in a notable way, contributing significantly to the advancement and enrichment of the practice of diving in Brazil

THEOTONIO CHAGAS TOSCANO DE BRITO
LUIS OLIVEIRA
JONE VIEIRA TILLI

Revista

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