

# DELIVERING THE NEXT GENERATION OF AMPHIBIOUS VESSELS

*In conversation with*  
Antoine Brugidou  
Founder & CEO, Iguana Pro  
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**Ahead of the Future Amphibious Force Conference, taking place online 18-19 May 2021, Defence iQ interviewed Antoine Brugidou of Iguana Pro, one of the conference's industry partners.**



# BIOGRAPHY



**Antoine Brugidou**  
**Founder & CEO**  
**Iguana Pro**



Iguana Pro is a french company with 12 years of reliability. Its unique technology is the Iguana mobility system (IMS). The IMS incorporates a set of patented thermic / electric -powered tracks into the boat's hull. IMS focused on being a high-performance boat first and developing a mobility system that would not impact on-water performance. The result is that Iguanas perform as well or better than traditional boats, yet can climb virtually any shore (any type of ground: soft sand, mud, pebbles, concrete... and any kind of slope up to 40%) These amphibious Iguanas are above all boats. They are robust and powerful: their speed at sea goes up to 50+ knots. Available in RIB or hard hull, the deck of an Iguana is fully customizable. Iguana Pro is used in numerous situations: surveillance and deterrence, coast guard and interception, extraction, humanitarian aid, rescue and recovery. Iguana Pro is a supplier of the US Navy through its distributor Iguana Pro USA.



# INTERVIEW

## Q1. What are the origins of Iguana Pro?

The first Iguana prototype was aimed at the leisure market and unveiled at the 2011 Cannes Yachting Festival. Since the very beginning, many armies and governments have expressed an interest at these boat shows in using the system either for interception or for rescue operation. However, the decision was taken to focus on the needs of the leisure market first which had more easily achievable requirements.

After selling more than 60 boats around the world, developing much experience and making many improvements and corrections to the original design it was decided to move into the Defence sector. At the 2017 BIDEDEC trade show in Bahrain the first Iguana Pro aimed specifically at the Defence sector was unveiled, this was soon followed by an RFP from the US Navy which was won. This is how it started.

## Q2. What were the technological challenges in this project?

The difficulty comes from three main angles.

One is the **integration**. The boat needs to achieve seemingly contradictory performance outcomes. It needs to be fast on water (as a normal interceptor) but robust on land. It needs to be seaworthy and all-terrain (able to drive on soft sand/mud/pebbles/rock). It needs to be efficient and well-designed.

Achieving this meant:

- Chasing weight by using high quality material (epoxy/carbonfiber/ironlesstracks...)
- Perfectly integrating the mobility system into the hull
- Designing an efficient semi-planing hull
- Leaving a lot of space on the deck for passengers and materiel
- Positioning the center of gravity at the right place both for land and sea

The second factor is the **robustness**. The boat needs to be able to spend all its time on the water or on the sand. It needs to resist corrosion by water, salt, sand and wind in many operating environments. This is done by giving maximum attention to the selection of appropriate materials such as stainless steel and marine aluminium.

And finally the **cost** needs to be reasonable enough to be competitive to normal boats. It cannot be ten times more than a normal boat. The design needs to be thought-through to reduce cost without jeopardizing the quality and robustness of the boat.

Without taking all of this into account the amphibious vessel would be a jack of all trades but a master of none.

### Q3. What are the use cases of Iguana Pro?

The concept of Amphibious boats (which are different to amphibious vehicles) is novel and it is still difficult to think about the many possible uses of the Iguana. However, by getting the equipment into the hands of the warfighter many new ways of using the equipment have been discovered. In fact, most of the uses have not been discovered by us but by the armies who came to us and said "we want to use this boat to do that". The most frequent and obvious uses are:

- **Interception:** instead of patrolling all day using fuel and human resources and being highly visible by pirates and traffickers. Iguanas can sit hidden on the beach and only be launched to intercept suspicious boats. This approach has many benefits. It creates the element of surprise and does not consume resources. It is both economic and efficient. This is a tremendous tool for coastguards
- **Rescue:** similarly many rescue operations take place on the coastline either because a boat has hit a sand bank and requires assistance or somebody is sinking close to the beach, the tide is low and so the rescue boat cannot be launched. Iguanas are the perfect rescue tool and injured people can be comfortably disembarked on the beach (staircase at the back of the boat).
- But, this is not all! Many other uses have been considered: extraction, infiltration, beach securing, firefighting, taxi boat, transport boat, the list goes on.



#### Q4. Can you talk about the future vision of Iguana Pro?

Our idea for the future is a combination of three main approaches:

- The most important driver is to have a limited number of platforms. What we call a platform is the combination of the hull and the mobility system. What we have done up to today is have one platform (which can be either electric with a lithium battery or using a thermic engine with gasoline) and change the deck set ups according to the clients requirements. The advantage of this strategy is to improve the performance of the platform and get some serial impact. We will continue by developing several other platforms but not too many (maybe a smaller one or a longer one and possibly a catamaran). This will create a small family of vessels and help industrialize our production and control the quality and the costs
- The second approach is to customize the deck set-ups to the exact need of the clients and to market and commercialize by segment of market. This way we will be able to address specific requirements and have a massive impact on each specific market delivering the maximum value to the clients
- Finally, we will consider having a multipurpose platform product that will be customized by clients themselves. The objective here is to get a volume effect. Altogether, this is a worldwide market and there is no limit today to the concept of amphibious boats as long as they can be as efficient as normal boats without becoming unaffordable

Overall we have not fully assessed the potential of this new generation of amphibious crafts which combine a very high performance as boats and 4 wheel capabilities to land on any type of shore. This is a new concept with many new applications which we have not fully explored yet. Beside our industrial strategy we will listen to our clients to identify these new uses and create new versions of the boats to fit any new requirement.



# FUTURE AMPHIBIOUS FORCE CONFERENCE

Understand. Adapt. Overcome.

18-19 May 2021

1400 BST | 1500 CET | 0900 EST



Hosted with the support of the Royal Marines, Future Amphibious Force 2021 will take place at an exciting time for UK amphibious capability, as the Royal Marines forge ahead with a major transformation programme to develop the Future Commando Force.

From 18-19 May, Future Amphibious Force 2021 will bring together international leaders to contribute and share knowledge on the future nature and utility of amphibiousness, as well as how their services are preparing for change. The two-day online conference will foster an environment of collaboration, providing an opportunity for participation in interactive discussions and high-level debates.

Sharing their assessments of the changing threats faced by navies and amphibious forces (including A2/AD); priority capability areas for development, and how Marine forces are adapting to this new world through the use of new disruptive technologies, is a truly diverse line-up of international military leadership, including:



**Vice Admiral Cláudio Henrique Mello de Almeida**  
Commander in Chief of the Fleet  
**Brazilian Navy**



**Lieutenant General Yurii Sodol**  
Commander of Marine Corps  
**Ukrainian Navy**



**Lieutenant General Sir David Capewell**  
Former UK Chief of Joint Operations (2011-2015)  
**Conference Chairman**



**Lieutenant General Robert F. Hedelund**  
Commanding General,  
**Fleet Marine Force Atlantic, USMC**



**Vice Admiral Keith E. Blount, CB OBE**  
Commander  
**NATO Allied Maritime Command**



**Major General Tracy W. King**  
Incoming Commander  
**U.S. Marine Corps Forces, Europe & Africa**



**Major General Sergio Alfredo Serrano Alvarez**  
Commandant  
**Colombian Marine Corp**



**Brigadier Anthony Turner**  
Deputy Commandant-General and Deputy Director, Littoral Strike  
**Royal Marines**



**Rear Admiral (UH) Jarosław Ziemiański**  
Naval Inspector  
**Polish Armed Forces General Command**



**Rear Admiral Mihai Panait**  
Chief of Naval Forces  
**Romanian Navy**

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We recognise that established paradigms in defence are being challenged by new, complex threats and disruptive technologies, and as such public-private sector collaboration and the cross-fertilization of ideas about the present and future defence enterprise has become more important than ever.

As such, Defence iQ welcomes the contributions from thought leaders across the defence community, to help inform, educate and inspire the current and next generation of disruptive thinkers, innovators and smart customers in defence.

**Please get in touch with the Editor, Alex Stephenson, at [alexander.stephenson@defenceiq.com](mailto:alexander.stephenson@defenceiq.com) to discuss submission proposals.**