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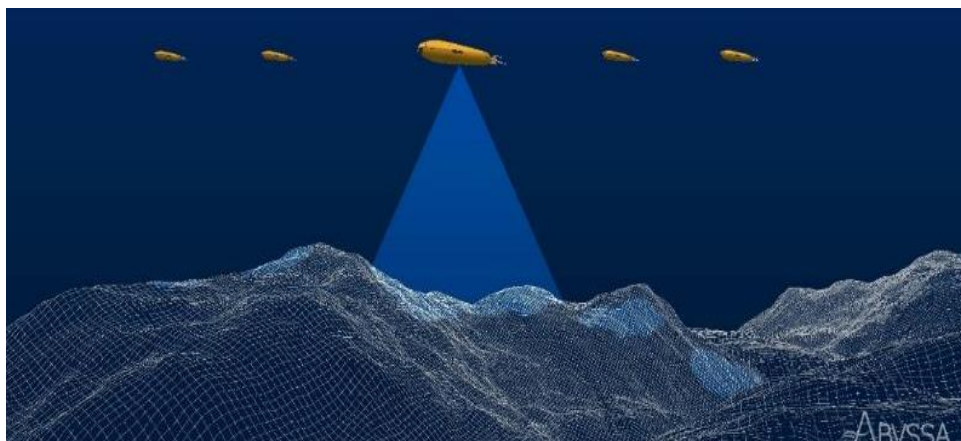Trade Manager
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Exail, RTsys and ABYSSA join forces for ocean floor mapping with AUVs

La Garde (France) 01/07/2024. Exail, RTsys, and ABYSSA, announce their strategic partnership in the CARMA (Mineral resources mapping by AUVs swarms) project. Co-funded by Bpifrance under the #France2030 initiative and designed to advance knowledge of great depths, the CARMA project focuses on developing swarms of Autonomous Underwater Vehicles (AUVs) for efficient ocean floor mapping.

This project aims to develop an innovative solution for precise seabed surveying at great depths. The ongoing development involves creating a solution in which a multi-sensor underwater drone capable of diving to 3,000 meters will coordinate multiple AUVs in order to increase the surface of the exploration area. The research program also includes the development of advanced collaborative navigation, acoustic communications, positioning, and innovative mapping capabilities. CARMA supports the French authorities' strategy to develop extensive deep-sea exploration capacities

As part of this strategy, Exail will improve the capabilities of its deep-water AUV A18-D to serve as the leading AUV to guide the swarm. Improvements will enable navigation down to 3,000 meters, at close altitude from the seabed over sloped terrains, and to accurately geolocate swarm's acquired data. RTsys will extend the capabilities of its newly developed AUV COMET-3000 to dive up to 3,000 meters. Multiple units will be provided to act as followers, along with the development of an innovative launch and recovery system for the AUV swarm. ABYSSA will focus on developing exploration strategies for deep-water swarms of AUVS. Additionally, ABYSSA will process the magnetic data collected to map the magnetic anomalies on the seabed.

This project will result in the deployment of an operational demonstrator at sea in 2026, paving the way for future commercial phases. Concurrently, the project will carry out a preliminary study on extending exploration capacity to 6,000 meters depth

"We are pleased to announce our collaboration with ABYSSA and RTsys in the innovative CARMA project, where we combine our technological expertise" said Catherine Pikovsky, project manager at Exail. "As we push the boundaries of autonomous underwater exploration, we enhance the capabilities of our deep-water AUV A18-D to navigate close to the seabed. Leveraging pack piloting techniques and advanced navigation algorithms, we lead the way towards a precise seabed surveying down to 3,000 meters, reflecting our dedication to innovation and advancing deep-sea exploration."

"Thanks to this project we have the opportunity to work on the development of an AUV swarm operating at 3,000 meters depth. This allows us to enrich our expertise, innovate in the deep-sea field and demonstrate our swarm capability. The studies conducted thanks to the AUV swarm will provide scientific knowledge and contribute to the inventory of underwater heritage." said Marine Postec, project manager at RTsys.

"We are defending the principle of the AUVs swarm, winner of the 2015 *Global Innovation Competition*, because it enables oceanographers to carry out extensive and accurate non-intrusive mapping in deep, little-known areas" said Michel Colinet, Deputy CEO at ABYSSA

About Exail
Exail is a leading high-tech industrial company specializing in cutting-edge robotics, maritime, navigation, aerospace and photonics technologies. With a strong entrepreneurial culture, Exail delivers unrivaled performance, reliability and safety to its civil and defense clients operating in severe environments. From the deep sea to outer space, Exail expands their capabilities with a full range of robust in-house manufactured components, products, and systems.
Employing a workforce of 1800 people worldwide, the company benefits from a global footprint and conducts its business in over 80 countries.
Exail was formed by ECA Group and iXblue joining forces in 2022. It is a subsidiary of Exail Technologies, a family-owned company specialized in high-technology.
www.exail.com

About RTsys
Specializing in underwater acoustics and autonomous vehicles, RTsys designs and manufactures innovative solutions for civil, science and defence applications. Part of Sea Vorian group, which has more than 20 years of experience in supplying equipment for maritime and naval industries, RTsys is now recognized as a world leader in the following sectors:
• PAM: acoustic recorders and acoustic buoys for Passive Acoustic Monitoring
• AUV: compact Autonomous Underwater Vehicles for inspection, offshore survey and oceanology
• ASW: Anti-Submarine Warfare recoverable training solutions
• MCM: Manned-Unmanned teaming ecosystem for Mine Countermeasures
www.rtsys.eu

About ABYSSA
Specializing in exploring the deep ocean, ABYSSA works all over the world, to depths down to 6000 m, thanks to the use of Autonomous Underwater Vehicles (AUVs). The company collects and analyzes technical and environmental data to better understand the deep underwater environment and produce an inventory of the maritime resources. ABYSSA's high-resolution mapping provides invaluable insight for informed strategic decisions.
www.abyssa.com