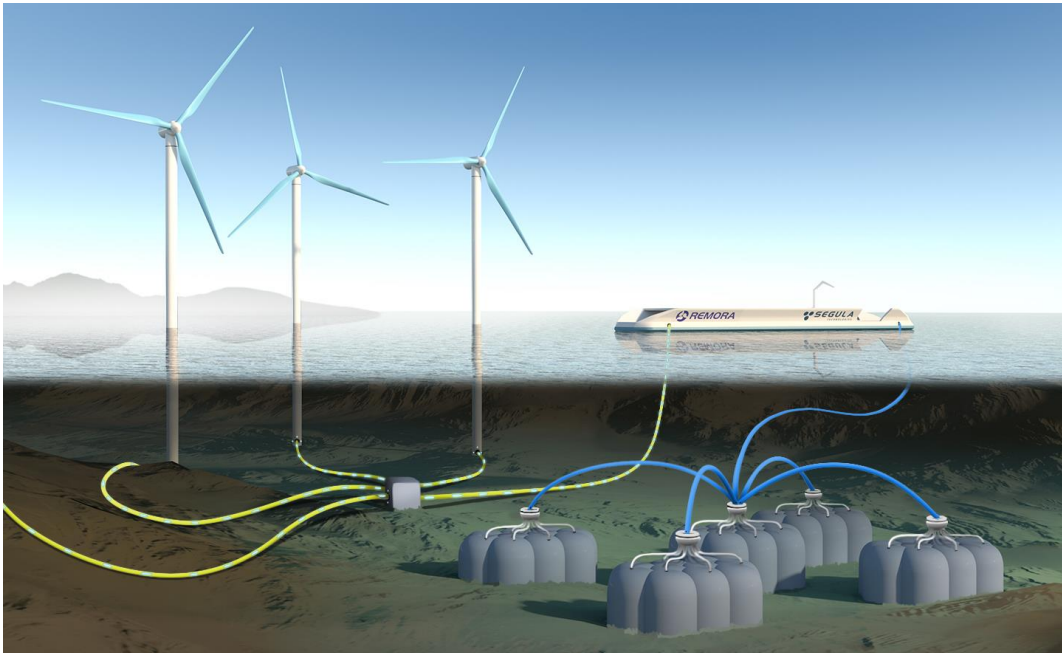


The REMORA underwater energy storage project takes a new step forward in its implementation

- *The technical feasibility of the REMORA invention, a technology for the mass underwater storage of renewable energy by compressed air, is validated by the successful commissioning of its ODySEA land-based prototype.*
- *Engineering group SEGULA Technologies, the inventor of this patented solution, is now looking for industrial partners for the next stage of the project: the construction of a larger offshore prototype.*
- *Driven by a collaborative project, ODySEA has mobilised an entire research and innovation ecosystem in the Nantes region.*



The REMORA invention consists of storing the energy produced intermittently (here by wind turbines) in underwater tanks, thus guaranteeing a continuous supply of electricity. (©SEGULA Technologies)

Paris, 18 June 2020 – While renewable energy storage is a major challenge in terms of energy transition, the SEGULA Technologies engineering group is advancing research in this field. Five years ago, SEGULA patented the REMORA technology, an environmentally friendly underwater compressed air energy storage solution, ensuring a continuous supply of electricity, and began to design the installation needed to use this technology. A new stage in this project has just been completed with the success of the initial functional tests of an ODySEA demonstrator.

Located on the premises of the Technical Centre for Mechanical Industries (Cetim) in Nantes, ODySEA reproduces REMORA's complete conversion chain in a land-based and scaled-down environment.

The fact that this prototype works as intended by demonstrating its ability to produce compressed air to store energy and feed it back into the power grid confirms the operating

assumptions of the invention, thus allowing SEGULA to move to the next step: the creation of a larger-scale prototype in real conditions, i.e. offshore. The Group is already working on the design and looking for industrial partners involved in the development of renewable energies to implement this new project, due to be completed in 2023, and paves the way for the real-size installation of the REMORA solution.

A promising solution

REMORA has been designed to be installed offshore in shallow water (70 to 200 metres deep), near renewable energy sources such as wind turbines or solar panels in order to store the energy they produce intermittently.

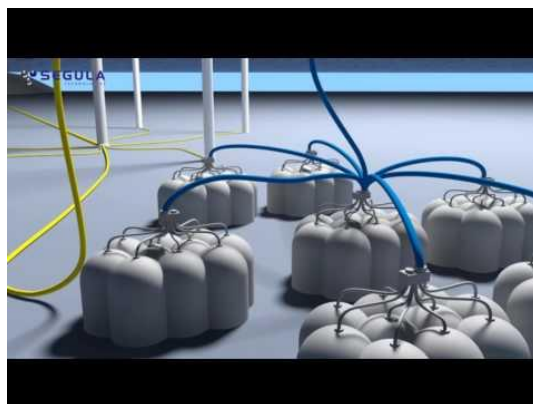
The main distinguishing feature of this solution is its high-efficiency potential: the use of compressed air will make it possible to feed back up to 70% of the electricity stored, compared with around 40% for similar existing systems. In addition, while its process is new, the industrial components it uses remain conventional, enabling its deployment on a large scale and at a lower cost.

ODySEA project partners

Funded by the ADEME Ecological Transition Agency and certified by the S2E2 Smart Electricity Cluster, ODySEA is the result of a partnership between SEGULA Technologies and high-level technical partners: Cetim, the IMT Atlantique Institute and the IREENA laboratory of the Nantes University, jointly with a team of teachers-researchers from Polytech Nantes.

FIND OUT MORE ABOUT HOW REMORA WORKS

The REMORA system consists of a 15 MW floating platform and underwater tanks with storage capacity of 90 MWh. Electricity (generated by offshore wind turbines or another source of energy where applicable) is first used to pump water that will be used to compress air. This air is kept under pressure in the underwater tanks. The use of water to compress air helps avoid temperature fluctuations and increase energy efficiency. To feed back energy, the conversion chain works in the opposite way by transforming compressed air into electricity.



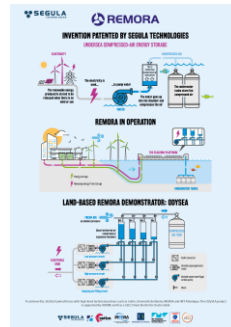
Click on the picture to watch the video

PHOTOS

Click on the following high-definition visuals to download them (credit: SEGULA Technologies):



Projection of the complete offshore installation



Infographics: operation of the REMORA technology



ODySEA demonstrator on the premises of Cetim, Nantes (complete installation)



ODySEA demonstrator on the premises of Cetim, Nantes (focus on the compressed air chambers)

About SEGULA Technologies

SEGULA Technologies is a global engineering group that contributes to increasing competitiveness in all major industries: Automotive, aerospace and defence, energy, rail, marine, pharmaceutical and petrochemical industries. The Group operates in more than 30 countries with 140 offices worldwide and maintains close customer relationships thanks to the expertise of its 13,000 employees. As a leading engineering specialist that puts innovation at the heart of its strategy, SEGULA Technologies carries out major projects ranging from technical studies to industrial applications and production.

For more information: <http://www.segulatechnologies.com>.

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