

PRESS RELEASE

Paris, 14 January 2024

SEGULA Technologies, CNRS and the University of Lille launch the "CATAMAREN" joint laboratory to accelerate the decarbonisation of maritime transport

- *The engineering group SEGULA Technologies, the CNRS, the University of Lille and the Catalysis and Solid State Chemistry Unit (UCCS¹) have announced the official launch of the CATAMAREN (CATAlysis for MARitime transport ENergy transition) joint laboratory.*
- *This partnership aims to align scientific research and industrial innovation around the desulphurisation of fuel oils and the exploration of alternative fuels based on hydrogen or ammonia.*

A new academic and industrial partnership has just come into being: SEGULA Technologies and the Unité de catalyse et de chimie du solide (UCCS) are launching a joint laboratory, "CATAMAREN" (CATAlysis for MARitime transport ENergy transition), to accelerate the adoption of sustainable energy solutions in the maritime and river transport sector.

With around 3% of the world's greenhouse gas emissions, maritime transport is faced with increasingly strict international regulations, such as those defined by the International Maritime Organisation (IMO). The sector's objective is to reduce its emissions by 80% by 2040. CATAMAREN is positioning itself as a key player in contributing to this challenge, by exploring innovative solutions to significantly reduce the carbon footprint of ships.

The fruit of close collaboration between academia and industry, this partnership, co-financed by SEGULA Technologies, the University of Lille and the CNRS, pools human and technical resources. The joint laboratory team comprises doctoral students, engineers, lecturers and university professors.

The CNRS also encourages the creation of joint laboratories with companies to further research and meet the challenges facing our society. The CNRS has nearly 280 active joint laboratories

Three major areas of research

CATAMAREN has an initial duration of four years and is built around three strategic priorities:

1. **Desulphurisation of marine fuel oils:** development of a continuous-flow catalytic process to eliminate sulphur compounds, following on from the [SOxLOW](#) project.

¹ The UCCS is a research unit under the joint supervision of the CNRS, the University of Lille, the University of Artois and the Centrale Lille Institute.

2. **Decarbonising marine fuels for long-distance transport:** research into sustainable alternatives such as hydrogen and ammonia as energy carriers for long-distance propulsion.
3. **Hydrogen for short sea shipping:** a study into the production and use of hydrogen for short and medium sea shipping, using technologies such as the thermocatalytic decomposition of ammonia.

To advance research in these areas, the joint laboratory draws on its expertise in heterogeneous catalysis, chemical engineering, electrocatalysis and marine engineering.

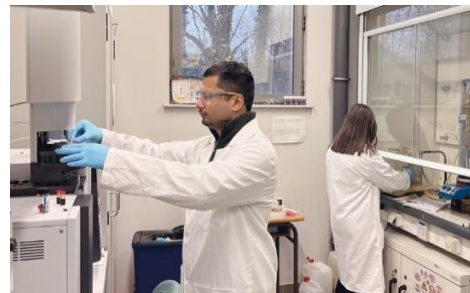
Two doctoral theses were launched in 2024 to accompany this work, covering in particular desulphurisation processes and the controlled cracking of ammonia.

PHOTO

Click on the following images to download them in high definition (credit: SEGULA Technologies):



Launch meeting of the CATAMAREN joint laboratory on 17 December 2024 at the University of Lille (Villeneuve-d'Ascq).



Researchers from the joint laboratory on the University of Lille campus (Villeneuve-d'Ascq).



Researchers from the joint laboratory on the campus of the University of Lille (Villeneuve-d'Ascq).



The aim of the maritime and inland waterway transport sector is to reduce its emissions by 80% by 2040.

About SEGULA Technologies

SEGULA Technologies is a global engineering group, serving the competitiveness of all major industrial sectors: automotive, aerospace, energy, rail, naval and life sciences. With a presence in more than 30 countries and 140 offices worldwide, the Group is committed to building close relationships with its customers thanks to the skills of its more than 15,000 employees. A leading engineering company that places innovation at the heart of its strategy, SEGULA Technologies carries out large-scale projects, from research through to industrialisation and production.

For more information: www.segulatechnologies.com

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About CNRS

A major player in fundamental research worldwide, the Centre national de la recherche scientifique (CNRS) is the only French organisation active in all scientific fields. Its unique position as a multi-specialist enables it to bring together the different scientific disciplines to shed light on and understand the challenges of today's world, in collaboration with public and socio-economic players. Together, the sciences are at the service of sustainable progress that benefits society as a whole

About the University of Lille

The University of Lille, with its 78,000 students, 7,200 staff, 66 research units and a range of courses covering all disciplines, is a major player in the region in terms of education and research. Its research strategy aims to strengthen and extend research excellence by supporting the best projects, encouraging high-potential researchers and attracting new talent. This involves developing an environment conducive to research and innovation: funding specific projects and equipment purchases, as well as recruiting and training doctoral and post-doctoral students.

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