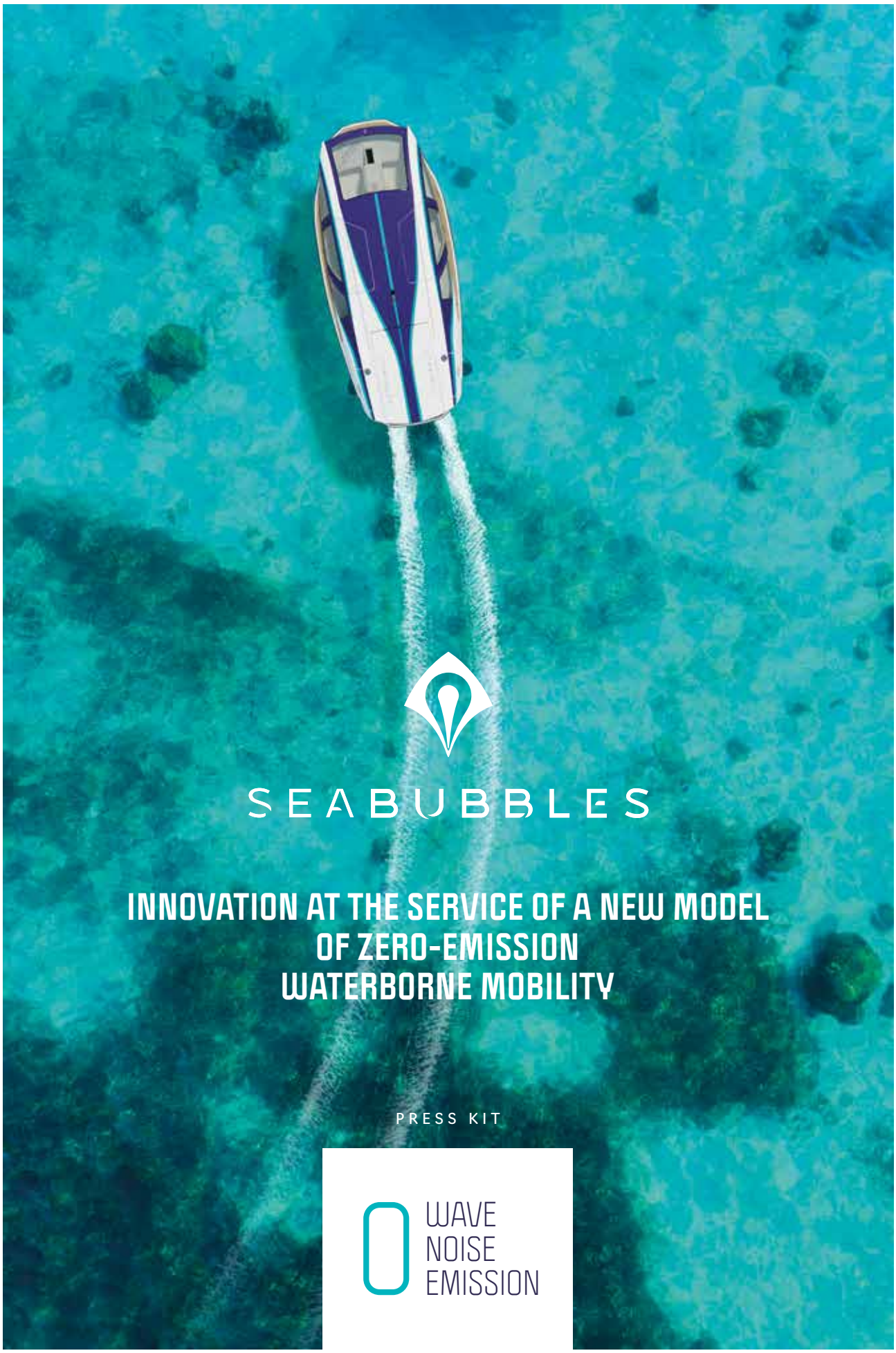


SEABUBBLES

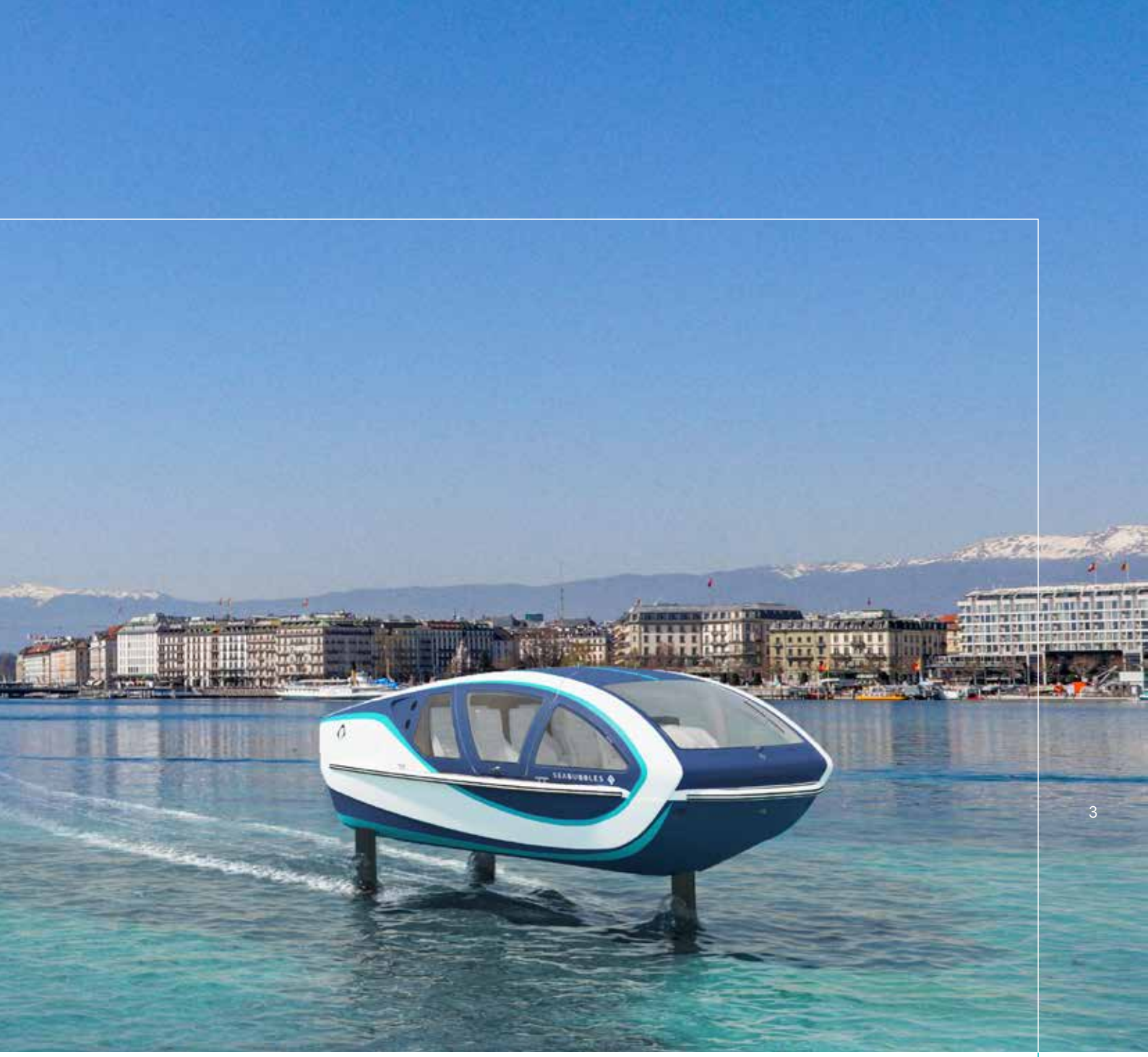
INNOVATION AT THE SERVICE OF A NEW MODEL OF ZERO-EMISSION WATERBORNE MOBILITY

PRESS KIT

0 WAVE
NOISE
EMISSION

SEABUBBLES
INVENTS SUSTAINABLE WATERBORNE MOBILITY SOLUTIONS

0 WAVE
NOISE
EMISSION



SEABUBBLES

THE SEABUBBLE, A ZERO-EMISSION FLYING BOAT, IN OPERATION FOR THE FIRST TIME IN FRANCE

SeaBubbles is an innovative French company in the field of sustainable mobility.

With its innovative hydrofoils, SeaBubbles puts state-of-the-art technology at the service of decarbonisation in the nautical sector, offering not only more environmentally-friendly boating, but also a unique experience for passengers.

The challenge for SeaBubbles is to offer zero-wave, zero-noise, zero-emission waterborne passenger transport. SeaBubbles is therefore built around a new generation of 100% electric boats with foils which help to protect the natural ecosystem and also offer a smooth and futuristic 'flying over the water' experience.

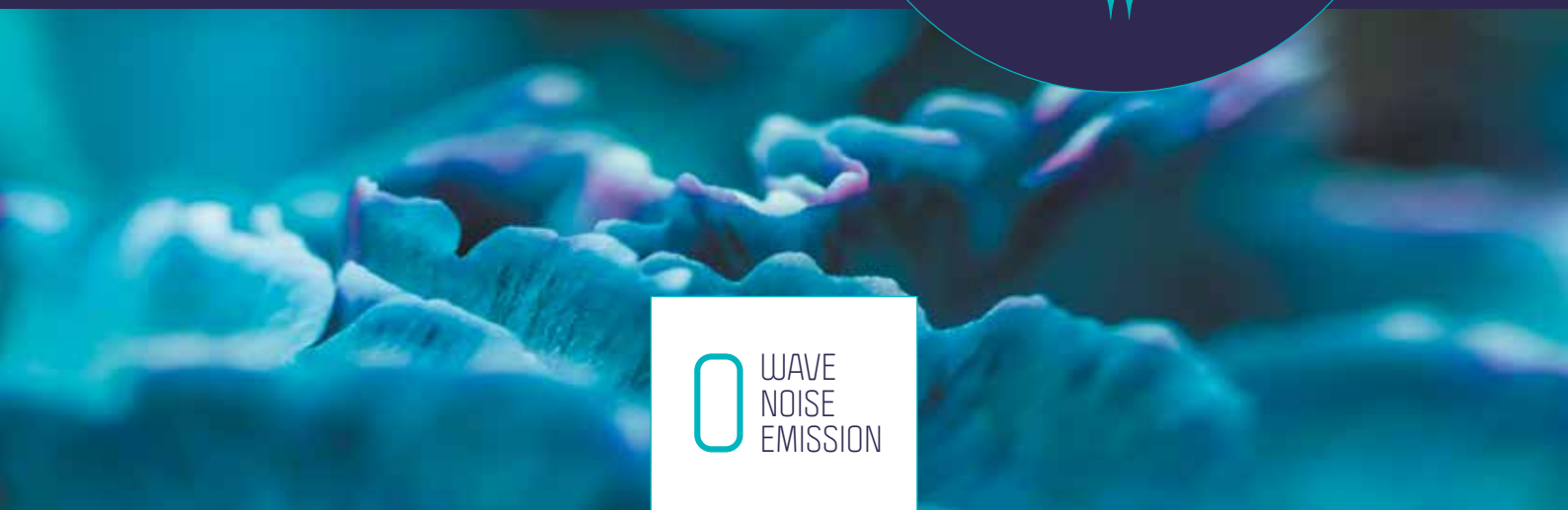
Totally unique capsules packed with innovations inspired by the shipbuilding, automotive and aeronautical industries, SeaBubbles offer an alternative form of mobility which combines the pleasure of sailing, innovation and respect for nature.

The combination of several embedded technologies makes another application of urban mobility both possible and accessible on waterways: a form of waterborne mobility that is local, sustainable, decarbonised and shared.

Thanks to close and effective collaboration with public authorities, SeaBubbles has contributed to the development of regulation that benefits innovative waterborne mobility and is, therefore, the first electric hydrofoil to obtain approval for passenger transport.

> ***Thanks to their innovation and design, SeaBubbles have always been at the forefront of waterborne mobility. It was important for the team to make this dream a reality by putting innovation and science at the service of decarbonisation in our regions. And that was not possible without improvements to the electrical energy system and the approval required for their use. We are proud to have been able to bring public authorities and private stakeholders together for a first pilot service. This is the first stage in the development of zero-noise, zero-wave and zero-emission waterborne mobility which benefits everyone.***

VIRGINIE SEURAT
SEABUBBLES CEO



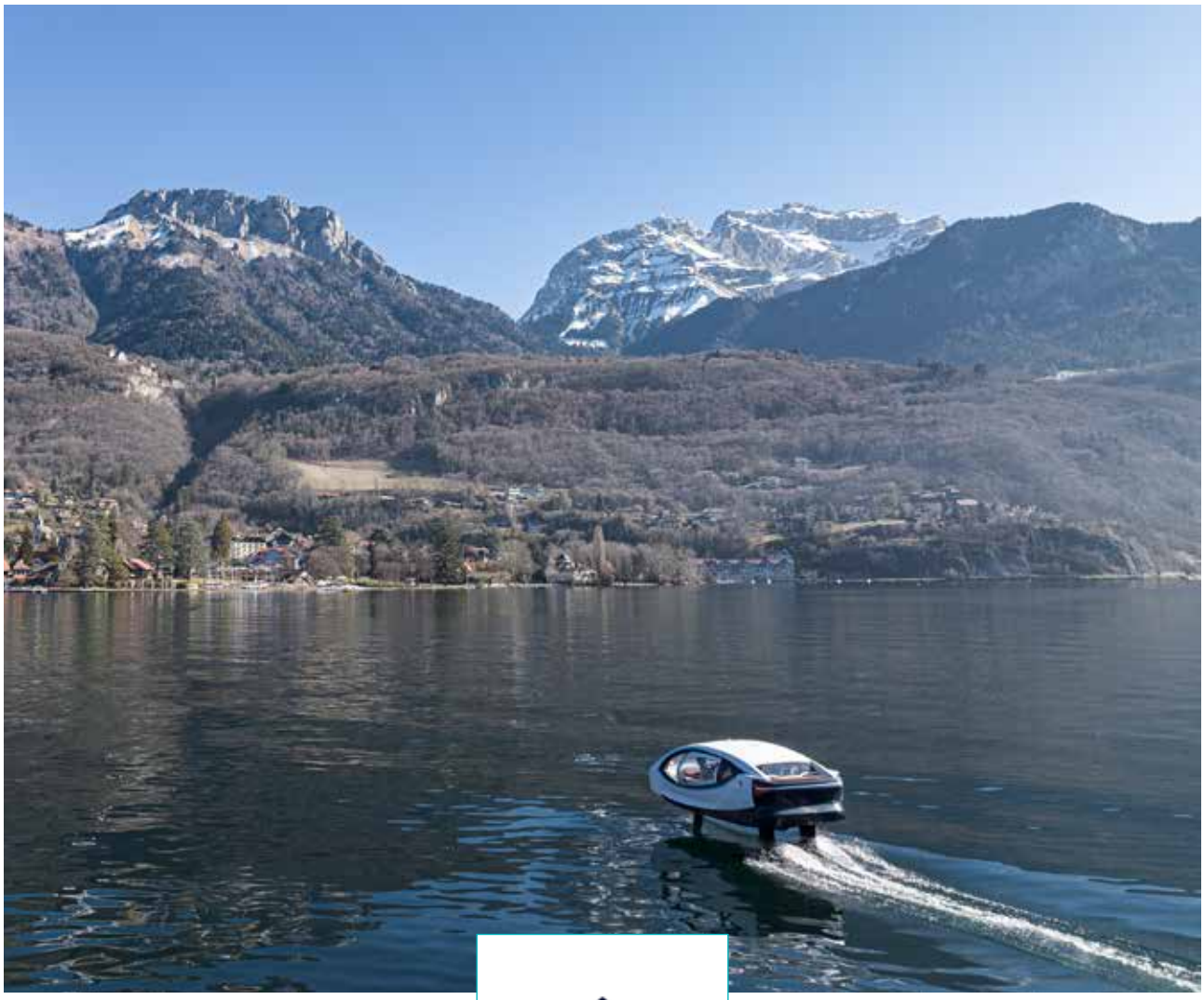
SEABUBBLES MOBILITY SOLUTIONS, SERVICES SOLUTIONS TO SUPPORT THE DEVELOPMENT OF A ZERO-EMISSION NAUTICAL ECOSYSTEM

Making local mobility sustainable, decarbonised and shared

Urban mobility is a crucial challenge in the modern world, and will be even more so over the coming years, particularly for local authorities. River-sea passenger transport has experienced an amazing boom over the last few years.

Whereas ownership of a private vehicle used to be the norm, habits are shifting towards alternative ways of getting around, mainly due to environmental imperatives.

Mobility is becoming increasingly shared and multimodal. Transport needs to adapt to changing uses and, above all, be clean. This is why large urban areas are implementing specific mobility solutions, particularly seasonal ones, to avoid pollution peaks, prevent excessive levels of traffic and ensure user comfort.



SEABUBBLES

Two main challenges: reducing pollution and ensuring that traffic flows smoothly.

How does the waterborne mobility sector fit into this landscape? Our major megacities were mostly built in close proximity to bodies of water, i.e. places which always formed natural infrastructures for transporting goods and passengers, and also gateways to new discoveries and economies.

So, like car manufacturing and industry, the maritime world is beginning to decarbonise its networks. This initiative is central to the work done in shipyards, by shipowners and, in the case of mobility, by cities.

According to the AFBE (French Electric Boat Association), the electric boat sector is set to experience significant growth driven by regulations which are increasingly favourable to electric propulsion, particularly on inland waterways where motorboats will gradually be banned. It also estimates that the global electric and hybrid boat sector could be worth as much as 20 billion dollars by 2027.
This bodes well for the quality of life around bodies of water which attract large numbers of users. So will the constant roar of engines finally become a thing of the past?

The idea is supported by the regulatory frameworks covering river transport in France, which include licences and safety standards which focus increasingly on zero-emission navigation.
In 2020, the European electric boat market was estimated at approximately 200 million euros. It is expected to experience strong growth and is forecast to reach 400 million euros by 2025.
These predictions demonstrate a determination to tackle the harmful aspects of waterborne transport, which were taken for granted throughout the industrial era: pollution, noise and the adverse impact on the natural environment.

To address these challenges, SeaBubbles Mobility Solutions

SeaBubbles has set up SeaBubbles Mobility Solutions, a range of turnkey services designed to assist local authorities and boat operators in implementing decarbonised waterborne mobility solutions in their region.

By mobilising local stakeholders at institutional, administrative and operational level, it supports the implementation of ambitious projects focusing on environmentally-friendly waterborne transport.

SeaBubbles Mobility Solutions is coordinating the introduction of decarbonised pilot services:
- By setting up pioneering consortia to mobilise all stakeholders (public bodies, partner operators) around an inspiring and concrete collaborative project, such as an experimental service.
- By providing an industrial and operational service, namely providing charging points, sourcing zero-emission boats, carrying out administrative tasks (e.g. navigation licences, insurance), providing landing stages and encouraging people to use the services.

0 WAVE
NOISE
EMISSION

LAUNCH OF THE FIRST 0 EMISSION PILOT LINE

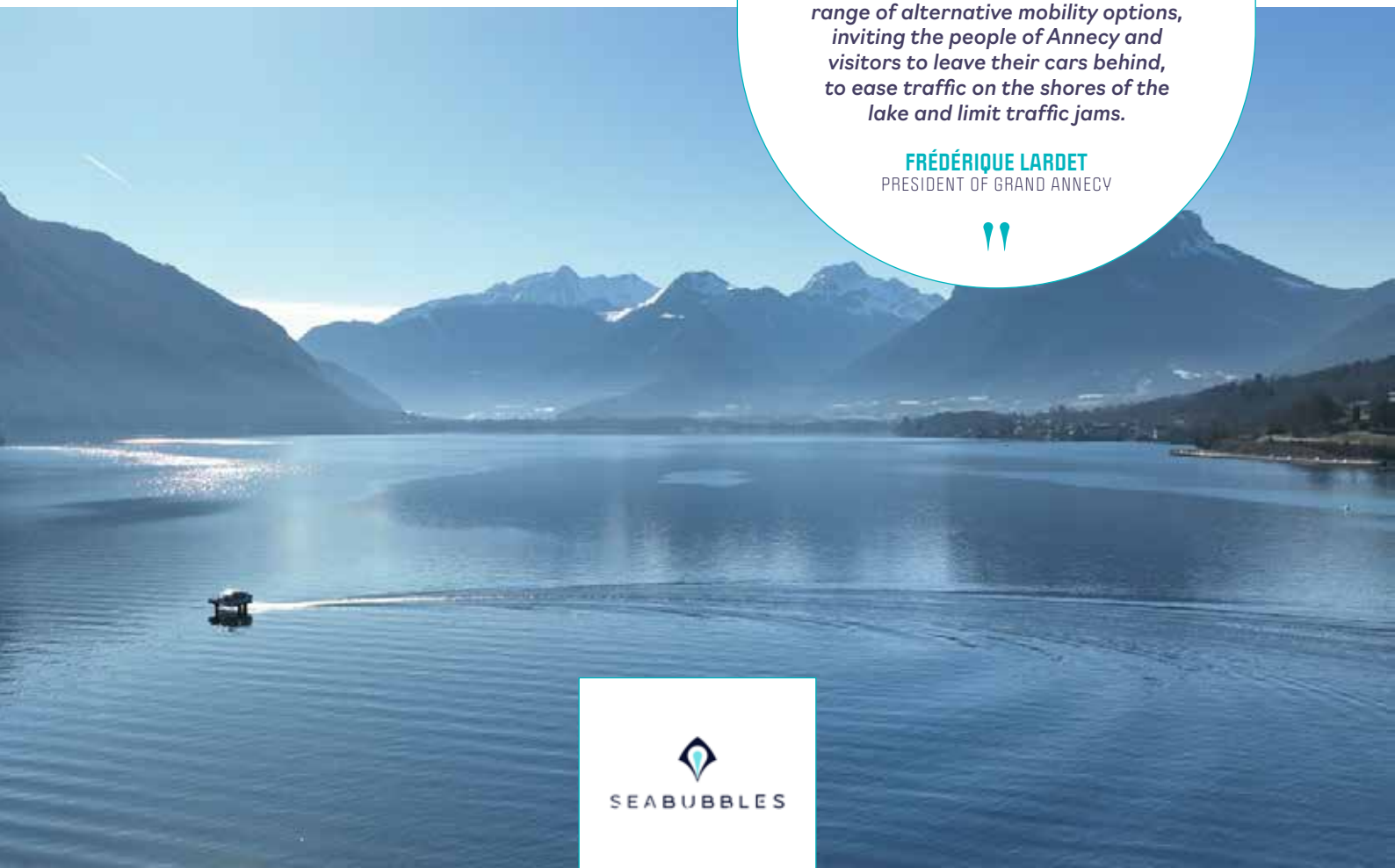
Innovative zero-emission pilot services: a first in France – launched with the Grand Annecy conurbation during summer 2023

With its SeaBubbles Mobility Solutions, SeaBubbles offers local authorities an innovative form of collaboration, along with a range of turnkey services to help them develop decarbonised waterborne mobility in their region.

It was this that prompted the Grand Annecy conurbation to choose SeaBubbles Mobility Solutions for the establishment and management of an experimental boat service between Annecy and Veyrier-du-Lac, which will operate between June 1st and the 31st of August 2023. The Grand Annecy conurbation has decided to offer this electric shuttle service to combine the charm of its region with environmental protection. The pilot service will be operated by the SeaBubbles Mobility Solutions consortium, which brings together the various stakeholders who are committed to decarbonising this fragile natural setting. The shuttles provided by SeaBubbles and its partners are electric vehicles which

>>

> ***Today marks the completion of the first stage since the arrival of the SeaBubbles teams at the heart of our territory. With its focus on innovative companies, the Greater Annecy Agglomeration is now ready to experiment with the solutions of tomorrow. Opening the first pilot line on Lake Annecy is a magnificent symbol, but above all it is a strong political act to support this local company in its development. This pilot project for carbon-free waterborne mobility is a source of inspiration for inventing new mobility solutions. This new system is a welcome addition to an already rich range of alternative mobility options, inviting the people of Annecy and visitors to leave their cars behind, to ease traffic on the shores of the lake and limit traffic jams.***
>
> **FRÉDÉRIQUE LARDET**
> PRESIDENT OF GRAND ANNECY

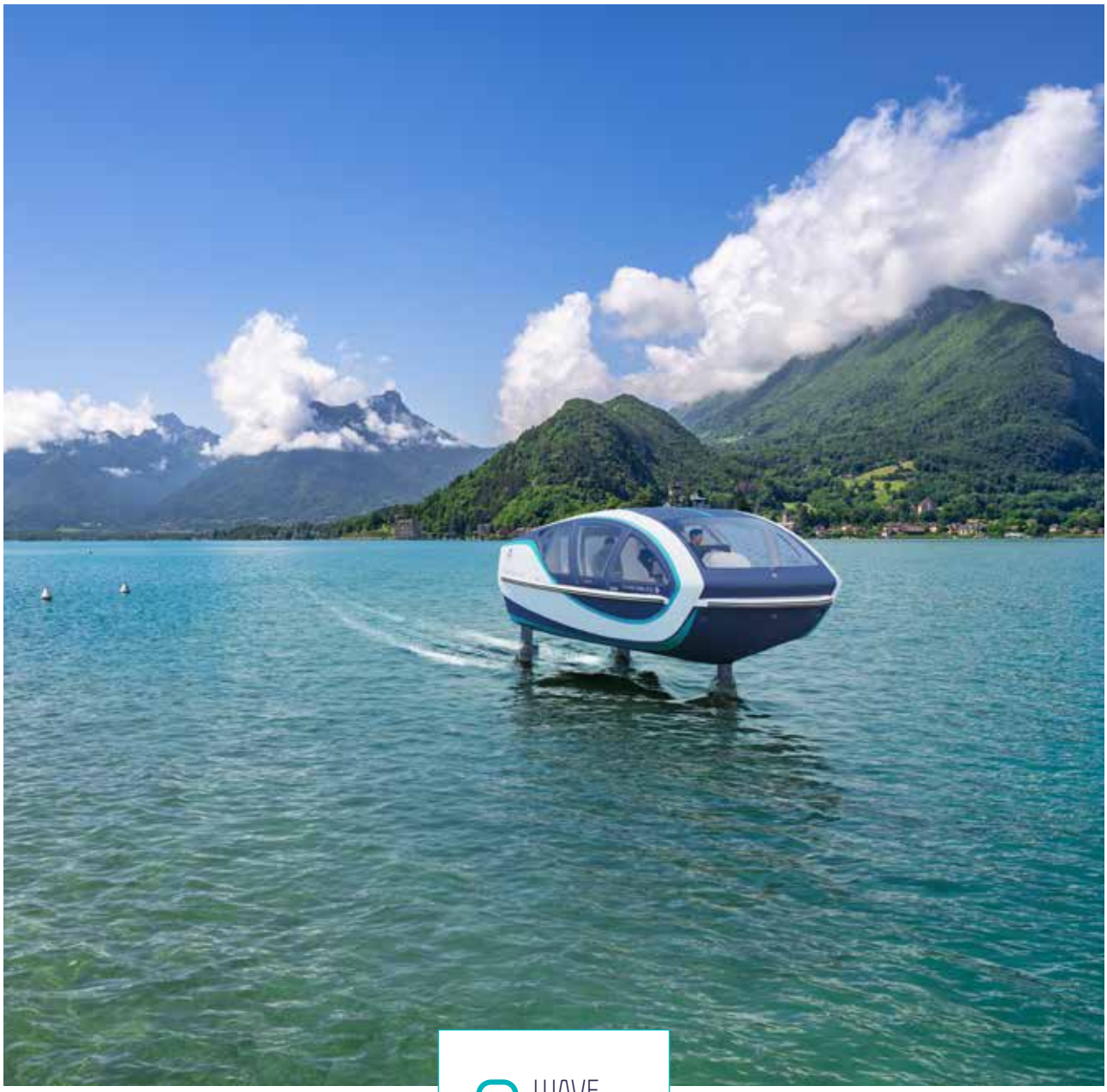


> >

are silent and create no waves. They not only provide an ecological alternative to traditional modes of transport, but also offer a practical and speedy way to get around on the lake.

By bringing on board other electric boat operators, SeaBubbles is assuming the role of project manager for a decarbonised shuttle boat solution and is supporting the development of the entire electric ecosystem covering lakes, rivers and seas.
These pilot services are a first and necessary step towards the wider adoption of electric boats. In fact, this first usage scenario provides an opportunity to adapt the existing infrastructure – electrifying landing stages, for example – and also to adapt regulation to reflect new uses of electricity.

With 8 round trips a day over a period of 2 months, this joint initiative will enable the removal of 100 tonnes of CO_2 from Lake Annecy.



0 WAVE
NOISE
EMISSION

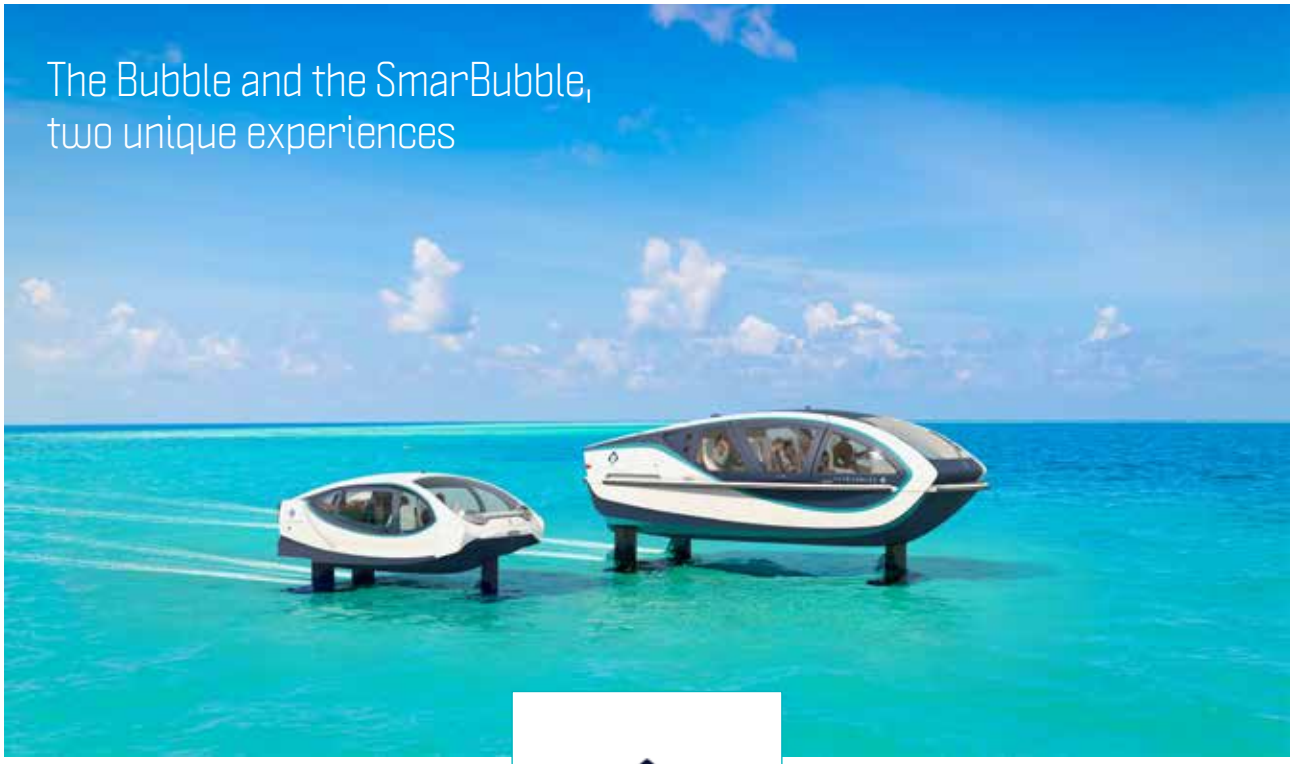
TECHNOLOGY
AT THE SERVICE OF DECARBONISATION AND A UNIQUE SAILING EXPERIENCE

SeaBubbles now come in two ranges – a 100% electric version (e-line) and an electric-hydrogen hybrid version (hy-line).

The iconic Bubble model

Able to take off in only 3 seconds, the SeaBubbles **4-5 seat** "Bubble" model is 100% battery operated. Its foils reduce the volume of water displaced by its hull. How is that beneficial? A stronger thrust is needed to displace the mass of water, or hydrodynamic wake, and this requires considerable on-board energy consumption. A reduction in energy consumption of more than 40% has been observed on board hydrofoils. It is a science whose origins lie in river trade, and it is still proving its worth today in the world of boat racing. The majority of regatta or offshore racing boats now have foils which free them from certain limitations of their environment. The iconic regattas of today feature large numbers of hydrofoils: the Route du Rhum, the Americas Cup and the Vendée Globe signify the democratisation of these new and essential appendages.
The Bubble travels at a cruising speed of 13 knots (18 km/h). This 5 m x 2.5 m boat has an internal layout akin to a small lounge in which the passengers can relax and get away from it all for a while.

The choice of automotive design opens up the possibility of using boats in a totally different way, particularly for urban users. Being protected in a capsule, with no rolling, no spray, no purring of the engine and no diesel fumes completely transforms the sailing experience and makes it accessible to most people. No more seasickness! At only 7 knots, the boat rises above the surface of the water and thereby minimises the turbulence from wake waves. The "Bubble" water taxi exists in two versions: one with a fully enclosed cockpit for sailing in any weather conditions, and the other in a convertible format that offers a panoramic view.



SEABUBBLES

The SmartBubble is the latest addition to the SeaBubbles range.

Bigger than the other models, it is available in a fully electric version with batteries or with a hydrogen fuel cell.
This **8-12 seat water taxi** is the most innovative model in the range. In response to many stakeholders' expectations in terms of mobility, SeaBubbles has developed a more spacious boat which can offer a greater energy capacity, carry more passengers and sail closer to the shore thanks to its retractable foils.
The SmartBubble is currently being tested and validated on Lake Annecy, and will make its first flights in the coming months.

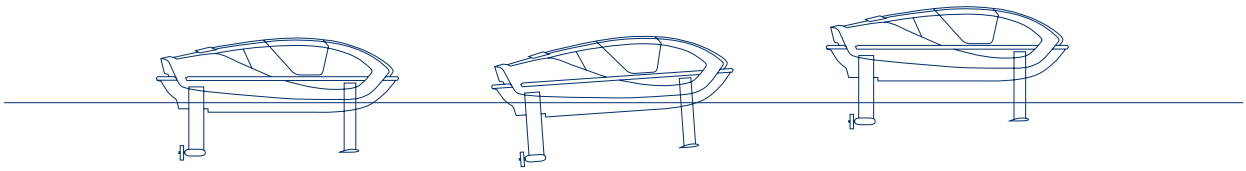
The **hy-line** version, which is also called SeaBubble H2, includes all the cutting-edge technologies which are driving the energy transition. Its most beneficial feature is its outstanding battery life, with a very fast charging time of only 4 minutes when docked. As with the e-line, there are no carbon emissions. As such, the SeaBubble H2 is both innovative and environmentally friendly and opens up new possibilities for waterborne mobility.

0 WAVE
NOISE
EMISSION

Foils

SeaBubbles are mounted on “inverted T-shape” foils which are operated by a dynamic control system. The foils are split into flaps, similar to those seen on aircraft. The actuators automatically adjust the flying height and counteract rolling, pitching and yawing motions. The sensors on the sides measure the flying height and transmit flight stability data to the on-board computer.

The computer is known as the Flight Control System. Specially developed for the boat’s hull, this software controls the flaps on the foils in real time by means of an inertial unit.



Thanks to minimal contact with the water, the foil generates little drag and offers SeaBubble passengers a unique flying sensation

On-board power

The company is committed to supporting the decarbonisation of the nautical sector. As such, the boats are powered exclusively by electric motors. Two embedded technologies are now available: the e-line with its battery-operated powertrain, and the hy-line with its hybrid powertrain with a PEM fuel cell.

The e-line matches the current capacities of the market and the infrastructure. More and more landing stages are now being electrified to enable charging and marinas are turning to turnkey solutions to enable users to make the shift to electric boats. With this in mind, SeaBubbles is offering 100% battery-operated boats which can be easily charged at any charging point.

The sound of silence.

Electric boats, just like electric cars, are amazingly quiet and vibration-free. This gives us access to the greatest of all luxuries: the beauty of Nature.

> ***Hydrofoil technology, supported by technological advances from ocean racing, is now being deployed in the naval industry. They enable a drastic reduction wetted surface and the displacement and displacement of water masses during navigation. The boat, thus freed from a significant part of its adherence to the water, offers in-flight navigation that saves energy and minimizes and minimizes wake waves that contribute to premature erosion.***
>
> **EMMANUELLE BLANC TANGUY**
> SEABUBBLES OPERATIONS MANAGER

The SeaBubble is transforming sailing both in terms of the sensory experience it offers and its low carbon footprint. This "zero wave, zero-noise, zero-emission" transport solution is both comfortable for passengers and environmentally friendly, making it ideal for use in cities and protected areas. As discreet as a bubble gliding over the water and as extraordinary as a flying fish, the SeaBubble draws its inspiration from the richness of nature and offers an alternative technological and eco-friendly mobility experience that is truly magical.

Raised by self-stabilising foils, and powered by 100% electrical energy, the SeaBubble is a 'made in France' product.

0 WAVE
NOISE
EMISSION

High-end comfort...

The uniquely designed hull with its enclosed cockpit offers a comfortable ride at any time of year. The composite material of the passenger compartment was designed to withstand the powerful forces encountered when sailing on a hydrofoil. The interior layout is at the centre of gravity, together with the Flight control system. It is customisable and could be the focus of a joint project between the shipowner and SeaBubbles' teams.

... combined with a sensational sailing experience

Access to the passenger compartment is via two "butterfly" doors on the port and starboard sides. There are two steps down to the cockpit. Between 7 and 10 knots (depending on the model), the SeaBubble leaves its Archimedean mode and gently takes off. At cruising speed, there is a feeling of lightness and weightlessness as the vessel skims across the water.

> ***The SeaBubbles foiler, with its "T-shaped" foils and their dynamic control, ideal for lake, river and bay lake navigation. Whether on Lake Annecy with this 1st pilot line, or on Lake Geneva, Dubai Harbour, Sydney Bay, San Francisco Bay or the Thames, these are just some of the possibilities for adopting a new clean, futuristic means of transport.***
>
> **CYRIL MOENE**
> EXECUTIVE VICE PRESIDENT, SEABUBBLES

SEABUBBLES

UNE ENTREPRISE INSPIRANTE ET À IMPACT

AN INSPIRATIONAL AND DYNAMIC COMPANY: A 100 KG CO_2 DECREASE PER HOUR SAILED

Key elements in the green transition

Innovation is at the heart of SeaBubbles' research, so it is not surprising that in 2020, following its acquisition by the private investment company Mediapps Innovations, the company turned its attention to introducing a hydrogen system.
Hydrogen is an important element in the process of decarbonising the land and mobile sectors. With high density storage in its fuel cell application, it releases energy at a constant rate through "stacks" of proton exchange membranes (PEM). The energy produced powers batteries, known as buffers, which can manage the power spikes required for navigation.

Once the issue of the availability of charging infrastructure has been addressed, it will be possible to charge batteries in just a few minutes instead of several hours.

Hydrogen

As we face the threat of global warming, the energy transition has become a priority and there has been a significant increase in public initiatives in this area. Around the world, the hydrogen option is being deployed faster than ever. In early 2021, more than 30 countries released hydrogen roadmaps and more than 200 large-scale projects were announced.

In metropolitan France, the France 2030 Plan is enshrined in the Energy Transition for Green Growth Act. This act sets a renewable energy target of 32% in final energy consumption by 2030.
Because it brings clear benefits in terms of low-carbon energy production and sovereignty over its production, the hydrogen option has been identified as a priority in transition plans.
SeaBubbles dovetails perfectly with this process of developing renewable energy, cutting greenhouse gas emissions and pollutants and reducing fossil energy consumption through the use of green hydrogen as a fuel. The fuel of the future, low-carbon hydrogen will provide clean energy through its fuel cell. Advances in electrolysis technology mean that hydrogen can be produced in an economical and low-carbon way before being stored for use. Hydrogen is, therefore, a real way forward for the energy transition, as it enables the development of locally produced renewable energies.
Dihydrogen reacts with oxygen in the air to produce a chemical reaction that generates both electricity and water!

> ***SeaBubbles paints a magnificent picture of what the future of maritime transport might look like. Thanks to their inspired vision, we can envisage a kind of mobility which has only a minimal impact on the environment. SeaBubbles has harnessed the power of technology in the interest of respecting and protecting the fragile ecosystems on which we depend. The future of our planet depends on innovation such as this. Life is movement, and moving around in harmony with nature is the ultimate fulfilment.***
>
> **SASHE ANNETT**
> FOUNDER OF H2 VISION (UNITED STATES)

SEABUBBLES NEWS

1. **The first SeaBubbles are currently being manufactured** in the company's workshops in Saint-Jorioz, on the shores of Lake Annecy in Haute-Savoie.

2. **Passenger transport certification for the Bubble, the 1st electric hydrofoil to become commercially operable in France, enabling the first pilot lines to be deployed.**

3. The company also launches "SeaBubbles Academy", a customer experience center dedicated to events, training and piloting.

4. **Le Grand Annecy sets up the first pilot lines, with Seabubbles Mobility Solutions, between Annecy and Veyrier-du-Lac between July 1st and August 31st 2023.**

5. Green transition: SeaBubbles is engaged in collaborative competition after joining the **Coq Vert** community (an initiative launched by Bpifrance, in partnership with the ADEME and the Ministry for the Ecological Transition) which is a community of business leaders who are all convinced about the need to act and are already involved in the ecological and energy transition.

6. Launch of the new generation SeaBubbles, the SmartBubble, which is available in an electric or hydrogen version.

7. The company's international expansion continues with the opening of a subsidiary in the Netherlands and the signing of partnerships in Europe and more widely internationally.

SEABUBBLES

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