



Elia Group organises its first offshore innovation event as it seeks to promote an open innovation ecosystem

The European Commission is aiming to make offshore renewable energy “a core component of Europe’s energy system” by increasing Europe’s offshore wind capacity from 16 GW today to 300 GW by 2050. It is in this spirit that Elia Group hosted its first Offshore Innovation Day at the Port of Ostend on 2 June. The event saw specialists coming together to discuss the future of the offshore sector. Alongside speeches and discussions, innovative projects from a range of companies were showcased and demonstrations of cutting-edge technologies were held, both through presentations and at dedicated booths.

Elia Group’s first offshore innovation event was held today in the Port of Ostend. Numerous stakeholders from the offshore sector were invited to take part in lively discussions and explore some of the latest available technologies and trends. Experts from Elia Group also covered the Group’s expansion into offshore activities, the related skills and knowledge we have developed in asset management and the importance of innovative solutions for maintaining offshore infrastructure.

Indeed, the winner of Elia Group’s 2021 Open Innovation Challenge developed an unmanned surface vehicle which is capable of sailing 40 kilometres off the coast to carry out near real-time inspection and surveys. This week, the vehicle was used to inspect the cables which lead to the Modular Offshore Grid (MOG), Elia’s offshore ‘plug at sea’ in the Belgian North Sea. Allowing stakeholders to explore projects such as the latter formed part of the goal of today’s offshore innovation event: stimulating collaboration and co-creation in the area of offshore asset management.

” Offshore electricity grids are becoming increasingly complex. We are evolving from building point-to-point connections to constructing energy hubs that are linked to hybrid interconnectors. To find new cutting-edge solutions, we need innovation and collaboration. In essence, improvements can only be made if people come together. That’s why we want to cultivate an open innovation ecosystem. Along with all the players in offshore development, we must also ensure that we foster the right talent, so that the required workforce is available to support the growth.



Chris Peeters, CEO of Elia Group



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The Belgian North Sea is a hotbed of innovation and economic development. We are the sixth nation worldwide when it comes to offshore wind energy. And we have set ambitious targets for the future, tripling our offshore capacity by 2030 and quadrupling it by 2040. We've taken it even further. We want to research the possibilities of new energy sources. Such as floating solar panels. Something which has never been done before on the open sea. And seaweed as a source of biofuel. Moreover, since July of last year, the Belgian North Sea is one large testing ground where private companies can experiment with autonomous vessels. It's one of the first places in the world where this is possible. We've seen the success of the Belgian Mahi-2 in crossing the Atlantic. There are numerous Belgian companies working in this field. Companies that recognize the importance of innovation and invest in collaboration.



Vincent Van Quickenborne, Deputy Prime Minister and Minister of the North Sea

Partner companies who attended the event were able to showcase their projects through dedicated booths and held demonstrations of some of the cutting-edge technology they have developed. Examples of some of the projects that were featured during the event can be found below.

Sabca NV and e-BO Enterprises

Sabca specialises in designing, integrating and operating unmanned aerial systems (UAS), so enabling real-time data capture and intelligence to be undertaken in both a safe and novel manner. *e-BO Enterprises* enables efficient collaboration between central control rooms and offshore operations via a Common Operational Picture (COP) and a digital first approach with an underlying network-centric approach that relies on a long-term evolution network that covers the North Sea. Together, the companies developed drones which can be used to heighten operational efficiency and maintain high standards of safety in increasingly crowded maritime environments.

GEOxyz Group

GEOxyz focuses on marine surveys and offshore renewable support activities, providing innovative solutions for undertaking hydrographic, geophysical and geotechnical surveys. Their unmanned surface vehicle products, which include the Geodrone 3000 and Geodrone 6800, can be used to carry out hydrographic surveys both offshore and in near-shore areas. Such solutions mean that hydrographic surveyors can remain on land whilst carrying out their tasks - instead of having to travel to and board vessels at sea - so lowering both project costs and safety risks.

Marlinks

Marlinks provides companies with continuous subsea cable monitoring through the use of fiber optic sensing technology. Harnessing the power of photonics, *Marlinks* uses a specialised device called a Distributed Acoustic Sensing (DAS) interrogator to continuously measure the acoustic vibrations along subsea power cables. As an industry leader



in the field of cable monitoring solutions, Marlinks' software continuously processes cable measurements and handles the immense amount of resulting data, generating actionable insights for its customers, such as cable protection system (CPS) health monitoring, electrical fault detection, cable movement and environmental monitoring. This allows their customers to take timely and informed decisions that reduce both their project costs and risks.

Optalay Ltd

Optalay Ltd provides asset monitoring equipment (such as the CoreTEST Marine 96 Port tri-wavelength optical time-domain reflectometer monitoring system) that protects offshore wind farm power cables both during and after their installation. Using these CoreTEST fibre optic monitoring systems, subsea cables can therefore be monitored on a continuous basis as they are installed; following this, the equipment can be used to monitor cables for possible water contamination during subsea storage. Once cables are operational, the equipment monitors them for possible damage from anchors or trawlers and tracks all vessels that enter or cross their corridors. The monitoring equipment is remotely controlled, so reducing - or even completely avoiding - the need for engineers to be located at sea during the construction phase of a project.

Uware

uWare Robotics is a deep tech start-up that uses the latest advancements in computer vision (CV), artificial intelligence (AI) and robotics to provide an end-to-end solution for gathering, storing and processing environmental, biodiversity and infrastructure data. Their technology is particularly relevant for the management of, and operation in, coastal zones and will soon be made available to sectors and companies that operate within the blue economy. The company's products include the uOne, a highly mobile Autonomous Underwater Vehicle, and modular sensor systems for data gathering. The uOne covers vast areas by itself, eliminating the risk to human life; collects data at 5 times the speed of a diver; and can be launched from the shore, reducing the environmental impact of monitoring operations. Their cloud-based SaaS Data Platform integrates the data gathered by the uOne and uses machine learning and CV to provide automated 2D and 3D (photogrammetry) map generation, intelligent visual inspection and data analysis.



About Elia Group

One of Europe's top five TSOs

Elia Group is a key player in electricity transmission. We ensure that production and consumption are balanced around the clock, supplying 30 million end users with electricity. Through our subsidiaries in Belgium (Elia) and the north and east of Germany (50Hertz), we operate 19,192 km of high-voltage connections, meaning that we are one of Europe's top 5 transmission system operators. With a reliability level of 99.99%, we provide society with a robust power grid, which is important for socioeconomic prosperity. We also aspire to be a catalyst for a successful energy transition, helping to establish a reliable, sustainable and affordable energy system.

We are making the energy transition happen

By expanding international high-voltage connections and incorporating ever-increasing amounts of renewable energy into our grid, we are promoting both the integration of the European energy market and the decarbonisation of society. We also continuously optimise our operational systems and develop new market products so that new technologies and market parties can access our grid, thus further facilitating the energy transition.

In the interest of society

As a key player in the energy system, Elia Group is committed to working in the interest of society. We are responding to the rapid increase in renewable energy by constantly adapting our transmission grid. We also ensure that investments are made on time and within budget, with a maximum focus on safety. In carrying out our projects, we manage stakeholders proactively by establishing two-way communication channels between all relevant parties very early on in the development process. We also offer our expertise to different players across the sector in order to build the energy system of the future.

International focus

In addition to our activities as a transmission system operator, we provide various consulting services to international customers through our third subsidiary, Elia Grid International (EGI). Elia (in Belgium) is also part of the Nemo Link consortium, which operates the first subsea electrical interconnector between Belgium and the UK.

The legal entity Elia Group is a listed company whose core shareholder is the municipal holding company Publi-T.

More information: [eliagroup.eu](https://www.eliagroup.eu)

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