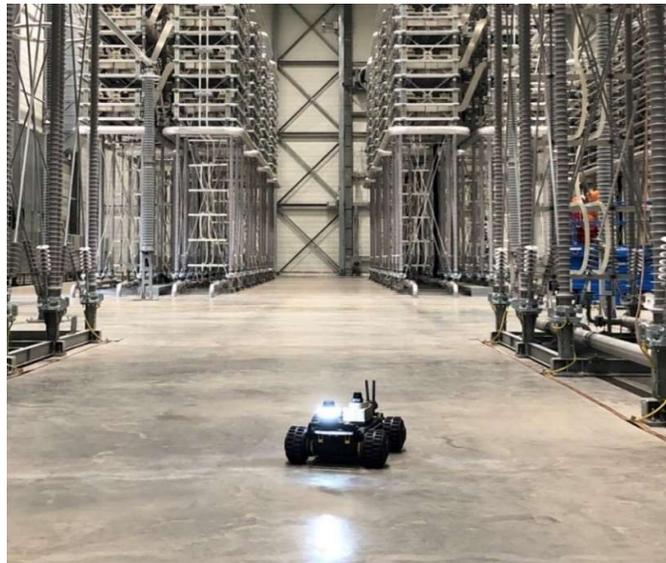




PRESS RELEASE | Brussels, 16 November 2021

Siemens Energy, Nemo Link, Ross Robotics and Elia Group collaborate over development of autonomous robots to optimise the inspection of HVDC converter halls

- The use of robots for high-voltage direct current (HVDC) converter hall inspections will reduce the risks, time and costs associated with manual inspections
- The development of robots which have electromagnetic compatibility (EMC) will allow such inspections to be undertaken without the need to temporarily switch off the assets under examination



Robot demonstration at the Nemo Link converter hall. Source: Ross Robotics.

BRUSSELS - BERLIN | Elia Group has launched a collaboration with three partners to develop EMC autonomous robots, which it will use for the inspection of its HVDC converter halls across Belgium and Germany. The use of such robots will improve asset inspections and maximise the operation of HVDC converter halls.

Elia Group launched the collaboration in order to allow its staff to better plan and prepare for asset maintenance and repair activities. In turn, this will improve the inspection of HVDC converter halls, so boosting their operation. The collaboration forms part of the Group's move to optimise its tools and processes and accelerate innovation, ultimately facilitating the energy transition.

HVDC technology is used to transport electricity over long distances and ensures there are fewer grid losses along the way. For example, Elia Group's assets include the Nemo Link HVDC subsea interconnector, which links the Belgian and UK electricity grids; the ALEGrO interconnector between Belgium and Germany; and the Combined Grid Solution, a hybrid interconnector which links the German and Danish grids together, alongside wind farms in the Baltic Sea. For safety purposes, the converter halls of these interconnectors must usually be temporarily switched off during inspections and maintenance works.

The four partners will develop autonomous robots which will be fully compatible with electromagnetic fields, meaning they can be used in a converter hall environment. These robots will be adapted versions of a robot developed by Ross Robotics. Siemens Energy, the industry leader in HVDC technology, will contribute to the project by providing its expertise in developing electronic components in harsh EMC conditions. The end products will carry smart sensors and cameras, helping to detect potential issues, reduce the risk of unexpected outages and minimise downtime for ad hoc repair work. This will maximise both the operation time of converter halls and the continuous flow of renewables across Elia Group's grid.

"We are very proud and excited to have been selected by Elia Group, Siemens Energy and Nemo Link to be part of this important project. Ross Robotics' ultra-high EMC modular autonomous robots will bring vital monitoring and remote inspection capabilities to these important assets."

Dominic Cusk, Managing Director of Ross Robotics

The launch of the collaboration follows a period of extensive investigations and tests which was led by Elia Group over 2020 and 2021 in a switched off converter hall and laboratory environment. The first milestone of the project - making the base platform of the robot fully compatible with an electromagnetic environment - is due to be reached in early 2022, with final delivery planned for late 2023.

"These last two years have been an exciting journey for us at Elia Group: from an ideation workshop and the first testing of 3 robot use cases, to - finally - this very concrete and innovative application: the inspection of converter halls. We are very excited to collaborate with an entire ecosystem of partners from different parts of the industry (OEMs, robotics manufacturers, asset owners...) in order to accelerate the development and adoption of such technology. We expect great results from the collaboration and we welcome future projects of this nature, within our ecosystem, to accelerate innovation and co-create together."

Loïc Tilman, Head of Innovation at Elia Group

Siemens Energy

Siemens Energy is one of the world's leading energy technology companies. The company works with its customers and partners on energy systems for the future, thus supporting the transition to a more sustainable world. With its portfolio of products, solutions and services, Siemens Energy covers almost the entire energy value chain – from power generation and transmission to storage. The portfolio includes conventional and renewable energy technology, such as gas and steam turbines, hybrid power plants operated with hydrogen, and power generators and transformers. More than 50 percent of the portfolio has already been decarbonized. A majority stake in the listed company Siemens Gamesa Renewable Energy (SGRE) makes Siemens Energy a global market leader for renewable energies. An estimated one-sixth of the electricity generated worldwide is based on technologies from Siemens Energy. Siemens Energy employs more than 90,000 people worldwide in more than 90 countries and generated revenue of around €27.5 billion in fiscal year 2020. www.siemens-energy.com

Nemo Link

The Nemo Link interconnector is a joint venture between National Grid Interconnector Holdings Limited, a subsidiary company of the UK's National Grid Plc, and Elia Group. The interconnector electrically connects Belgium and Great Britain, providing both countries with improved grid reliability and access to sustainable generation. Nemo Link consists of subsea and underground cables connected to a converter station and an electricity substation in each country, which allows electricity to flow in either direction between the two countries. The location of the converter station in GB is at the Richborough Energy Park in Kent, and in the industry zone Herdersbrug near Bruges in Belgium. www.nemolink.co.uk

Ross Robotics

Ross Robotics designs, manufactures and supplies man-portable, multi-mission, ground-based robotic platforms that are easy to deploy & operate in harsh environments and challenging terrain. Their modular robots mitigate the need for a large fleet of unique robots, delivering maximum return on investment. Their patented Ross Universal Connector (RUC) allows for rapid integration of new and 3rd party tools & sensors, and future-proofs against premature obsolescence. www.ross-robotics.co.uk

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 north and east Germany (50Hertz), we operate 19,276 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



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