12 July 2021

AKSELOS AND LAMPRELL PROVE DIGITAL TWIN TECHNOLOGY CAN REDUCE MATERIALS BY UP TO 30 PER CENT

Akselos and Lamprell have announced the results of an EU-backed wind foundation design project, proving that predictive digital twin technology can reduce the steel weight and associated costs of offshore wind jacket foundations by up to 30 per cent.

The European Union awarded Akselos E1.4m in 2018 to conduct the research and pilot project GODESS - Global Optimal Design of Support Structures. The GODESS philosophy has been used as the basis for proof of concept on one of Lamprell's UK offshore wind projects.

Lamprell, a leading provider of services to the international energy sector, will now apply the findings to reduce the amount of steel it uses to construct its offshore foundations.

The results were achieved thanks to Akselos' ground-breaking MIT-licenced simulation technology Reduced Basis Finite Element Analysis (RB-FEA), that allows for unprecedented speed and accuracy through real-time data feeds. For Lamprell, that enables highly accelerated design workflows where multiple design alternatives can be tested against thousands of scenarios in minutes, and in high fidelity.

Lamprell's Chief Executive Officer, Christopher McDonald, said: *"We are delighted at the results we've seen with Akselos' digital twins which provide a true step-change in our design process. With their state-of-the-art high-fidelity models, we've been able to reduce the steel weight in jacket foundation design and construction by up to 30%. This represents a significant reduction and saving; providing substantial value for our customers and wider stakeholders.*

Through our Digital business unit we are focused on harnessing digital technologies to optimise multiple aspects of our operations. This is a great example of that strategy delivering results. The innovative ways in which we are able to offer such efficiencies for our customers is what will continue to give us a competitive edge."

The research will continue by creating a full digital loop from design to operations, bringing together parametric simulations, machine learning and optimization routines to enable engineers to use relevant operational data to understand how designs behave under operating conditions, allowing for resilient, optimal designs based on real-world data.

Thomas Leurent, Akselos' Chief Executive Officer said: "*Our mission is to speed up the deployment of mass-scale offshore wind by ensuring that the design process is as optimised as possible. The pilot project has shown just how much over-conservatism exists in the current design process, and the astonishing amount of value that can be realised by adopting emerging technologies like our digital twins. We look forward to working with Lamprell to help their customers achieve the same success as we've seen in this project."*

Lamprell is also applying the technology to the design of oil and gas installation foundations, and has seen a 10% reduction in weight so far.

The research was conducted with **Eurostars** which is co-funded by the State Secretariat for Education, Research and Innovation and the European Union. The funding is designed to support emerging enterprises that have shown excellence in R&D. Aimed at accelerating the development of innovative and rapidly marketable products, the funding award is the latest in a series of endorsements of the technology from major players in the energy world.

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Notes to editors

About Akselos

Akselos is the creator of the world's most advanced engineering simulation technology - physics-based, real-time digital twins. Founded in 2012 and with operations in Europe, the USA, and SouthEast Asia, the company's products are designed specifically to help design and protect the world's critical infrastructure.

Using patented algorithms developed through 15 years of research at MIT, Akselos' technology is bringing a powerful new innovation curve to mechanical engineering, helping the energy sector optimize design and operations to accelerate the energy transition and support sustainability. Akselos was named as a Technology Pioneer in 2020 by the World Economic Forum.

About Lamprell

Lamprell is a leading provider of services to the international energy sector. Driving strategy and growth through its Renewables, Oil & Gas and Digital business units, underpinned by almost half a century of expertise, the Group has worked hard to establish its reputation for delivering projects safely, on time and to budget.

The Group has firmly established its international credentials in the renewables sector as well as continuing to build on its traditional oil and gas credentials. We are recognised for building complex offshore and onshore process modules and platforms, fabricating and refurbishing jack-up rigs and liftboats.

Lamprell employs more than 5,000 people across multiple facilities, with its primary facilities located in Hamriyah, in the UAE. Combined, the Group's facilities cover approximately 800,000m2 with over 1.5 km of quayside. In addition, the Group has facilities in Saudi Arabia (through a joint venture agreement). Lamprell is listed on the London Stock Exchange (symbol "LAM").”