Unique £16m Centre of Excellence to cement Scotland as subsea global leader

A new Centre of Excellence (CoE) for subsea development is to be established at NEL in East Kilbride. The centre, which will be unrivalled anywhere else in the world, will position Scotland as a world leader in multiphase flow measurement. TÜV SÜD AG has agreed to invest £11.1 million in the project, thanks to a £4.9 million research and development grant from Scottish Enterprise.

“This is fantastic news for NEL,” says Brian Millington, NEL’s Managing Director. “The investment from both Scottish Enterprise and our parent company, TÜV SÜD, demonstrates their confidence in NEL’s future and that of the oil and gas sector. This will be an enormous boost for NEL’s business and represents a superb opportunity to maintain and enhance NEL’s profile as a genuine world-leader in flow measurement.”

The project marks the largest capital investment to date in TÜV SÜD’s UK business. Designed to provide a new, best-in-class, high pressure multiphase flow test facility, with a test range beyond anything currently available anywhere else in the world, the CoE will provide opportunities for company-led industrial projects, development work with SME’s, and hands-on training for the industry and academic research.

The investment came following strong support from Coventry University, one of NEL’s key partners. Coventry University and NEL have collaborated on a number of initiatives in recent years, delivering multiple benefits to academia, science and industry. Most notably, there was the formation of the Flow Measurement Institute and the highly successful EngD (Engineering Research Doctorate) programme.

The investment was announced during a visit by Scottish Government Economy Secretary, Keith Brown, to NEL where the new facility will be built over the next two years.

He said: “The announcement is great news for Scotland and its oil and gas sector. It is a testament to the international standing of the oil and gas sector in Scotland that the company has chosen to make this investment. It also reflects the bright future that the oil and gas industry and its supply chain can enjoy, especially when supported by innovations such as this Centre for Excellence for Flow Measurement and Fluid Mechanics.”

“When complete, the Centre will place Scotland as a world leader in this exciting field. This will not only help the oil and gas sector to maximise economic recovery, but could have wide-ranging benefits for the food and drink, renewable and aerospace industries, supporting sustainable growth across the Scottish economy.”

Focussed predominantly on the £50 billion per annum global subsea sector, which is already home to approximately 370 companies in Scotland, the CoE will also offer potential benefits to companies in other sectors such as nuclear power, food and drink, aerospace and renewable energy.

For more information, contact Brian Millington,
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Career Profile

David Millington,
Multiphase Section Leader

What roles do you play at NEL?
I am currently responsible for commercial and multiphase research projects at NEL. I am also a sales manager, involved in business development work to expand the scope and reach of NEL's activities in preparation for the opening of the new Centre of Excellence for subsea development.

Where were you prior to NEL?
I came to NEL from the University of Glasgow where I studied a Bachelor's Degree in Mechanical Engineering. I first worked at NEL as a student and then undertook my final year project using NEL’s facilities. This project studied the use of electrical capacitance tomography (ECT) for the measurement of two phase oil-gas flows.

What are your main areas of expertise?
My main area of expertise is multiphase flow meter technology. I specialise in the use and development of modern visualisation systems and the ways they can provide real-time information about multiphase flows.

What are your current key projects?
A lot of my commercial projects are confidential but my key customers are currently Exploration and Production (E&P) companies, EPC's and multiphase flow meter manufacturers.

What most excites/interests you about working at NEL?
The work I do at NEL is diverse, involving technical delivery, sales and business development. Although I undertake research as well as commercial projects, I want to see how it applies in the real world. I also enjoy travelling to areas where multiphase flow measurement is still emerging and sharing the decades of relevant work undertaken at NEL.

What future trends do you see developing?
I can see more novel technologies being used in multiphase flow measurement applications. This will include the use of ECT – which has the advantage of being able to ‘see’ the flow pattern as well as determine phase fractions and velocities. Combining these technologies with the next generation of multiphase research could lead to the development of robust technology which could complement or even replace the standard radiation-Venturi multiphase flow meter configuration.

Call for response to Green Paper on UK’s future industrial strategy

The government’s Green Paper, Building Our Industrial Strategy, addresses many vital issues, but needs as much input as possible from industry and the research community.

“We have put in our response to the paper,” says Operations Director, Mark Roscoe. “We’d now like to encourage as many other research agencies and businesses to have their say. This is the only way to ensure that the strategy fully reflects the priorities of their sectors and the challenges they face.”

NEL’s response highlights that whilst it is positive that further investment and focus is planned, the strategy should go further in supporting agencies and businesses to have their say. This is the only way to ensure that the strategy fully reflects the priorities of their sectors and the challenges they face.”

Taking the UK Oil & Gas market as an example,” Mark explains, “new innovations are continually demanded by industry to ensure that we remain globally competitive. More focus is required on how we can take the talent and innovation that resides within our academic community and start to apply that to industry practice.”

The Green Paper sets out a new vision for a modern British industrial strategy and aims to address some of the challenges thrown up by BREXIT. It identifies 10 pillars that the government believes are important to drive forward an industrial strategy across the entire economy. These pillars include science, research and innovation and business growth and investment.

According to the Department for Business, Energy & Industrial Strategy (BEIS), which is co-ordinating the consultation on the strategy, the paper sets out how the Government proposes to build a modern industrial strategy. It is not intended to be the last word, but to start a consultation.

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New Singapore collaboration highlights important developments in the monitoring of fuel bunkering

NEL has recently signed an agreement with Megas Flow Lab (MFL) to provide a commercial dispute resolution service for fuel bunkering in Singapore.

“This exciting development has been driven by recent changes in the country’s regulatory framework,” says NEL's Business Development Manager in the Region, Gilbert Tonner. “Singapore is taking the lead in improving accuracy and transparency in this area. There is a good chance that similar moves may be made in other ports around the world, including in Europe.”

Following changes made by Singapore’s Marine Ports Authority (MPA) all fuel transfers in the country have now to be carried out using Mass Flow Meters (MFM). As a result, bunkering tanker owners that use the port have installed Coriolis meters. Under the new regulations, all MFMs must have a measurement uncertainty of no larger than ±0.5% and must be recalibrated every three years.

It is expected that various disputes relating to these regulations will arise. NEL's team will work with MFL to provide the necessary technical expertise to resolve these disputes. Together, they will review MFM compliance and, where appropriate, will review ships’ measurement systems, data and procedures. They will also serve as expert witnesses in any disputes arising from the use of MFM in fuel bunkering activities.

Since 2001, MFL has been actively engaged in the business of providing traceability and certification metrology services.

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