



The International Contract Engineering (ICE) Group is one of Europe's largest independent ship design and marine engineering consultancies, with an annual capacity of more than ½ million professional engineering man-hours. Headquartered in the Isle of Man, the Group has been in business almost 50 years. It offers a full range of high caliber, cost-effective engineering and design services, either in its own design offices in Romania and the UK or at clients' sites.

The ICE Group has in recent years been involved in projects for the offshore oil & gas industry and with design of commercial, naval and coast guard ships. ICE undertakes the full design scope from conceptual design through class drawings, detail design and production information and also advises clients on build strategy, project management, procurement, shipyard layout and productivity.

The Group's experience includes design for new construction and conversion of a wide range of vessels including tankers, bulk carriers, passenger cruise vessels, ro-ro ferries, naval patrol vessels, frigates, corvettes, jack-up drilling rigs, LNG and LPG gas carriers, semi-submersible drilling rigs, drill ships, offshore service vessels, FSOs, FPSOs, research vessels and fixed offshore production platforms.

Clients include leading shipyards, ship owners and offshore industry contractors throughout Europe as well as in Brazil, Canada, China, India, Japan, Korea, the Middle East, Singapore and the US.

Bulk Carrier Design for Japan

In July, ICE had the pleasure of a week-long visit of a 9-man delegation from Mitsui Engineering and Shipbuilding ("MES") to discuss details of its second contract this year with this prominent Japanese ship-builder. The work, which will start immediately after the holidays, is for design of certain aspects of a cape-size bulk carrier to be built at MES' Chiba shipyard in Japan. The design work will be performed in ICE's Galati office in Romania, using Aveva Marine software.

The picture shows the Japanese visitors together with ICE management and project team representatives in front of ICE's Galati office.



Liftboat Design Modifications

Five years ago, Lamprell Energy in the UAE awarded ICE a contract for design of two advanced jack-up wind turbine installation ("WTI") vessels to be built for Fred. Olsen Windcarrier of Norway. Starting from a basic design package developed by Gusto MSC, ICE developed Class drawings for DNV approval, developed a 3-D model, undertook detail design, generated production information and provided procurement assistance.



Picture courtesy: www.shipspotting.com

As the Owner has gained operating experience, its technical arm Fred. Olsen Marine Services ("FOMS") has called on ICE to assist with various modifications to the vessels. The latest request was for a Modification Feasibility Study to increase the loading capacity and extend the legs on the "Bold Tern". In that connection an ICE representative last month inspected the "Bold Tern" in port in Esbjerg, Denmark to agree with FOMS and the yard the best technical solution taking into account space constraints and other limitations.

Getting feed-back from Owners and being entrusted with follow-up design work has given ICE valuable know-how that adds to its experience from design of several types of WTI and other specialised offshore industry service vessels.

ISO 9001:2008

DNV Certification recently performed the last periodic audit within the current certification period. The audit was focussed on:

- Traceability of input data, design assumptions and product design requirements;
- Design review and process measurement effectiveness.

The audit report concluded that ICE maintains the highest degree of control of its quality processes and the auditor recommended to the certification body to maintain the certification for the quality management system in place.

Summer Holiday Greetings

As most of ICE's employees take a well-deserved summer holiday, I wish to reflect on our very challenging first half of 2015.

Our contractual work on the Brazilian drill ship project was substantially completed on schedule in October of 2014; however design changes and new



scope of work kept ICE's project team of more than 200 extremely busy up until Christmas. A sudden instruction to stop all work required us to start 2015 by urgently re-assigning this large team. We managed to do so in an orderly and considerate fashion, phasing out subcontractors and temporary employees. Luckily, we needed more of our engineers to deal with an increasing work load on our ongoing North Sea FSO project, and others were transferred to internal projects and training.

We wish our Brazilian friends all the best. When current difficulties in Brazil are resolved ICE stands ready to continue to assist in the completion of the "Ondina" drill ship and her sister vessels. We can quickly re-assemble an experienced team and our extensive project files and records are intact.

At a time when there is a tremendous pressure to reduce costs, ICE represents an attractive alternative for clients looking for quality at a competitive price. Our main Norwegian client has requested us to extend our FSO work scope, and we have recently won several new contracts. Whilst we still have available capacity, we therefore enter the second half of 2015 with an order backlog stretching well into 2016 and with more expected work "in the pipeline".

I wish everyone a safe and enjoyable summer.

Steinar Draegebo, ICE Chairman

From Our Project Portfolio

Self-propelled Jack-up Offshore Wind Turbine Installation Vessel - Seajacks Zaratan

Scope of Work:

ICE's scope of work – starting from the GustoMSC Basic Design – included development of the complete 3-D model, preparation of all detail design and production information required by Lamprell to procure equipment and materials, construct, commission and deliver the vessel to Seajacks on schedule.

Year: 2010-11;

Client: Lamprell Energy PLC, UAE;

Owner/Operator: Seajacks, UK.

