Rolls-Royce uses AVEVA Marine in practical and daily design work only two months after migration from Tribon M3

In December 2010, Rolls-Royce received an order from the Singapore-based offshore company, PaxOcean Engineering, to provide the ship design, propulsion systems and deck machinery for two platform supply vessels (PSVs) of the UT 755 CD design, (a development of the popular UT 755 series). The vessels are currently being built at PaxOcean Engineering’s offshore vessel shipyard in Zhuhai, China, with delivery due in 2012.

Rolls-Royce is a world leader in marine solutions, providing products, services and expertise to more than 30,000 vessels in the offshore, merchant, and naval surface and submarine markets. The Rolls-Royce UT-Design range for the offshore industry covers platform supply, anchor handling, cable-laying and multi-purpose vessels, as well as seismic survey, intervention service and drilling vessels.

Following a requirement from PaxOcean Engineering that the vessels should be designed with AVEVA Marine, Rolls-Royce decided to migrate immediately to this application. In order to be able to deliver the design in time, Rolls-Royce took on a challenging schedule for the training and implementation of the AVEVA Marine system.

The offshore ship design is carried out at the offices in Ulsteinvik, Norway, and at Navis Consult, an engineering company in Rijeka, Croatia, owned by Rolls-Royce. The ship designers in both Ulsteinvik and Rijeka are all experienced Tribon shipbuilding users. We met Oddvar Skotte, CAD Manager, and Oystein Alme, Senior Engineer, Structural Design, at the AVEVA World Marine Seminar in Malmö in November 2011, to find out more about their speedy and efficient migration to AVEVA Marine from the Tribon M3 shipbuilding system.
**Migrating to AVEVA Marine from Tribon M3**

AVEVA Marine was implemented at Rolls-Royce in early January 2011. Training started in the second week in January in Rijeka, with a five-day project set-up and a basic administration course. Over the following two weeks, a five-day AVEVA Hull upgrade course and a four-day basic course in AVEVA Outfitting were held. In parallel, a two-day migration seminar was arranged at AVEVA’s office in Malmö, Sweden.

After a two-week project planning meeting in Singapore between Rolls-Royce and PaxOcean Engineering, seven weeks of training followed, covering the complete outfitting system.

Rolls-Royce had recently delivered a similar platform supply vessel, designed completely with AVEVA’s Tribon M3 shipbuilding system. For the two new vessels, Rolls-Royce decided to use the Tribon data from this project and migrate the data to AVEVA Marine. Migration tools and services from AVEVA helped Rolls-Royce to convert the data to AVEVA Marine.

The hull design work for the new vessels started last week in March, when the hull data from Tribon was converted to AVEVA Marine for further design and modifications. The outfitting design started first week in May, when outfitting data from Tribon was converted to AVEVA Marine. Specific design requirements for the new vessels were re-engineered in AVEVA Marine. This data then served as a base for the re-engineering within AVEVA Marine, to cope with the specific design requirements for this ship. The Outfitting application from AVEVA Marine proved to be easy to use, and efficiently handled these design modifications.

The first AVEVA Marine hull and outfitting models of the PSV vessel were delivered to PaxOcean in the first week in May and in mid-June, respectively, and the complete AVEVA Marine model was delivered in the last week in November.

All deliveries were made according to schedule and PaxOcean was able to derive all the necessary production information automatically from the delivered models. First steel cutting at Zhuhai shipyard took place on the 15th of July.

Rolls-Royce found the hull application in AVEVA Marine easy to start working with, as many features were similar to the hull application in Tribon. The outfitting application in AVEVA Marine was a new application for them but, thanks to effective training supplied by AVEVA, and good training manuals and user guides, they were ready to start outfitting design work already in the first week in May.

During this intense and comprehensive design project in AVEVA Marine, Rolls-Royce became aware of a number of useful new features for their design projects, including AVEVA Marine’s well-organised project structure which offers a very flexible way to set up a project. Furthermore, the PML scripting language makes it simple to customise AVEVA Marine and to add many new functionalities.

**Famous UT-Design vessels**

The UT-Design PSV series of vessels, which also perform rescue and standby duties, continues to evolve, and ranges from small vessels with the most up-to-date features to much larger complex vessels.
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The UT 700 series is recognised as a worldwide standard in the offshore industry. To date, approximately 800 UT-Design vessels have been built or are under construction around the world. Platform supply vessels typically transport pipes, cement, liquid and cargo to and from mainland and offshore installations.

Since it was first delivered in 1996, the UT 755 series has generated more than 180 vessels either currently in service or on order worldwide.

An order for two more platform supply vessels
As a result of the successful design of the two PSVs for PaxOcean Engineering, the company awarded Rolls-Royce a contract in November 2011 to design and equip two more oil platform supply vessels.

These vessels, which also will be built at PaxOcean Engineering’s shipyard in Zhuhai, China, will have a fully-integrated Rolls-Royce diesel electric propulsion system and deck machinery. The vessels will be equipped for oil recovery and fire fighting, and are due to be delivered during the first six months of 2013.

AVEVA Global to be used in future projects
Rolls-Royce’s ship design projects are often very complex and executed globally, often using subcontractors. Rolls-Royce plans to use AVEVA Global, AVEVA’s solution for multi-site concurrent working, enabling Rolls-Royce’s offices in Ulsteinvik and Rijeka and their partners to work concurrently towards the same ship model.

About Rolls-Royce
Rolls-Royce is a world-leading provider of power systems and services for use on land, at sea and in the air, and has established a strong position in global markets – civil aerospace, defence aerospace, marine and energy. Rolls-Royce employs over 39,000 people in offices, manufacturing and service facilities in over 50 countries.

The marine business of Rolls-Royce employs 9,000 people in 35 countries, with the main manufacturing centres being in the UK, the Nordic countries, the United States and, increasingly, Asia.

Rolls-Royce offers a range of ship designs for the offshore sector from its well-known UT-Design family, launched in the mid-1970s. The range includes platform supply vessels, anchor handling/tug/supply vessels, multipurpose service vessels and other specialised vessels such as coastal patrol vessels, well intervention, diving support vessel, sub-sea vessels, etc.

Visit www.rolls-royce.com for more information.

About PaxOcean Engineering
PaxOcean Engineering is an integrated offshore and marine engineering group, headquartered in Singapore, and offering new-build, conversion, repair and design services.

The Group’s two shipyards in Zhuhai and Zoushan in China are modern and fully equipped with plate/profile shot blasting and painting systems, CNC plate-cutting machines, profile- and plate-forming shops, panel and block assembly shops, and block blasting and painting shops.

Visit www.paxocean.com for more information.
Headquartered in Cambridge, England, AVEVA Group plc and its operating subsidiaries currently employ staff worldwide in Australia, Austria, Brazil, Canada, China, Columbia, Denmark, France, Germany, Hong Kong, Hungary, India, Italy, Japan, Malaysia, Mexico, Norway, Russia, Saudi Arabia, Singapore, Spain, Sweden, South Korea, United Arab Emirates, United Kingdom and the United States of America. AVEVA also has representatives in additional countries around the world.

For more details on AVEVA Worldwide Offices, visit www.aveva.com/offices