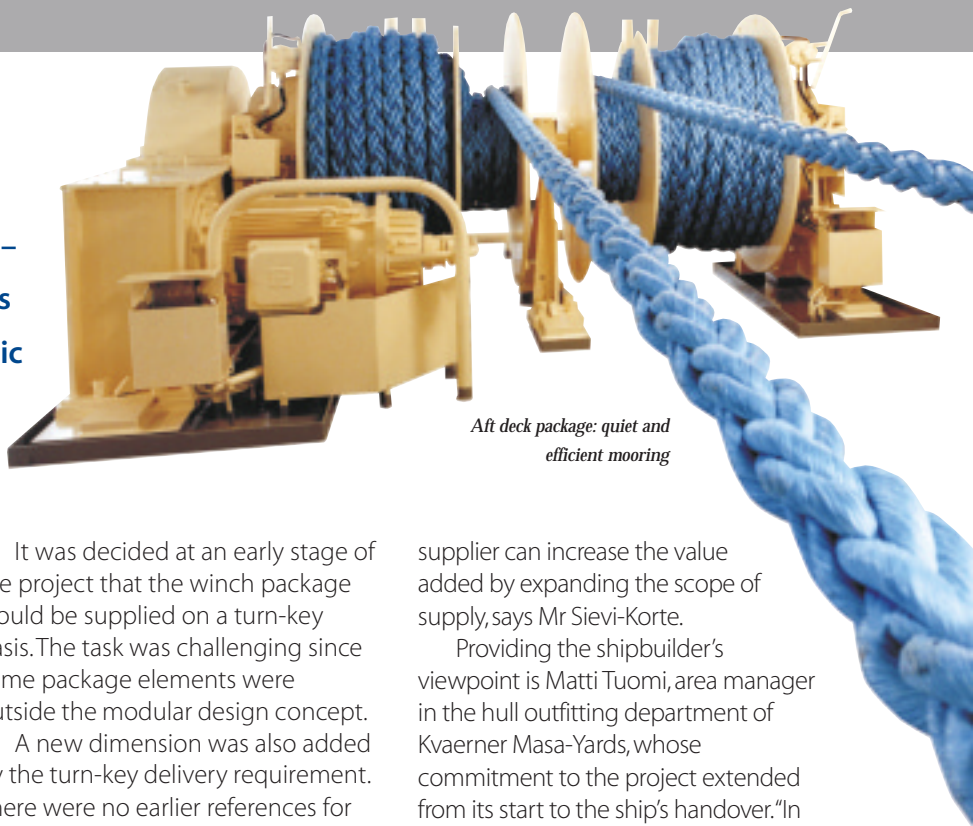


Turn-key mooring packages benefit yard and owner

A pair of Voyager-class liners – completing a series of the world’s largest passenger ships in service – are among the latest cruise vessels to feature Rauma Brattvaag electric windlass and winch systems



Aft deck package: quiet and efficient mooring

Quiet and efficient anchoring and mooring for the 138,000gt/3,807-passenger *Navigator of the Seas* (delivered in November) and sistership *Mariner of the Seas* (due for handover by end-2003) was sought by Royal Caribbean Cruises when commissioning the impressive newbuildings from Kvaerner Masa-Yards' Turku facility in Finland. The Rauma Brattvaag mooring outfit serving each ship embraces:

- two windlasses designed to handle 111mm-diameter grade K3 anchor chain cable.
- two chain stoppers equipped with pawls hydraulically controlled from the bridge.
- twelve MW 250F-type mooring winches.

The winches and windlasses are powered by frequency converter-controlled AC electric stepless drives. A high degree of automation and advanced remote control features were specified.

Kvaerner Masa-Yards' Turku New Shipyard exploits a sophisticated production concept in executing large and complex projects, a key cluster of specialist sub-contractors contributing to its success. The skilled staff of these companies understand the yard's methodology and culture from past co-operation.

It was decided at an early stage of the project that the winch package would be supplied on a turn-key basis. The task was challenging since some package elements were outside the modular design concept.

A new dimension was also added by the turn-key delivery requirement. There were no earlier references for similar extensive turn-key projects, notes Rolls-Royce winch service manager Juhani Sievi-Korte: "This type of service is, however, a natural extension of the equipment delivery process. In the future, shipyards can

"In the future, shipyards can be expected to call for wider delivery packages from suppliers"

be expected to call for wider delivery packages from suppliers. The project has thus given us valuable experience – which feeds back throughout the organisation. It has also placed us in the position of our customers and given us a better understanding of their needs."

Good co-operation and effective communications between the yard and the various Rolls-Royce winch departments contributed to a smooth execution of a project which underlined how an equipment

supplier can increase the value added by expanding the scope of supply, says Mr Sievi-Korte.

Providing the shipbuilder's viewpoint is Matti Tuomi, area manager in the hull outfitting department of Kvaerner Masa-Yards, whose commitment to the project extended from its start to the ship's handover. "In our production concept the shipyard needs a supplier able to take full responsibility for his system," he explains. "Good communication is essential: information between yard, supplier and shipowner must flow without obstacles.

"The project was initiated with a planning meeting where matters such as interfaces and detailed scope of deliveries were agreed. As an example, Rolls-Royce modified the cabling diagrams to incorporate yard information, so that the same drawings could be used in production. This saved us considerable design work.

"Start-up and commissioning was a simple matter for the yard as it was a direct continuation of installation. Normally, significant yard resources are expended in confirming that an installation has been made correctly and is completed. But with one organisation responsible throughout the entire process – in this case, Rolls-Royce – no gaps arise between the different phases."