

## HAPTONOMIC CONTROLS BRING BACK THE SAILING SENSATION

KWANT CONTROLS B.V. at Sneek in the Netherlands have developed and launched a haptic module which will prevent propulsion systems from being unintentionally overloaded. The new module makes such an unintended overload 'feelable' by vibration and provides a direct interface between man and machine.

The present generation of controls and joysticks by which rudders and propulsion systems of ships are driven, move so smoothly and steadily that a helmsman or navigation officer does not feel what the direct effect of his action will have on the propulsion system or the rudder. Besides, wheelhouses and engines are often provided with vibration dampers, so that the vibrations and sounds of engine, propeller and rudder are absorbed and silenced strongly. With Kwant's philosophy the control is more safe and efficient if the helmsman does feel the pressure of the rudder, or the increase of engine power.

Kwant Controls have already supplied container vessels and LNG tankers with their haptic systems. At the SMM 2010 exhibition in Hamburg the system was enthusiastically received by the various visitors, amongst which the Germany Meyer Werft, who foresee possibilities for applying the new system on board of Cruise Ferries built by them.

Also Prof. Dr.-Ing. Reinhard Mueller, Kpt, Professor at the Wismar University, who tested the new module for the DGON-wheelhouse project, is very enthusiastic and found that the new system has considerable potential to be applied for other (ship) control systems.

Helmsmen on large tankers or container vessels often only observe the control panels and monitors without having the feeling of sailing a vessel. By using the new system a helmsman experiences this feeling again, he feels the growing resistance when pushing a handle too far or too quickly. This restores the original sensation of sailing a ship.

Haptic control is suitable for all kind of vessels, also for the inland navigation. On river vessels a haptic handle can be equipped with a resistance, preventing the possibility of applying the rudder too quickly at a high speed, so that the vessel will heel. Information concerning speed, rpm, load and rudder position is still visible, but when maneuvering the helmsman often receives so much information that he does not process the monitor information; that is why 'feelable' information is adding so much to safety and controllability of the ship.

Haptic control is already used in the civil aviation and in the automotive-industry, but is completely new in the shipbuilding industry. Kwant Controls will develop more possibilities for application in shipbuilding and expects that haptics will be an integrated part of future ship controls to enhance safety and environment.