

## **Ice-Breaking with Steerable Thrusters**

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### **Abstract**



Since several years the requirements for offshore support, supply and construction vessels are increasing, due to a constantly growing offshore market and oil exploration in varying environmental conditions. In the beginning of the offshore market, for sure high temperatures in Brazil, the Gulf of Mexico or the Persian Gulf was the biggest challenge for the equipment on those vessels. With the beginning exploration in the

northern and Baltic sea the equipment has to face an opposite challenge, very cold temperatures and combined with that, ice.

An area which today really shows a growing demand for ice breaking supply vessels is the Caspian Sea, where, since the fall of the communist regime in the former USSR, a growing oil exploration takes place. In addition to ice breaking requirements those vessels have to face very shallow waters and for sure the requirements of DP classified vessels, which brings us to steerable thruster in ice or better ice braking with steerable thrusters. I like to give you a little overview about this application, which becomes more and more common, not only for mechanical thrusters but also for podded drives. Based on our companies experience my article is more related to the “smaller” ice classes which are more common for supply vessels which operate not particular as an icebreaker. Nevertheless I like to mention that already pure icebreakers are already fitted with steerable thrusters, mechanical or podded drives.

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