ARICE – Arctic Research Icebreaker Consortium for Europe

A strategy for meeting the needs for marine research in the Arctic



21 partners from Europe, USA and Canada, "Letters of support" from IASC, ISAC and SAON

Initiated & coordinated by:









Reasons for establishing ARICE

- Urgent requirement to capture new data and fill gaps in scientific understanding and knowledge about rapid change in the Arctic Ocean
- Science operations in the High Arctic are costly, and technologically and logistically demanding
- Many of the vessels have to split their efforts between the Arctic and the Southern Ocean and are only available in the Arctic during the summer months,
- Plans are emerging to build a new German polar research vessel R/V POLARSTERN 2, whilst continuing to operate R/V POLARSTERN in the Arctic for an additional 5 years
- The Swedish polar research vessel R/V ODEN is under a new 10-year agreement to make the ship available to researchers from May to December each year

Heavy icebreakers for research in the Arctic



The objectives of ARICE



. The primary objectives are to:

- Achieve a year-round availability of heavy icebreakers in the Arctic by operating Oden and Polarstern in an European/International consortium,
- Increase the coordination of available heavy icebreakers with ice-margin vessels in order to relieve the heavy icebreakers,
- Create a mechanism for a more costeffective usage through transnational harmonisation, especially in the High Arctic,
- to concentrate today's heterogeneous national polar research strategies into a coherent science planning based on an open, transparent international consensus.

Take away messages

The international polar science community must have access to worldclass marine research infrastructures in the Arctic to solve all the pressing questions of climate change but the availability of heavy icebreakers for work in the ice-covered Arctic Ocean is limited to very few capable vessels.

Since Science operations especially in the central Arctic Ocean are technologically and logistically highly demanding and cost-intensive and therefore beyond the financial capabilities of most Nations, a mechanism for a more cost-effective usage of existing polar research vessels through transnational harmonisation of scientific and ship operational planning, especially in the High Arctic, is needed.

Sharing of berths and related costs on the heavy research icebreakers and increasing the coordination with the ice-strengthened vessels would relieve the heavy icebreakers from expeditions to the marginal ice-covered areas and would be one solution to improve their availability in the Arctic Ocean.