



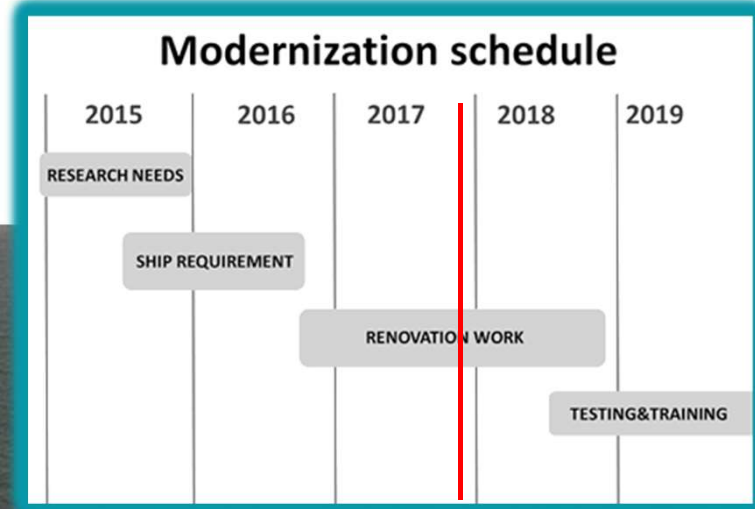
R/v Aranda - renovation/conversion update



IRSO Yokosuka, Japan 16th – 20th Oct 2017
Juha Flinkman

- Major refit/conversion now underway, finished in 2018

ARANDA2020

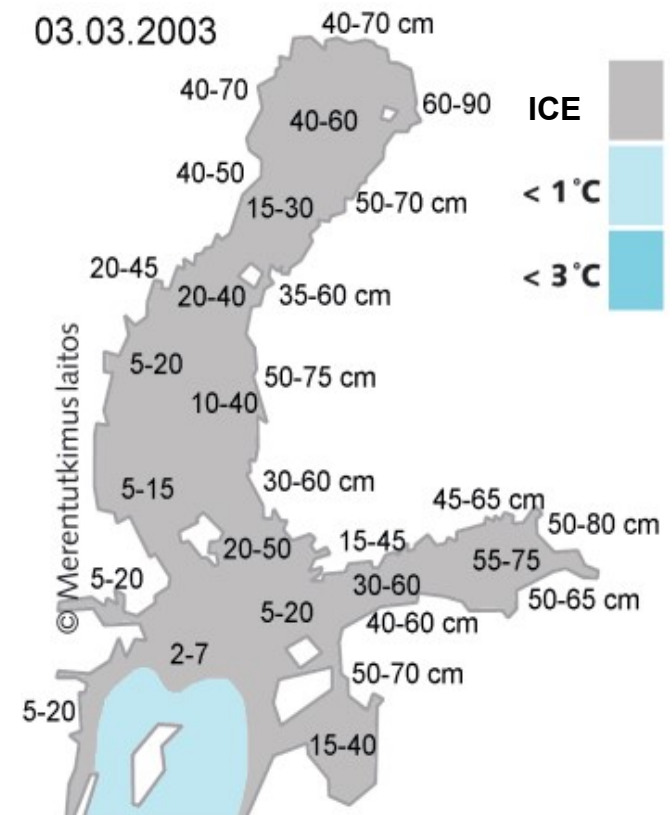


R/v Aranda refit/conversion, July-October 2017, and beyond...



Aranda's new life as multi-disciplinary r/v with Arctic capacity

- ARANDA has proven herself many times in Polar Seas
- Annually operating in Northern Baltic winter Subarctic conditions
- Polar Seas capacity will be maintained and enhanced in coming big refit
- Aranda sails approx. 200 days annually in the Baltic, so there is still free capacity to offer for Arctic projects
- Replacement vessel combined with container-based sampling and lab system also available, facilitating Arctic work in summer...

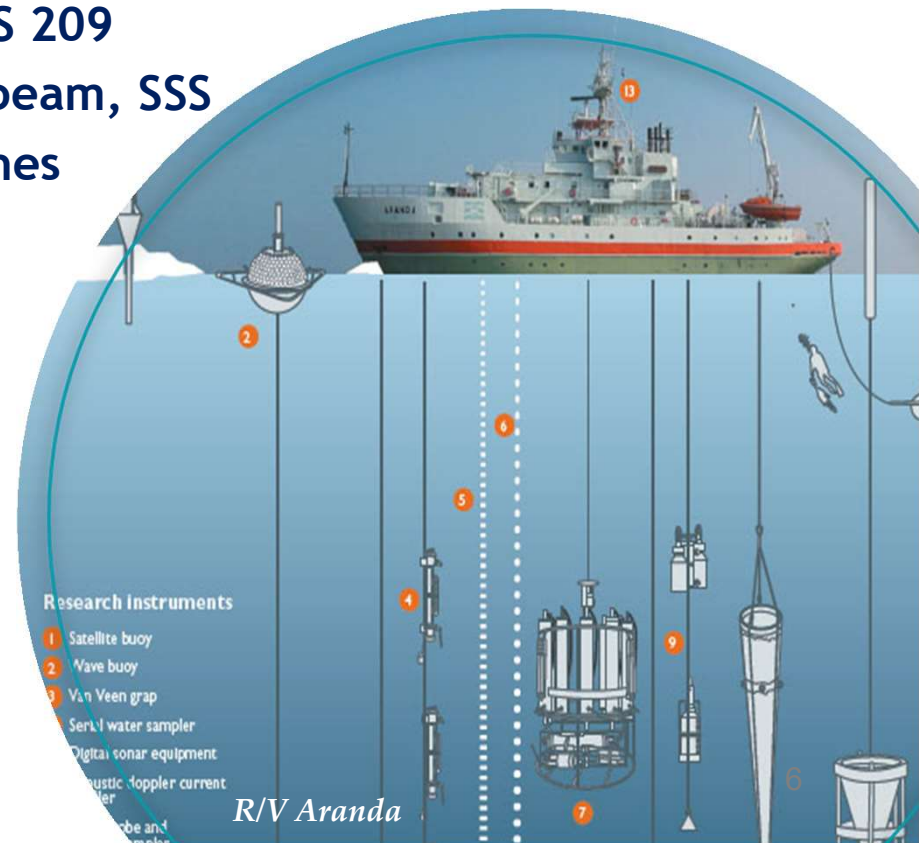


- Arctic Strategy adopted by Finnish Government in 2013 - emphasis on technical expertise and polar science
- Antarctic ops not cost effective for Aranda, but...
- ..quite suitable for operations in e. g. Arctic part of ICES area



What can Aranda do after the refit/conversion?

- Can't sail to North Pole in winter, but is capable of...
- Multi-disciplinary ops at ice edge in spring/summer/fall, such as food web studies would be ideal
- In refit Polar ops are taken into consideration - Aim at Polar Code C (PC6)
- Low sound emission into sea: ICES 209
 - Hydroacoustics: biological, multibeam, SSS
 - Robotics: Glider, AUV, aerial drones
 - Capacity for cold water ROV and diving ops
 - Moon pool for water column sampling even in ice
 - Multitasking towed vehicles: AquaShuttle, MultiNet, Utow, CPR



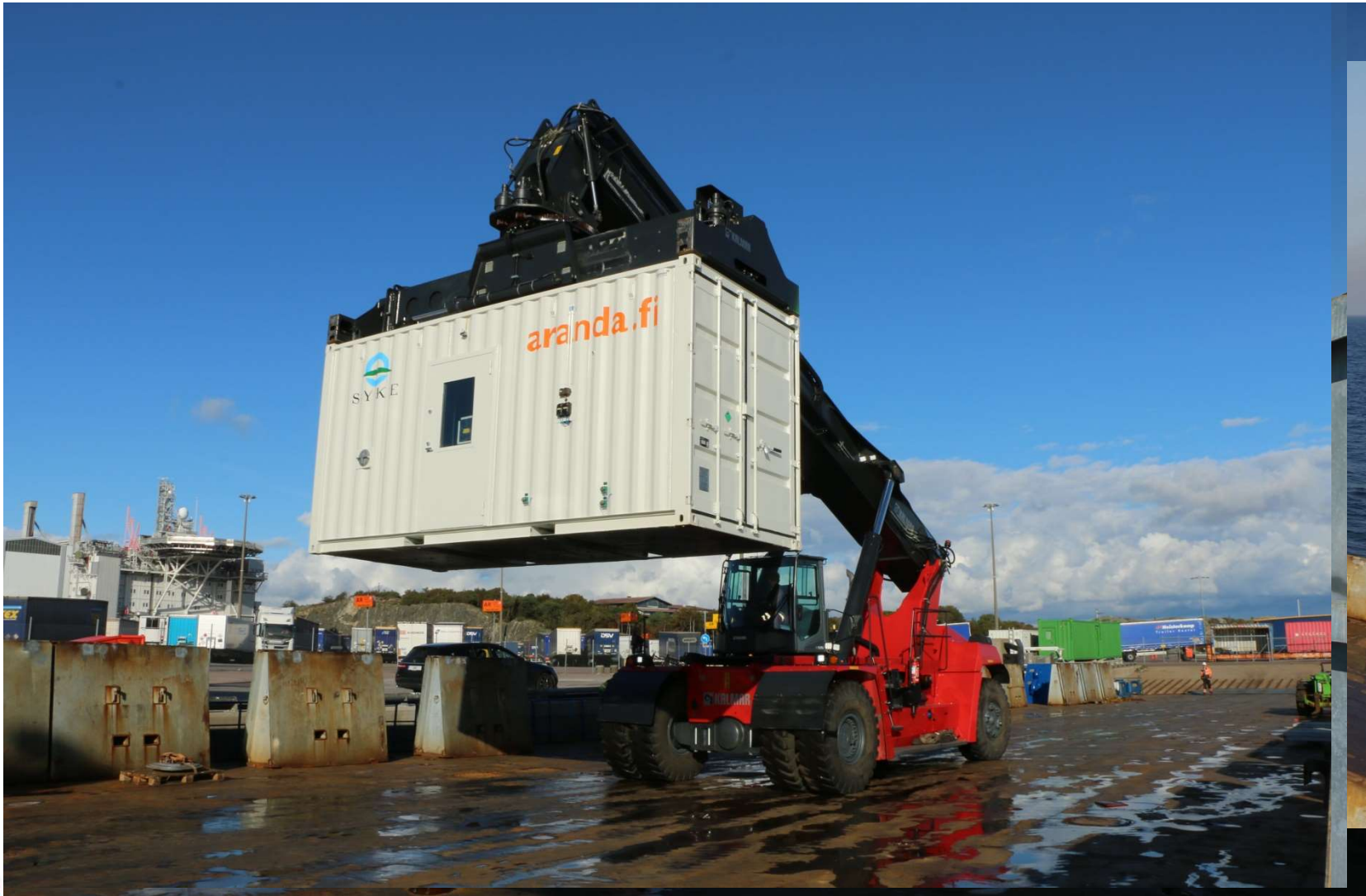
Aranda - present to future

- World's first r/v operationally using domestically produced bio-oil and biodiesel - no/low CO2 footprint
- Long term national and international co-operation such as LUKE (Finnish fish surveys) and SMHI (Swedish Baltic monitoring, until 2020)
- Contract for crewing and maintenance - Shipping company possesses additional capacity for Polar Seas
- Refit will extend Aranda's useful life span for 15 years.
- Replacement vessel & equipment for periods when Aranda is u/s is now ready and in use, first operations successful!

Replacement vessel: coastal monitoring



Replacement vessel: Baltic offshore



Aranda's refit/conversion, summary

- With the refit now underway, plenty of life span and capacity for Baltic and polar ops to 2030^{es}
- Polar capacity maintained/enhanced in the refit
- Equipment & instrumentation after refit appealing to multi-disciplinary users
- Agile, capable, cost-efficient, multi-capacity r/v for Arctic ops - Co-operation, projects, charter: all welcome!



Thank You!

