

Eurofleets 2



New operational steps towards an alliance of European research fleets



International Research Ship Operators

A European approach for Marine Polar Research

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POLARFORSKNINGS SEKRETARIATET
SWEDISH POLAR RESEARCH SECRETARIAT

OBJECTIVES

Polar Vision



General:

Polar Vision within **EUROFLEETS2** aiming at integrating the European Polar Research Vessel (PRV) establishing models for implementing a joint coordination of PRV, together with the collaboration of other Nations.

Main Aims

Determine full scientific capacities versus Cargo PRV's

Define the scientific demand, in accordance with IASC (International Arctic Science Committee) and SCAR (Scientific Committee on Antarctic Research), for research in the Polar Oceans and

Establish models for optimization of the PRV fleet by coordination of the vessels' scheduling and by harmonizing the ice-strengthened research vessels with the heavy icebreakers.

Heavy icebreakers in the Arctic



Icebreakers & Ice Classified RV's in the Antarctic



Access to Polar Research Vessels

Access to research vessels,

Icebreakers or ice classed ships is relatively well regulated in most countries.

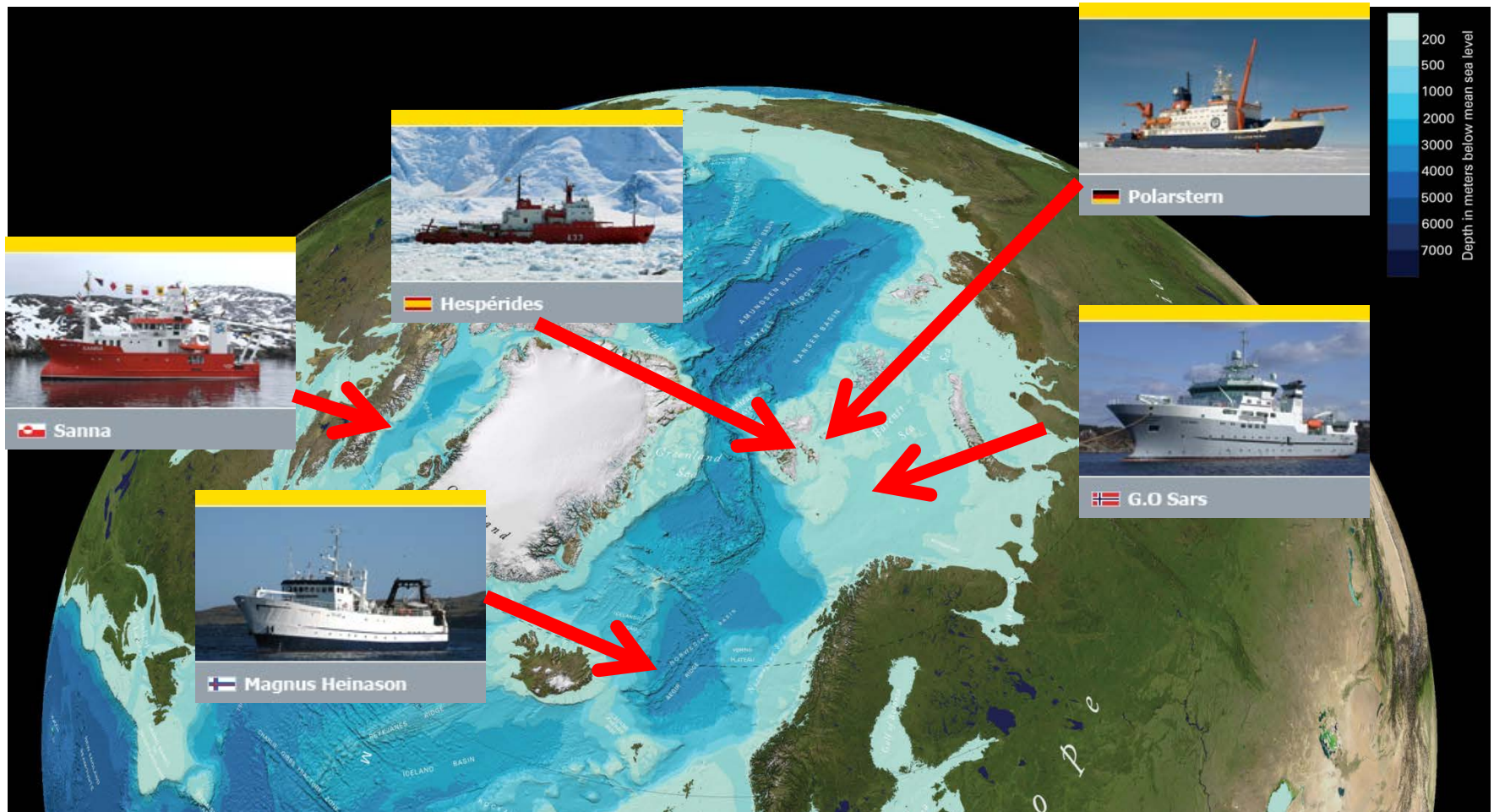
Most national R & D programs have regular marine research project calls providing access to large marine infrastructures.

The application follows in most countries similar procedure of quality control and peer review.

However, for a research group to gain access to an entire vessel belonging to a different country is only possible under very special circumstances further elaborated upon below.

EUROFLEETS 2 : The first steps to improve and promote Polar Access

EUROFLEETS2 Vessels offered for the Arctic in the Polar & Sub polar Call for ship-time - Call closed 24th of May 2014



Year-Round navigation in Polar Waters

Region	Polar Code Category	IACS Class	Ship Name	Picture	Country	Length	Built year	Operator	Ice Class	Research Equipment	Operating area	Major Refit	Supply Station
EUROPE	A	PC1 to PC3	Polarstern		Germany	118	1982	AWI	100 A5	100/100	Antarctic Arctic	2002	Yes
			Oden		Sweden	108	1988	SMA	DNV-Polar 20	60/100	Arctic	Yes	
			Akademik Federov		Russia	141	1987	AARI	KM * ULA [2]A2	50/100	Antarctic Arctic	Yes	
WORLDWIDE	A	PC1 to PC3	Healy		USA	128	1997	USACGC	PC2	60/100	Antarctic Arctic		Yes
			Polar Sea		USA	122	1978	USACGC	PC2	25/100	Antarctic Arctic		Yes
			Louis S. St-Laurent		Canada	120	1969	CCG	A4	60/100	Arctic	decom m. 2017	No
			Amundsen		Canada	98	1979	CCG	100 A3	50/100	Arctic	2003	No
			Shirase II		Japan	138	2008	Ministry of Defence & JARE	PC3	50/100	Antarctic Arctic		Yes
			Sikuliaq		USA	80	2014	U. of Alaska UNOLS	PC5	100/100	Arctic		
EUROPE	A	PC4 to PC5	James Clark Ross		UK	99	1990	BAS	Lloyds IAS	100/100	Antarctic Arctic		No
			Akade. Tryoshnikov		Russia	134	2011	AARI	PC4-PC5	50/100	Antarctic Arctic		Yes
WORLDWIDE	A	PC4 to PC5	Xue Long		China	167	1993	CAA	CCS B1	50/100	Antarctic Artic	2013	Yes
			N.I.B. Palmer		USA	94	1992	USAP	A2	100/100	Antarctic		Yes
			Agulhas II,		Souht Africa	134	2012	SANAP	PC5	60/100	Antarctic		Yes
			Araon		South Korea	110	2009	KOPRI	PC5	100/100	Antarctic Arctic		Yes
			Aurora Australis		Australia	95	1989	P & O / ADD	A1	60/100	Antarctic	2013	Yes
			Almirante Irizar		Argentina	121	1978	Argentina Navy	PC5	60/100	Antarctic	underway	Yes

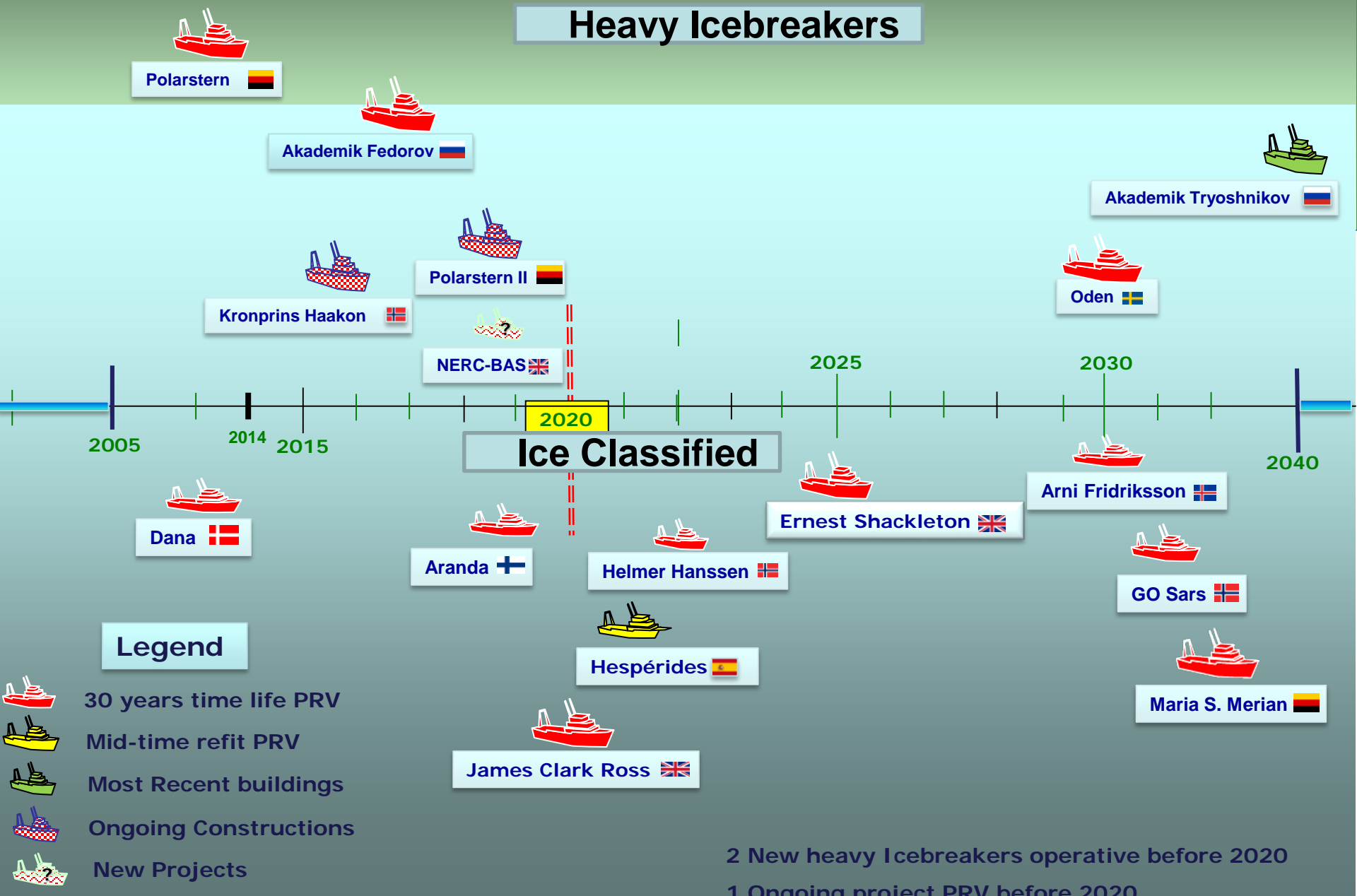
Strategic Vision for a Polar Fleet



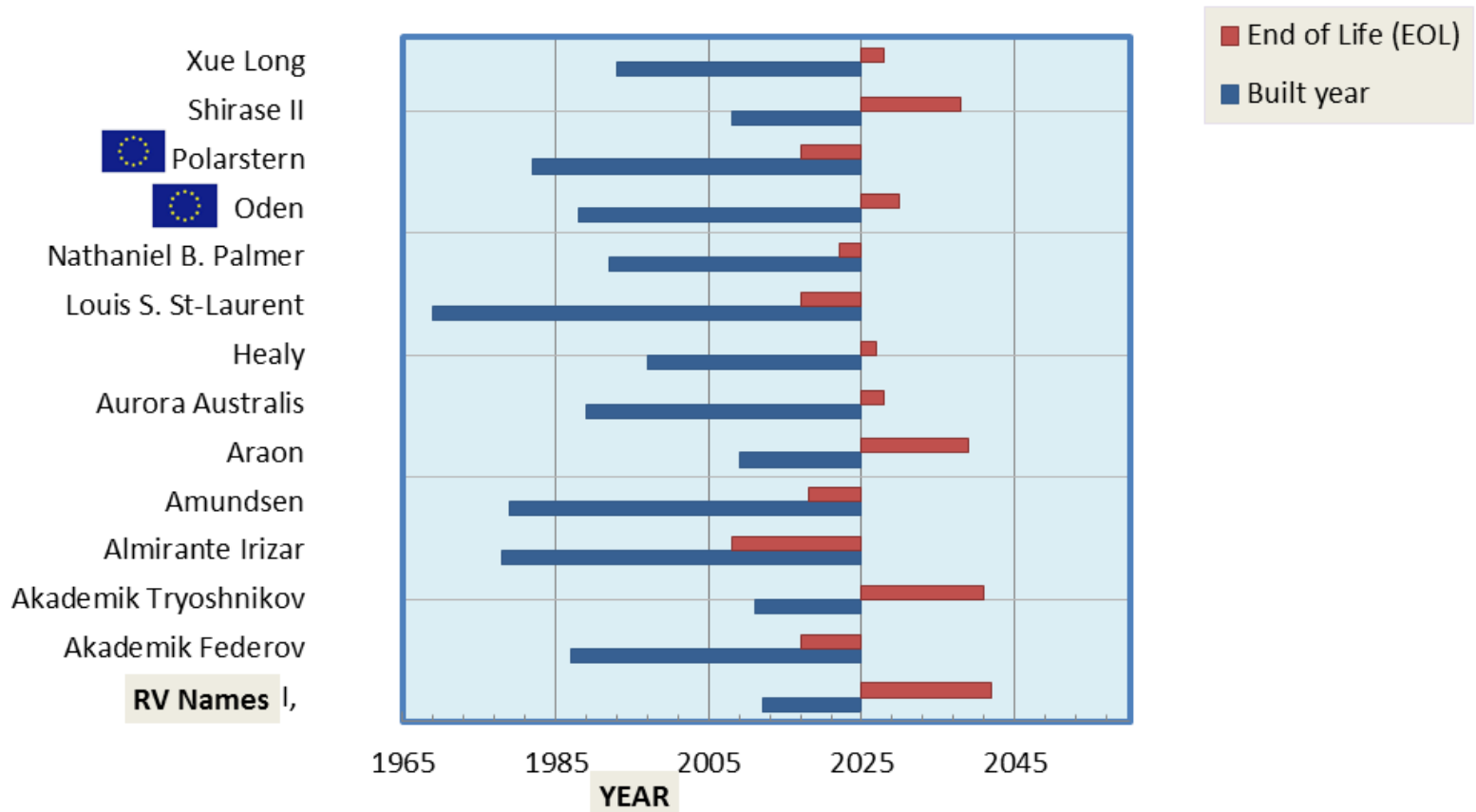
Actions to
stimulate
Marine Polar
Research:

- to establish models for a **Joint European/International Polar Research** fleet.
- to elaborate **models for the optimization of the Polar Research Fleet** e.g. by better coordination of the vessels and by harmonizing the deployment of ice-strengthened vessels with the heavy icebreakers and by giving **recommendations for future infrastructure** needs to fulfill the European Member States and associated partners strategic research objectives.
- to give specific recommendations on ways **to encourage long term and pan-European scientific planning**, to ensure optimal use of an integrated European Polar Fleet.

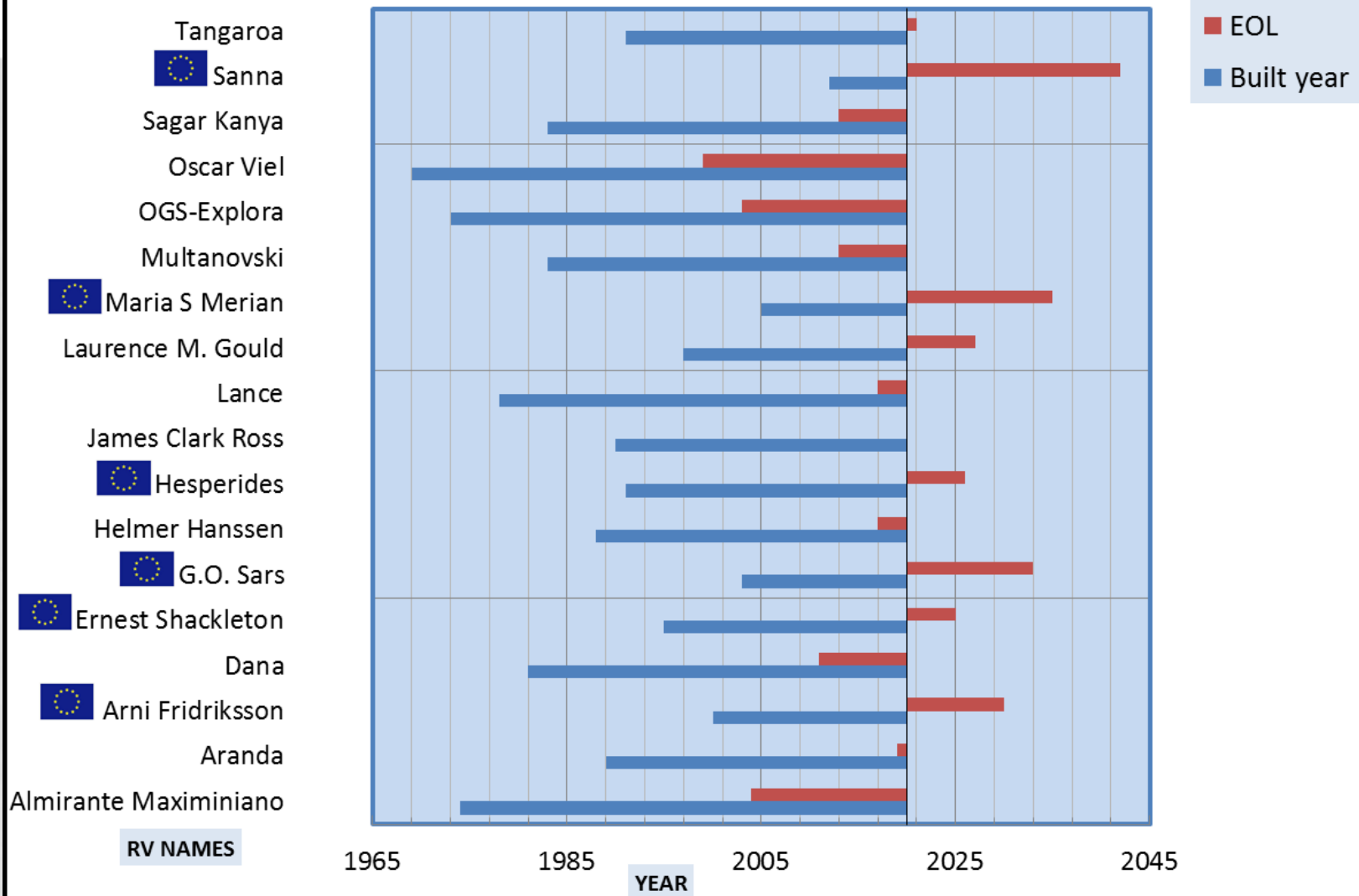
Heavy Icebreakers



PRV Fleet Evolution for Heavy Icebreakers

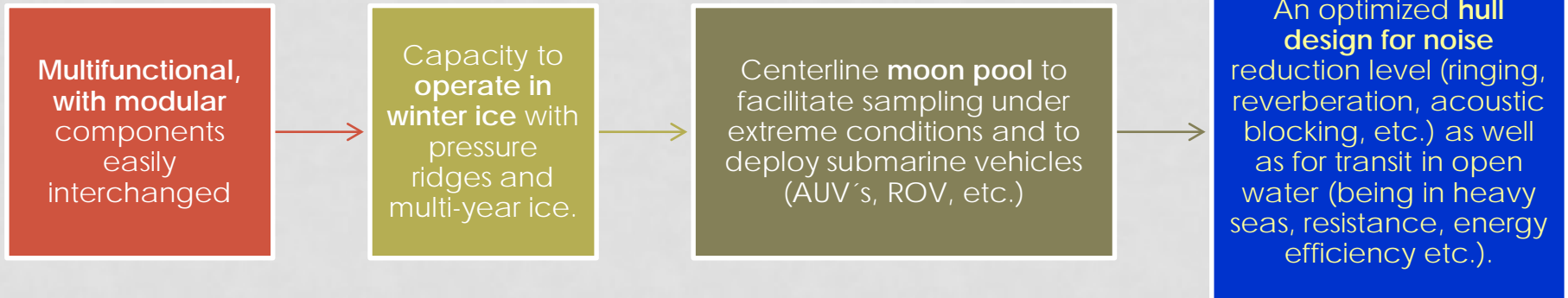


Ice Classified Global Fleet Evolution

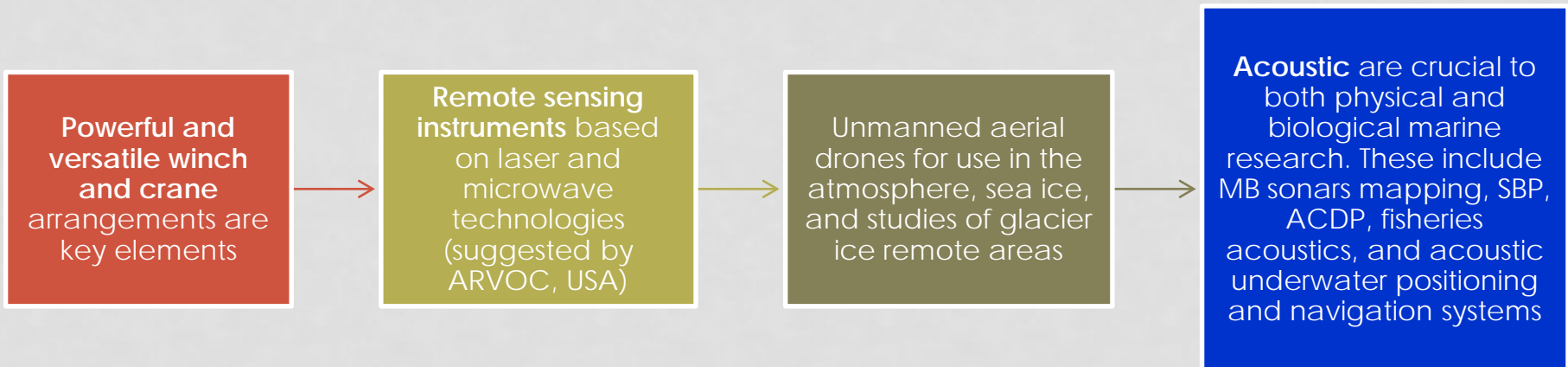


New requirements from the science community regarding equipment and capabilities aboard PRVs

Fundamentals of hull design



Fundamentals of Scientific Equipment



PLANNED NEW ICEBREAKERS VESSELS



SIKULIAK
operational since
mid-2015



**KRONPRINS
HAAKON** planned
delivery by 2016



POLAR STERN II
planned delivery
by 2019.



On going project
expected
delivery by 2019

There are other possible replacements or new projects from Canada, China, etc

Conclusions & Recommendations

European polar research has contributed critical knowledge to identifying the processes influencing global climate with consequences for global society. Datasets from the Polar Regions are still insufficient to fully understand and more effectively predict the effects of change on our climate and society. Recent EU actions as Eurofleets and/or EU-Polar Net go on this direction.

This situation can be improved by

Making an effort to improve the lack of fully equipped PRV, mainly for multiyear ice, to tackle the scientific requirements from **IASC** and **SCAR**

To strengthen collaboration between European through **European Polar Board**, and with USA, Canada, Japan, Korea and other nations.

It is recommended to find ways to promote transnational access to PRV

From Europe **Eurofleets** and **Eu_PolarNet**, we promote Workshop with international partners to collect information on National Polar Programs to encourage increased collaboration and planning efforts in polar marine research

ARTIC



ANTARCTIC



Thanks for your attention