The new Polarstern
Facts and figures

MAIN DATA

Length	159.80 m
Width	27.30 m
Draft (max.)	11.10 m
Depth	14.20 m
Icebreaking speed	3 kn

- with an ice thickness of 1.8 m and a snow cover of 20 %

Autonomous journey duration	90 days

CLASSIFICATION

IACS Iceclass PC2
(year-round operation in multi-year ice)
Ecolable DE-UZ141 „Blauer Engel"

Flag	Federal service flag
Home port	Bremerhaven
Owner	Alfred Wegener Institute (AWI)
Helicopters	2x Type EC145
Lifeboats	4x 70 People
Container storage spaces	80x 20 feet
Cranes / lifting gear	9x / 33 t max.
- i.e. Jib crane	2x 33 t / 30 m
- i.e. Deck crane	2x 10 t / 15 m

PROPULSION

	diesel-electric
Generators (total power)	34,000 kW max.
- 2x MGO	
- 2x Dual Fuel MGO / Methanol	
Azimuth propulsion*	2x 8,500 kW
Centre propeller	1x 10,500 kW
Bow thrusters	2x 2,000 kW

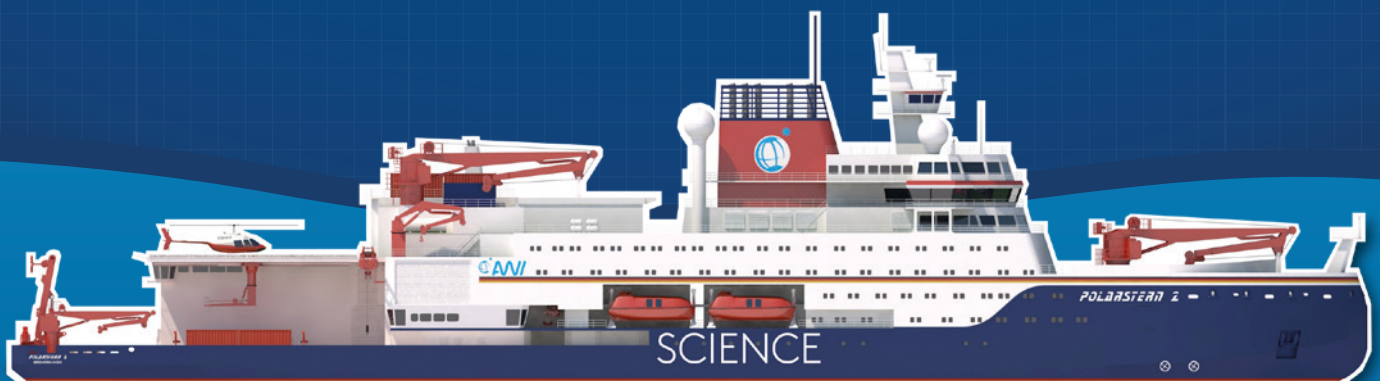*An approx. 17,800 kWh battery system enables emission-free measurements without fuel consumption for 2-3 hours.*

* These are 360° rotating propeller units. They give the ship unique manoeuvrability in ice and on station.

PEOPLE ON BOARD

Crew	50 People
Scientific staff	60 People (regular operation)
	90 People (transit)

Graphic: thyssenkrupp Marine Systems / Driesel (EMT)

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FACILITIES

Meeting rooms, lecture rooms, infirmary, mess rooms, library, gym, etc.

SCIENTIFIC FACILITIES

Laboratories (for various purposes)	13
- dry labs	5
- chemistry labs	3
- wet labs	2
- fish lab	1
- isotope lab	1
- seismic lab	1

Moonpool – a large moonpool allows work below the water surface even when the ship is enclosed by ice.

DEVICES

ROV (Remotely Operated Vehicle) – is a cable-guided remote-controlled underwater vehicle that can operate at depths of up to 6,000 metres. Among other things, ROVs allow sampling of the seabed.

AUV (Autonomous Underwater Vehicles) – are autonomous underwater robots that carry out pre-defined tasks independently. AUVs are used, for example, to collect oceanographic and bathymetric data.

LARS (Launch And Recovery System) – can safely launch and recover a variety of surface, remote-controlled and autonomous underwater vehicles, even in heavy seas.

UAS (Unmanned Aerial Systems) – there will be a range of autonomous, highly specialised drones that are optimised for different scientific questions, ranges and payloads.

GPC (Giant Piston Corer) – a drilling device capable of extracting sediment cores up to 60 metres long, which will greatly enhance sedimentary climate information.

Piston, box and gravity corers, 2D and 3D seismics, MUC (Multi Corer), various fishing devices.

ADDITIONAL TECHNOLOGY

Hydrographic trunks, magnetometer, balloon filling hall, cold rooms, underwater positioning systems, modern communication systems with real-time transmission, etc.

Scan QR code for more information:
https://polarstern.awi.de/en

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