# METEOR IV




**Client: Federal Ministry of Research, Technology and Space**

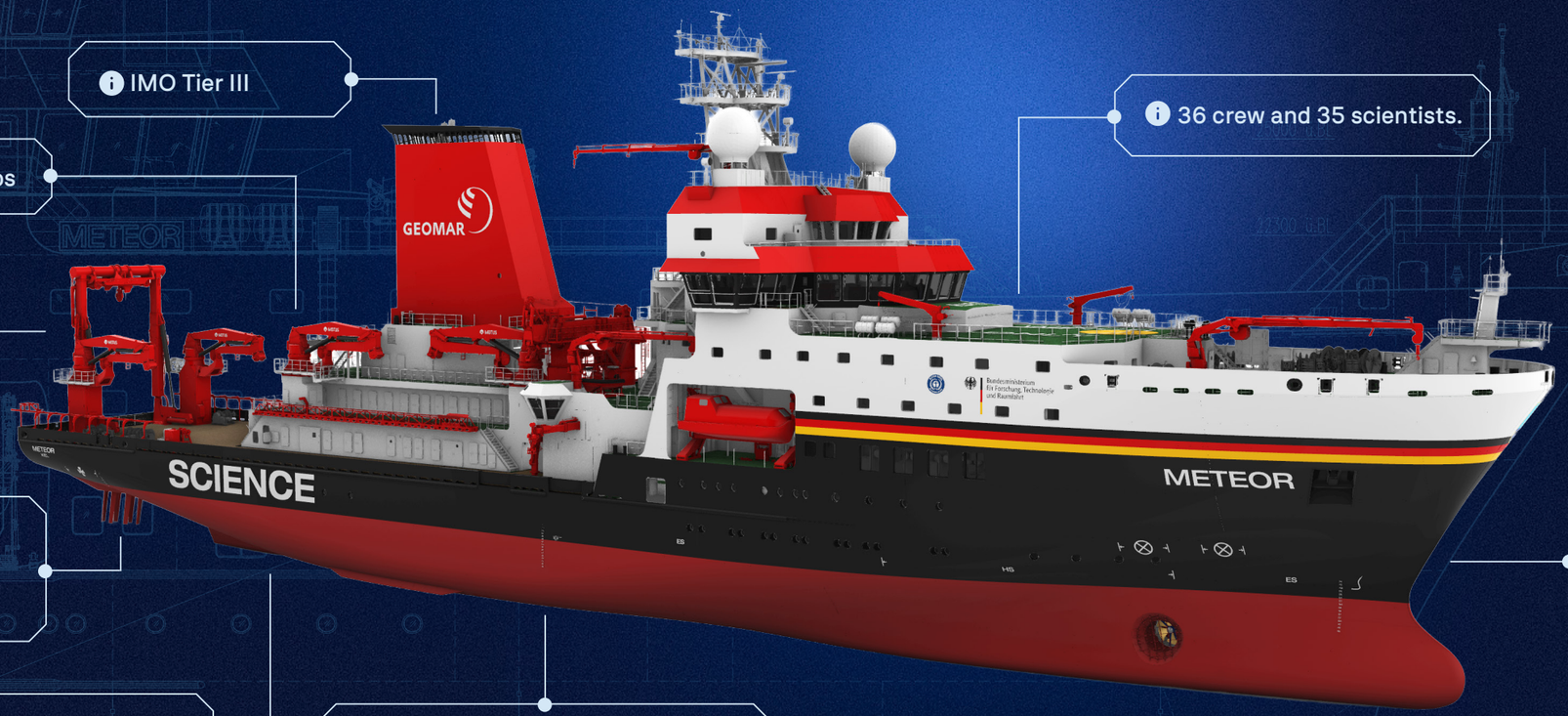
| | | | |
|---|---|---|---|
| Length | 125m | Crew | 36 persons |
| Beam | 21,3m | Scientists | 35 persons |
| Displacement | approx. 7,700 t | Gross tonnage | 10.125 GT |
| Speed | 12 kn | Total power | 7.695 kW |

# METEOR IV

## A state-of-the-art research platform for the world's oceans

METEOR IV is designed as a high-precision research platform for worldwide operations in oceanography and marine science. Her hydrodynamically and acoustically optimised hull combines cutting-edge scientific infrastructure with a powerful positioning and propulsion system. Two electrically driven Voith Schneider Propellers (eVSP), a bow inline thruster and a retractable rudder propeller provide precise thrust vectoring and excellent station-keeping. Combined with the dynamic positioning (DP) system, this ensures highly accurate position and heading control even in demanding environmental conditions. The vessel thus meets the requirements of complex scientific operations, in particular the safe deployment of deep-sea robots, towed equipment, and launch and recovery systems.

The newbuild unites demanding requirements from science, shipbuilding and environmental engineering. In addition to extensive laboratory areas, the vessel features modern propulsion technology and high-performance winch and crane systems. Four main cranes and an A-frame with a safe working load of 350 kN enable the deployment of heavy research equipment, while winches with up to 12,000 m of rope support operations at all ocean depths. The close integration of ship systems, scientific infrastructure and user requirements places high technical and organisational demands on the planning and execution of the project. METEOR will be the world's first research vessel to meet the stringent underwater noise requirements of the SILENT R class notation with eVSP propulsion.




- IMO Tier III
- Two climate labs
- Crane systems: four main cranes with up to 12 t lifting capacity.
- eVSP propulsion: world's first research vessel with electric Voith Schneider Propellers.
- 20 laboratories on board with a total of 602 m².
- Separate engine and propulsion rooms for enhanced protection against fire and flooding.
- 36 crew and 35 scientists.
- Class notation Silent (R): extremely quiet for undisturbed research and a protected marine environment.

# METEOR IV

FASSMER

## A-frame

| | |
|---|---|
| SWL | 350 kN |
| Weight | 68,3 t |

**Telescopic for increased outreach and lifting height**

## Working deck

| | |
|---|---|
| Working deck area: | approx. 730 m² |
| Stowage for: | 37 × 20’ containers<br>19 × 10’ containers |

## 4 main cranes

**Crane 1:**

| | |
|---|---|
| SWL shipboard | 12 t |
| SWL offshore | 6 t |
| Outreach | 17,2 m |

**Cranes 2–4:**

| | |
|---|---|
| SWL shipboard | 10 t |
| SWL offshore | 6 t |
| Outreach | 15,4 m |

## Scientific echo sounders

**Deep-sea multibeam echo sounder**
For high-resolution 3D bathymetry down to the deep sea

**Parametric sub-bottom profiler**
Uses low-frequency sound to image sediment layers

## Winches

**Traction winches:**

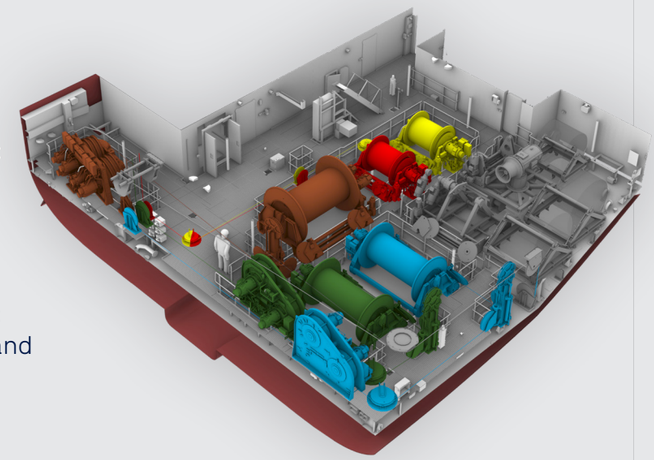
- **11.000 m Dyneema rope, Ø 24,8 mm:** For heavy equipment such as corers, grabs and moorings
- **12.000 m coax/fibre-optic cable, Ø 18 mm:** For ROVs and camera systems with power and live video

**Single-drum winches::**

- **8.500 m Kcoax/fibre-optic cable, Ø 11 mm:** For CTD measurements of temperature and salinity, and water sampling

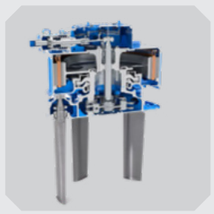
**Mobile Winden**

- Flexible installation on deck, e.g. for plankton nets and special equipment

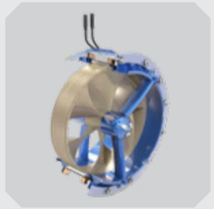


## Propulsion

The world’s **first research vessel** with electric Voith Schneider propulsion.



**2 × 2.525 kW**
Electric Voith Schneider Propellers (eVSP)



**1 x 1.650 kW**
Voith Inline Thruster (VIT)



**1 x 995 kW**
Schottel retractable rudder propeller



## 01 ONE SHIP FOR MANY SCIENCES

From oceanography and marine biology to geology, hydroacoustics, atmospheric research and seismics: METEOR brings numerous research disciplines together on a single platform.

## 02 HEARING WHAT HAPPENS UNDERWATER

Extensive hydroacoustic equipment enables precise investigations of the water column and seabed – with minimal acoustic interference from the ship itself.

## 03 A FLOATING RESEARCH LABORATORY

Dry, wet and climate labs as well as specialised work and data rooms allow scientific analyses to be carried out directly at sea.

## 04 RESEARCH DOWN TO 12,000 METRES

Traction winches with up to 12,000 m of rope and fibre-optic cable enable operations even in the deepest parts of the oceans. High-strength Dyneema ropes carry heavy research equipment, while fibre-optic cables transmit live video from underwater robots directly on board.

## 05 BUILT FOR DECADES

Diesel-electric propulsion, advanced exhaust gas treatment and particulate filters reduce emissions during operation. Designed for 30 years of service, METEOR can be technically upgraded and adapted to new requirements in the future.




# GOT QUESTIONS?
# WE'VE GOT ANSWERS.

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