"SONNE": a New Deep-Sea Research Vessel

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The existent RV SONNE was built in 1969 as a fishing trawler. After 8 years of service in the North Atlantic and1984 it was converted into a research vessel. A further modernisation including a lengthening of the ship took place in 1991. The main operational area is still the Pacific Ocean and the Indian Ocean from the Sea of Okhotsk to Australia and from Bangladesh to Chile. Main scientific fields are geology and geophysics, but all other marine disciplines are well served, too. The RV SONNE continued the scientific currently with its seaworthiness, huge working deck, excellent laboratory spaces as well as numerous scientific devices.

The existent RV SONNE is the only privately owned RV charted by the Federal Ministry of Education and Research (BMBF). As it approaches the 44th year of its life time a modern multipurpose working platform for all marine research disciplines (physical and biological oceanography, marine geology, marine and atmospheric chemistry, marine geophysics and meteorology) is under construction. It is financed by the Federal Ministry and the five Coastal State Governments. It will be owned by the University of Oldenburg (Institute for Chemistry and Biology of the Marine Environment - ICBM) and will go into service at the end of 2014.

MAIN FEATURES

- length 116.0 m
- draught 8.4 m
- beam 20.3 m
- class 100 A5 E New-OC special
- speed 14 kn
- endurance 50 days
- range 7,500 nm
- temperature range - 26 °C to +45 °C
- water temperature range 2 °C to +32 °C
- scientific load 401.36 persons
- clean ship 48 hours

BOOM FORM

- Interring anti-rolling tanks
- Retractable fin stabilization system with active fins

WASTE TREATMENT

- (2) dry garbage
- (1) wet garbage

SCIENTIFIC WINCHES

- All scientific winches are installed inside the ship. All cables entering was misted with fresh water and dried.
- All winches are electrical driven and electronic steered.
- For change of cable diameters, a large winch system is available.
- One frolon winch will serve as a dumping function (up to sea-state 5).
- 2 frolon winches (150 kN)
- 2 storage winches (5,000 m: 18 mm Ø) for glassfiber-hybrid-cable or one conductor cable or wire
- 1 sonar winch (2,500 m: 8 mm Ø) for sonar wire
- 1 capstan (50 kN)
- 2 auxiliary winches (100 kN: 22 mm Ø) for real-time wire
- Transportable fishing and seismic winches

GENERAL SCIENTIFIC INSTALLATIONS

- Laboratories (general)
  - multi-disciplinary usage
  - minimal permanent installations
  - free wall areas
  - data distribution system (LAN network)
  - power supply (230 V + 400 V; stabilized power supply 230 V)
  - fresh water (warm/coldwater; seawater; seawater and distilled water)
  - C-bar 11,000 m: 6 mm Ø; 9 mm Ø; 11 mm Ø; 13 mm Ø; 16 mm Ø; 19 mm Ø; 22 mm Ø; 25 mm Ø; 32 mm Ø
  - communication (telephone, speaking system)
  - power supply (230 V + 400 V; stabilized power supply 230 V)
  - minimal permanent installations

- Laboratories (specific)
  - observation room (20 m²; store deck)
  - 2 suspension cranes (20 t; 5 t; 8 m; 16 t; SWL 1.5 t)
  - 4 dry labs (32 + 21 + 21 + 21 m²; main deck)
  - 2 climate labs (22 + 20 m²; main deck)
  - 2 dry labs (32 m²; main deck)

- Laboratories (scientific)
  - coring device for cores of max. 24 m length
  - seismic compressors (4 x 12 m²; store deck)
  - gravimeter room (12 m²; store deck)
  - salinometer room (12 m²; store deck)
  - core processing lab (18 m²; store deck)
  - storage lab (29 m²; main deck)

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- Laboratories (general)
  - observation room (20 m²; main deck)
  - 28 rooms (8 x 3.5 m; 10 x 8 m)
  - 40 laboratories (25 x 2.5 m; 5 x 4.5 m)
  - 24 ship cabins
  - 76 bed places
  - mess
  - toilet
  - 80 survival suits

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