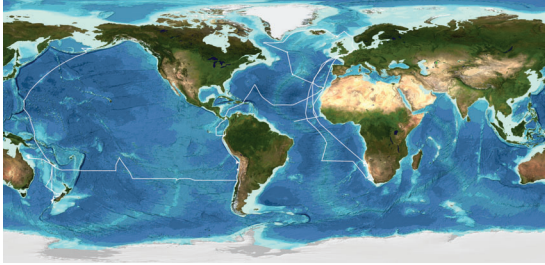


German Research Vessels

METEOR • MARIA S. MERIAN • SONNE

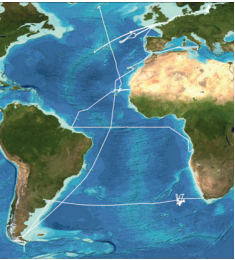


RV SONNE



launched: 2014
 length: 116 m
 beam: 21 m
 crew/science: 32/40

- 17 research cruises, 4 technical laytimes and 1 dockyard laytime between 04/2020 and 09/2022.
- Last docking in Germany: 23.05. - 26.06.2021.
- Next docking planned in 2024.

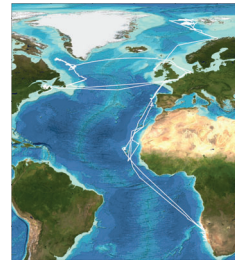


RV METEOR



launched: 1986
 length: 98 m
 beam: 16 m
 crew/science: 33/30

- 20 research cruises, 2 technical laytimes and 2 dockyard laytimes between 04/2020 and 09/2022.
- Last docking in Germany: 05. - 22.10.2021 (off-schedule).
- Next docking planned: 16.09. - 29.10.2022.
- Expected decommissioning in 2026.



RV MARIA S. MERIAN



launched: 2006
 length: 95 m
 beam: 19 m
 crew/science: 23/23

- 23 research cruises, 3 technical laytimes and 1 dockyard laytime between 04/2020 and 09/2022.
- Last docking in Germany: 21.03. - 16.05.2022.
- Next docking planned in autumn 2024.
- Midlife-Conversion in 3 phases from 2019 to 2024.

Midlife Conversion of R/V ‚MARIA S. MERIAN‘ 2019 - 2024

Phase 1 (2019-2021)

- Blasting of the hull for a complete renewal of the coating.
- Renewal of anti-slip deck coatings (bearing decks, forecastle deck and 1st superstructure deck aft)



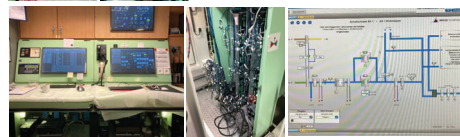
- Renewal of the remote control for the A-frame and all cranes.
- Renewal of the core handling frame.



- Renewal of all diesel generator power cables.
- Cable laying works for ship technical control system renewal.
- Renewal and modernization of ...
 - ... corridor lightning (LED),
 - ... network core switches,
 - ... fuel consumption meters,
 - ... PLCs of sewage treatment plant and big sliding beam,
 - ... air condition cabinets in technical spaces,
 - ... heat exchangers of cold water set/ chiller 2,
 - ... both Ku Band VSAT-Antennas,
 - ... VHF radiotelephone system,
 - ... Dynamic Positioning system,
 - ... position and signal lightning (LED),
 - ... Sat-Log, Do-Log and Em-Log,
 - ... fire detection system,
 - ... scintillation counter in the Isotope laboratory container.
- Upgrade of SAT-Backup-System (FBB, IoP) to Iridium Certus.
- Retrofitting of a FLIR thermal imaging camera.
- Retrofitting of lube oil offline filters on the diesel generators.
- IMO POLAR CODE Retrofitting and certification.
- Upgrade of the wave radar to WAMOS II.
- Upgrade of the sediment echo sounder to PARASOUND MKII.

Phase 2 (2022)

- Renewal and modernization of the main drive converters and main drive control devices.



- Renewal and modernization of the main engine and generator protection devices.



- Renewal and modernization of ...
 - ... technical control system (Upgrade to NACOS PLATINUM),
 - ... windscreen wiper and washer system,
 - ... SAT-TV Antenna,
 - ... ice search lights.

- General overhaul of both fin stabilizers.



- Renewal and modernization of cold water set/ chiller 1.
- Renewal and modernization of air conditioning system for living rooms/ common areas.
- Renewal and modernization of the air conditioning control system.



- General overhaul of the scientific clean seawater plant.



Phase 3 (planned in 2024)

- Taking up of the wooden working deck for repair of fastening bolts and new preservation of the steel deck.
- Renewal of deck coverings in the outer area forecastle deck and leading edge of bridge.
- Renewal of the two fibre optic compasses.
- Renewal of the screw compressors of cold water set 2.
- Modernisation of the remote controls sliding beam, antipend unit, hangar deck crane and core heel frame.
- General overhaul and extension of the boom at crane 1.