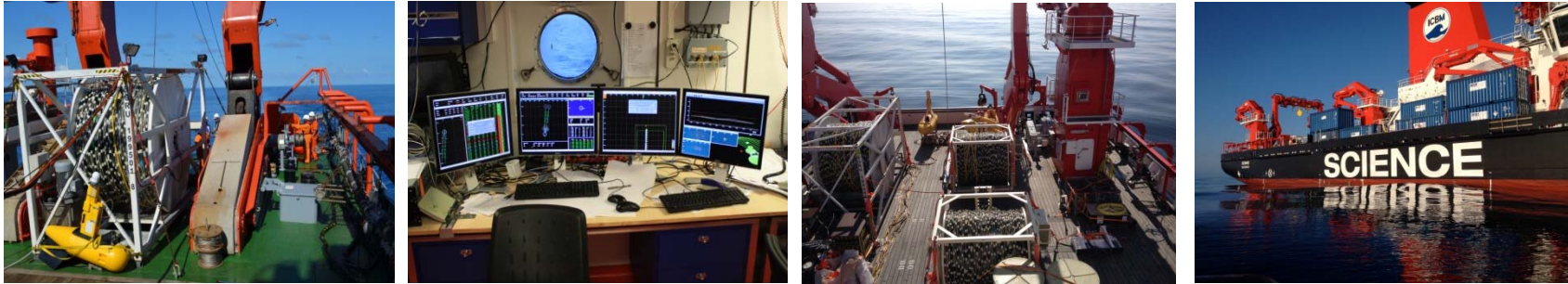




Bundesanstalt für
Geowissenschaften
und Rohstoffe

G E O Z E N T R U M H A N N O V E R



The marine seismic system at BGR

Presented at the NSF Seismic Workshop

Washington, DC, 30.09.2015

Michael Schnabel

Federal Institute for Geosciences and Natural Resources (BGR)

General overview



Components

- **Streamer:** Sercel ALS fluid filled (several km), SSAS solid (600 m)
- **Winches:** container size, large (4000 m), small (1500 m)
- **Acquisition:** SEAL 428
- **Sources:** 16 G-Guns (8 cluster), total volume 3100 in³, 4 GI-guns
- **gun control:** RTS BigShot
- **positioning:** ION PCS, DigiBird, DigiRange
- **Navigation:** ION Spectra
- **Buoys:** tail- and gun-buoys incl. Kongsberg RGPS

- **(Air:)** mobile compressor container available, but mostly included

Working group:

5 scientists
3 engineers
3 mechanics

Timing of one acquisition project

- Configuration and preparation of instruments
- Shipment of containers (several weeks), at least 4 containers
- Installation on the vessel (~ 2 days)
- Scientific cruise
- De-installation (~ 2 days)
- sending containers back to Hannover (several weeks)
- maintenance

- -> generally not more than two seismic cruises per year

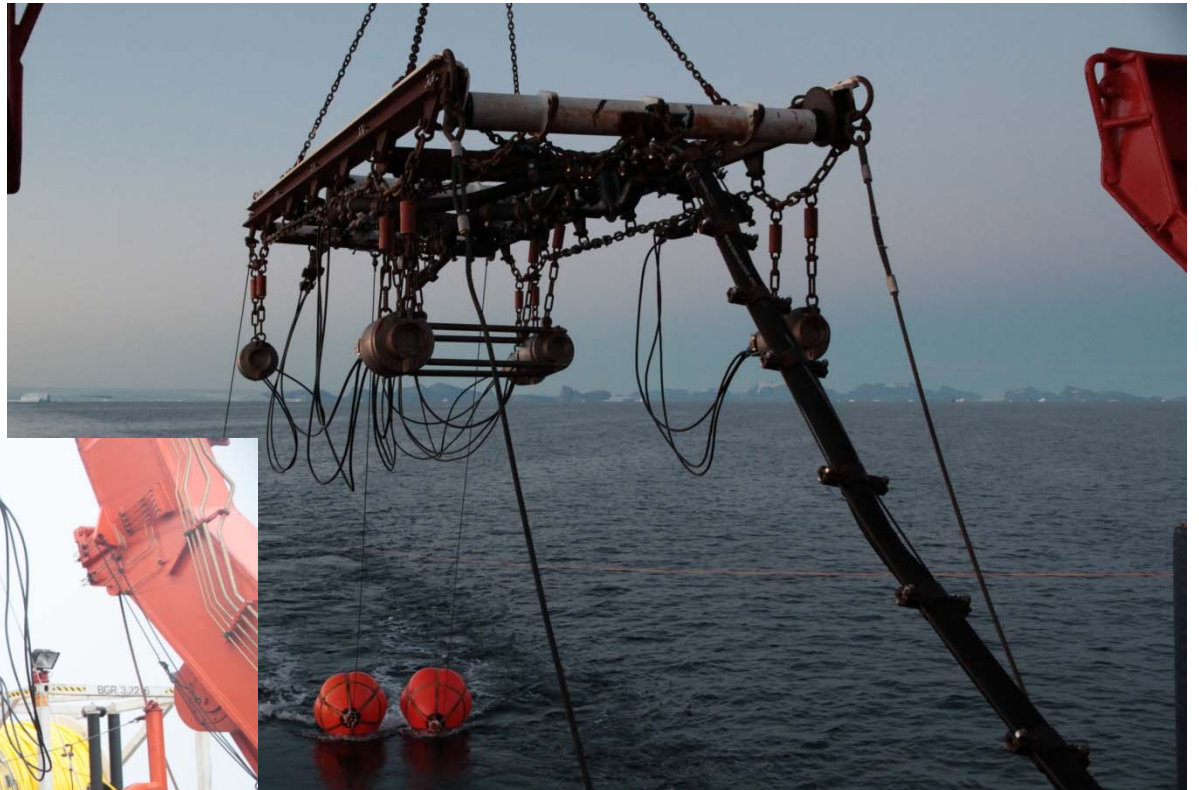
Gun rails – SONNE (old)



Gun rails - MERIAN



Guns - POLARSTERN



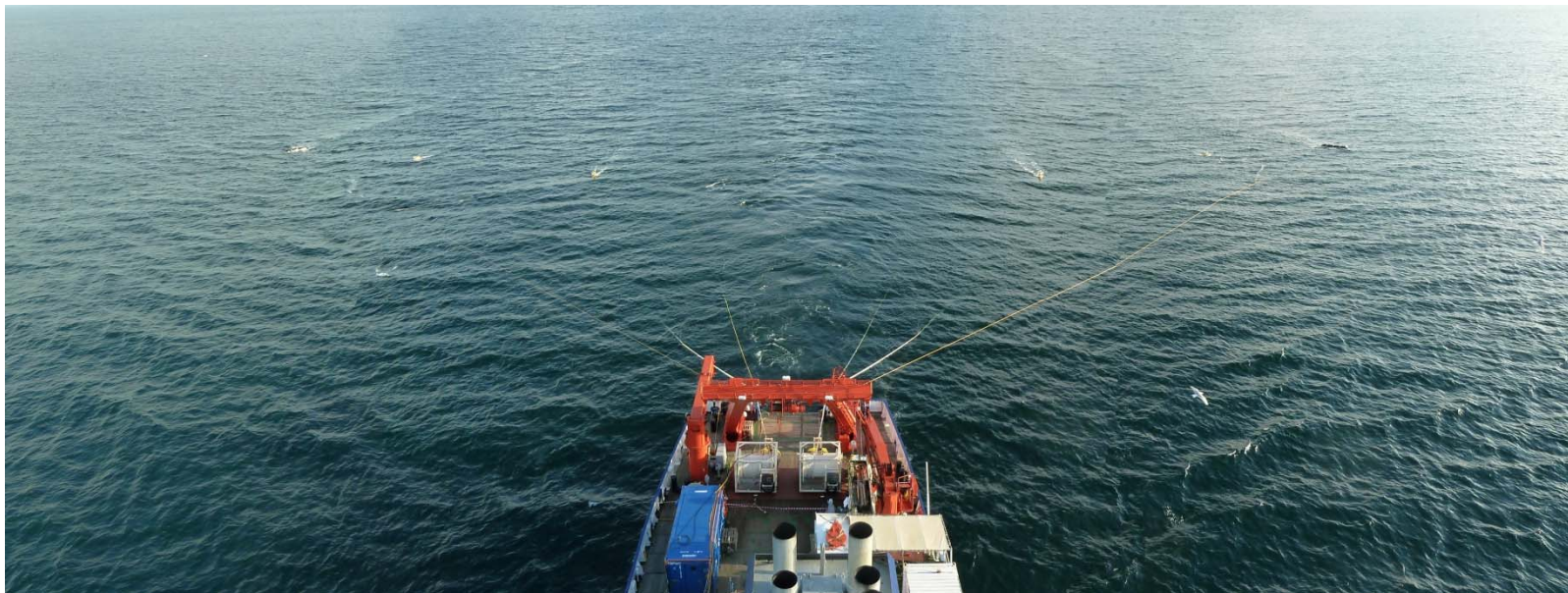
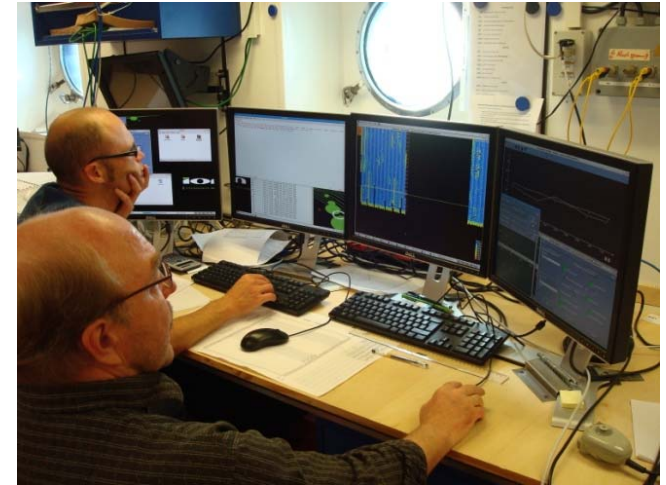
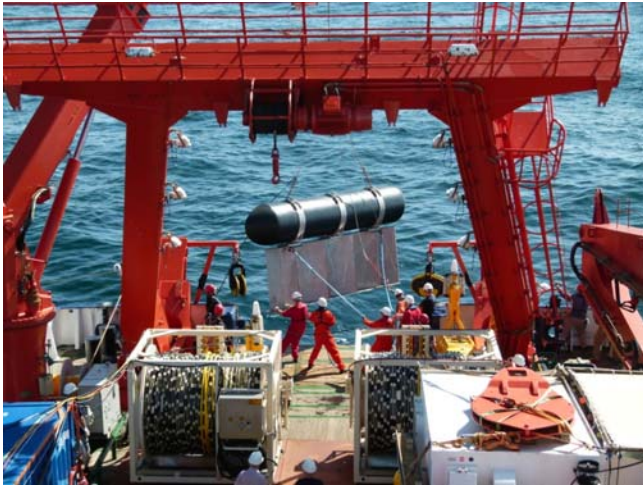
Recording lab – SONNE (new)



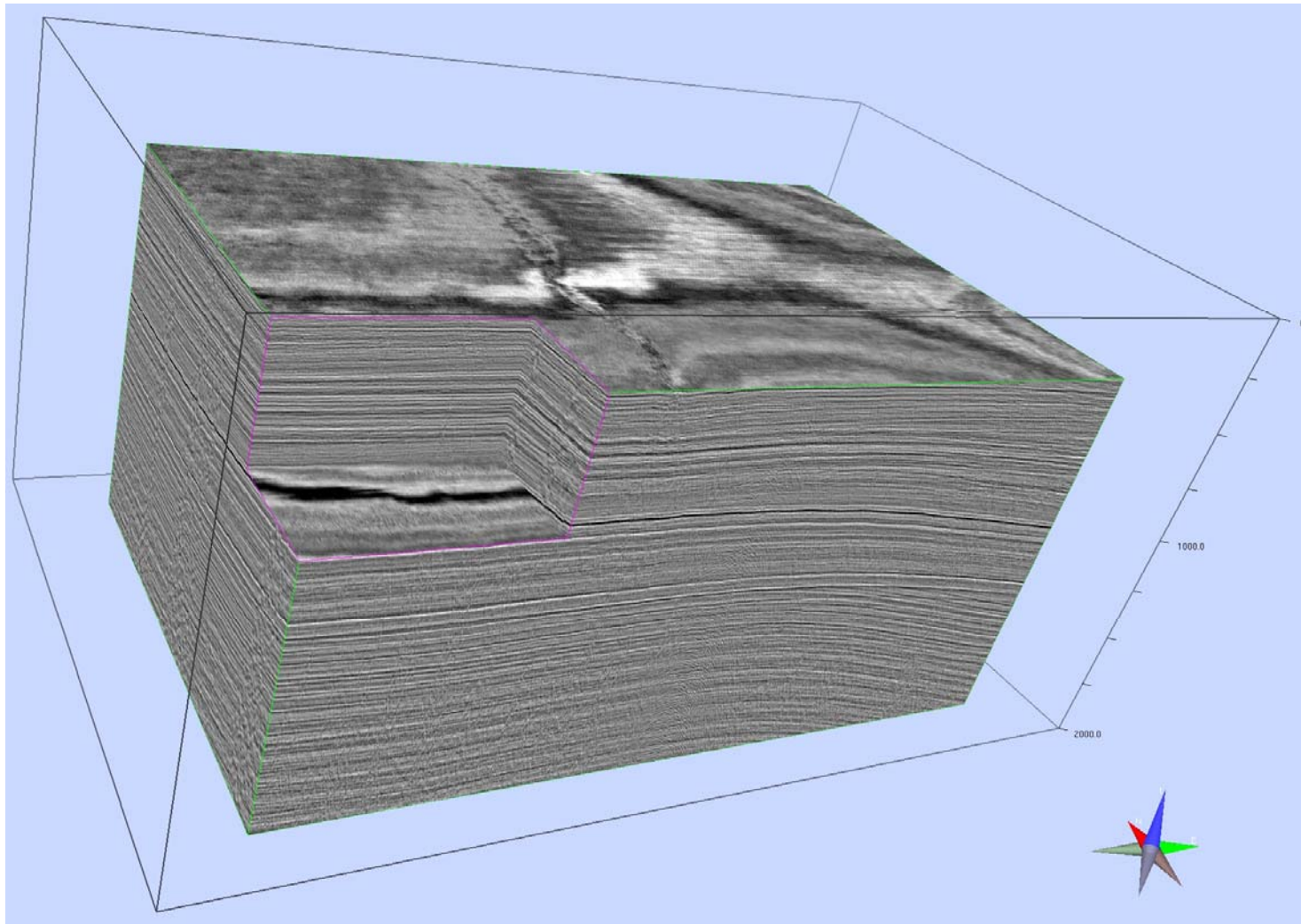
Space on deck – SONNE (new)



Recent 3D project – METEOR 2012



Results METEOR 2012



Summary

On German research vessels:

- 2D: two gun-strings, streamer 3.5 km +
- 3D: single sources, flip-flop (GI-guns), two streamers < 1.5 km



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