Review of existing glider facilities and technology Germany

Autonomous gliders in Germany are owned and operated by the following 4 institutions:

- GEOMAR / Kiel
- AWI / Bremerhaven
- HZG / Geesthacht
- WTD 71 (German Navy research lab) / Kiel

Interest in gliders has been stated by:

- IOW / Warnemünde

Companies with glider related business:

- Optimare / Bremerhaven
- Batterieladen / Kiel
- KUM / Kiel

GEOMAR / Kiel

- 9 + 1 Slocum gliders (2 shallow)
  all with T, S, O, Chl, Turb; now 3 CDOM, now 3 microstructure
- Glider piloting in ad hoc system, no dedicated personnel
- Fully equipped lab with ballasting tank, no glider capable pressure tank
- Fully developed real time and post processing capability
- Local boat / ship available
- 3 engineers/technicians only a small part of work time
  1 engineer likely to be hired soon
- 2 scientists part time
  2 PhD students / postdocs to be hired soon
- About 20 successful science deployments. 10 of them in groups of gliders.
- All deployments in process oriented studies. So far most deployments in the tropical Atlantic.

AWI / Bremerhaven

- 3 Seaglider (1 UW, 2 iRobot)
  T, S, O, Chl, Turb, RAFOS
  2 gliders equipped with RAFOS underwater nav capability (coll. APL-UW)
- Glider piloting by Optimare in collaboration with AWI scientists
- Fully external maintenance of gliders
- Fully developed real time and post processing capability
- Local boat / ship available
- 2 technicians only a small part of work time
- 1 scientists part time
- 6 successful science deployments (long-term, > 2 months)
- All deployments in Fram Strait for monitoring purposes.

HZG / Geesthacht

- 2 shallow Slocum gliders
  T, S, various optical sensors
- Glider piloting ?
- Fully equipped lab with ballasting tank
- Fully developed real time and post processing capability
- Local boat / ship available
- 3 half time engineers/technicians
- 1 scientist full time, others part time
- 5 successful science deployments
- Deployments in the North Sea are so far pilot experiments. Long term goal is to assimilate regular glider observations to improve model forecasts.

WTD 71 / Kiel

- 1 shallow Slocum glider
  T, S, acoustic sensors planned
- Glider piloting structure under development
- Fully equipped lab with ballasting tank
- Real time and post processing capability under development
- Local boat / ship available
- 2 engineers/technicians only a part of work time
- 1-2 scientists part time
- No science deployments yet
- Long term goal is to assimilate glider observations into regional short term ocean forecast models.

Optimare / Bremerhaven

- Company for air and marine sensing solutions
- Operates all AWI gliders
- Glider operation center for AWI (other customers are welcome)
  web-based interface
- Piloting of AWI gliders together with AWI scientists
  4 trained Optimare Seaglider pilots
- Fully trained by iRobot for Seaglider refurbishment, battery changes, and ballasting. Contractual agreement not yet established. Likely within 2012

KUM / Kiel

- Subcontractor for Slocum ballasting
- Participated in Webb training
- Fully equipped workshop and experienced underwater technology engineers
- Use GEOMAR’s ballasting tank

Batterieladen / Kiel

- Experienced provider for Slocum battery packs
- Trained to build battery packs according to Webb‘s specifications
- Current price ~4000E per Lithium Slocum pack using Saft cells