Royal NIOZ, Marine Technology dept & how things are organized

Marck G Smit
Royal NIOZ at a glance:

- On the island of Texel
- Major working areas: North/Mid Atlantic, North Sea Mediterranean
- Staff: 250 people
- Founded in 1876
Organisation (2)

“Scientists have dreams ..., Marine Technology realizes them”

Major activities:

- Shipboard tech support
- Global logistic support: for research equipment and lab containers
- Development, construction and maintenance of Oceanographic Research Equipment
- Owner, management and maintenance National Marine Equipment Pool (see: www.nioz.nl/pool)

Names to know:

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Basic tool set:

- CTD’s
- Boxcorers
- Multicorers
- Lab containers
- Piston corers
- Seismics
- Winches
- Etc.
Some specialties (1)
Deep sea bottom landers

ADCP-lander + thermistor string mooring

BOBO-lander: for bottom and boundary layer research

Mooring anchor comprising sediment trap

Bio fouling on shallow water/high current lander
Some specialties (2)

Moorings

Good old Benthos Spheres

Sediment trap mooring

Vertical mooring current and CTD profiler

Hydrodynamic shaped buoyancy units
Some specialties (3)
Instrument Development

MOVE: deep sea crawler

Pressure retaining deep sea sampler

Fast, accurate and wireless thermistor string

XRF core scanner

Ultra clean titanium water sampling system
Some figures

- **Our Clients**
  - 80%
  - 15%
  - 5%
  - NIOZ scientific dept
  - Dutch Universities
  - Foreign institutions, universities and companies

- **Staff**
  - 74% fixed, general NIOZ budget
  - 26% contracts, funded by clients/projects

- **Purchases (materials, services and products)**
  - appr 1 mln EUR/year
  - 95% funded by clients

- **Projects**
  - appr 300 projects and jobs/year
  - prioritization: by head MTec
  - Monthly report to directors & chief scientists of allocated capacities per client/project
  - Capacity vs worktype
Strengths:

- Close interaction between scientists, technicians and operational experiences at sea ➔ short/very effective development loop
- Deep sea knowledge and experience
- Inventive and creative

Challenges:

- Ongoing improvement of Project Management skills (technicians and scientists)
- Prevent “cheap” solutions at the expense of “real project capacity”
Today's technical challenges

- Electro-Optical super aramid cable for deepsea traction winch (14 ton)
- Deep sea acoustic-satellite data link for MOVE-crawler
- Kongsberg EM 302: “waiting for the chirp” (fm-modulation)
- Optical fish assessment

Future technical developments

- Scientists and their scientific challenges determine our developments!
- Small size ROV
- Waddenzee observatory
- USBL tracking during deployments of towed sensors
- Cabled networks ESONET, MARS, KM3-network
- AUV
Remarks?

What’s peculiar? in your eyes

Questions?

"Effective Technology for Excellent Science"