



Royal Netherlands Institute for Sea Research

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

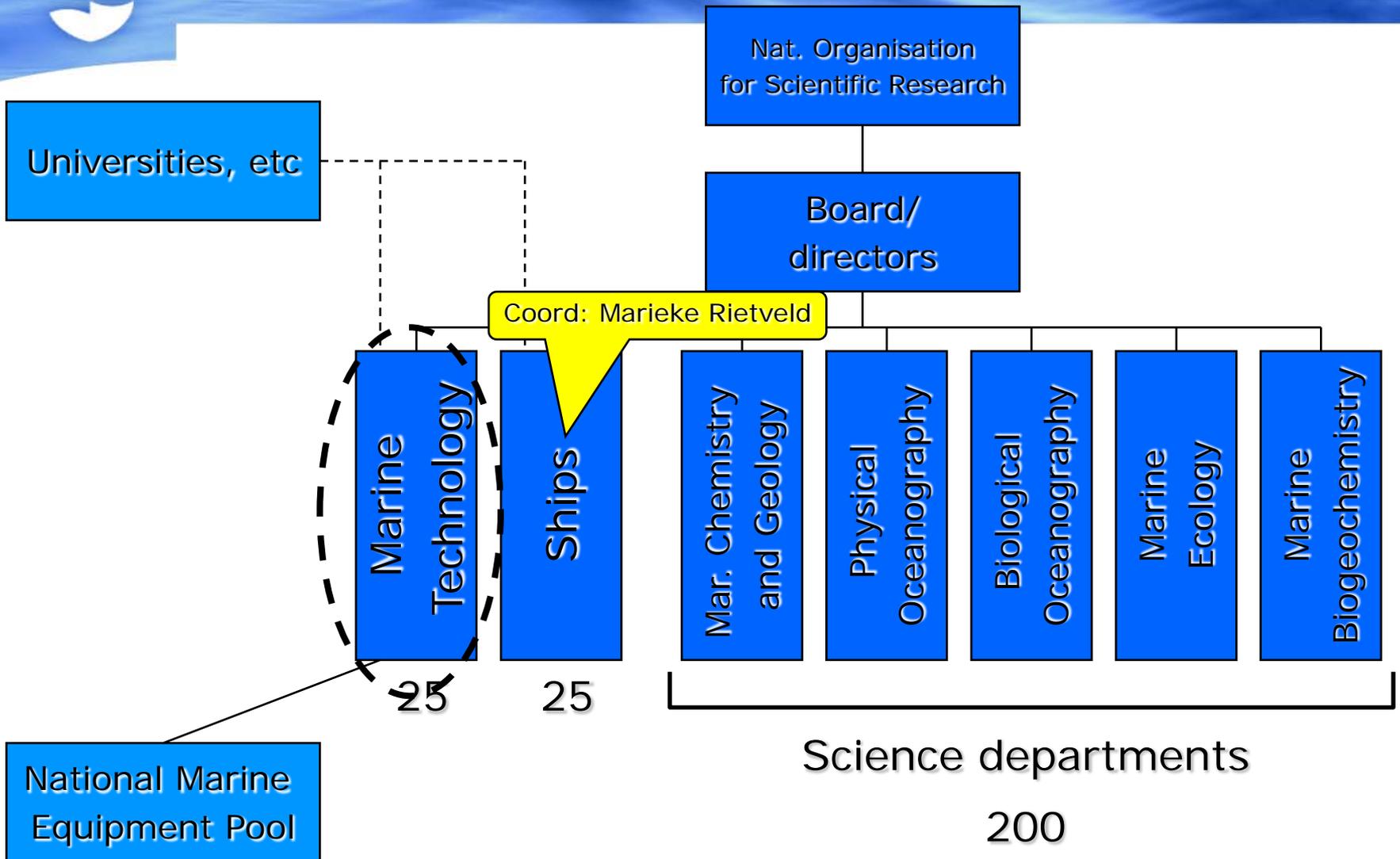


RV Pelagia





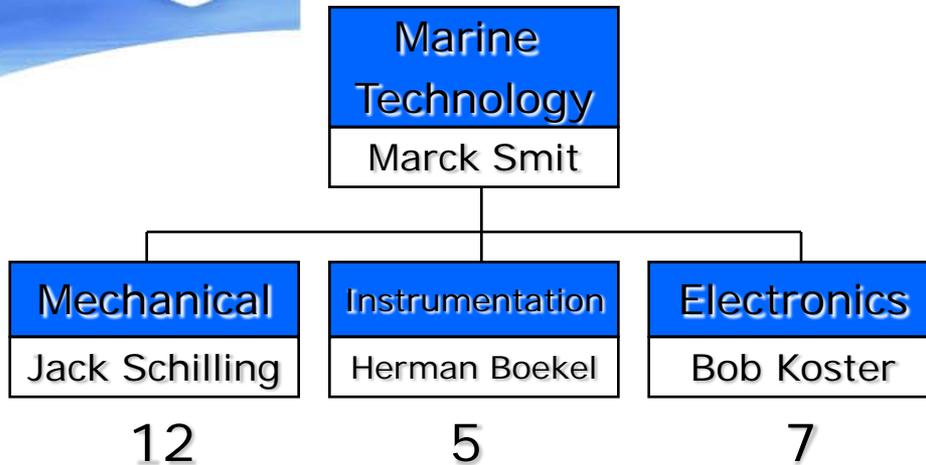
Organisation





Organisation (2)

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



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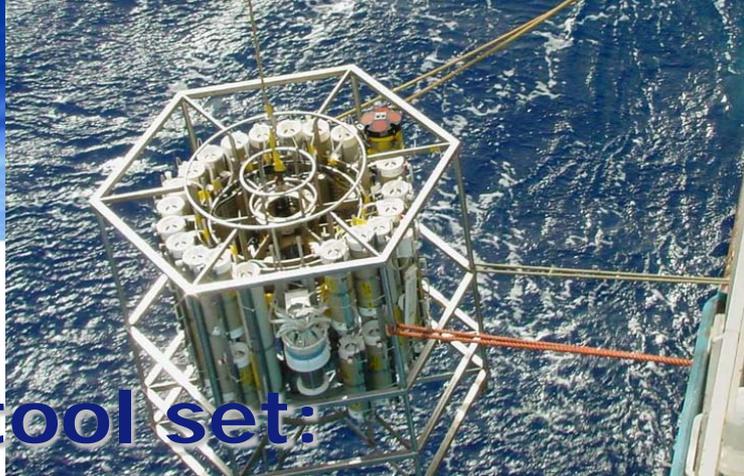
Major activities:

- 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)



Basic tool set:

- CTD's
- Boxcorers
- Multicorers
- Lab containers
- Piston corers
- Seismics
- Winches
- Etc.



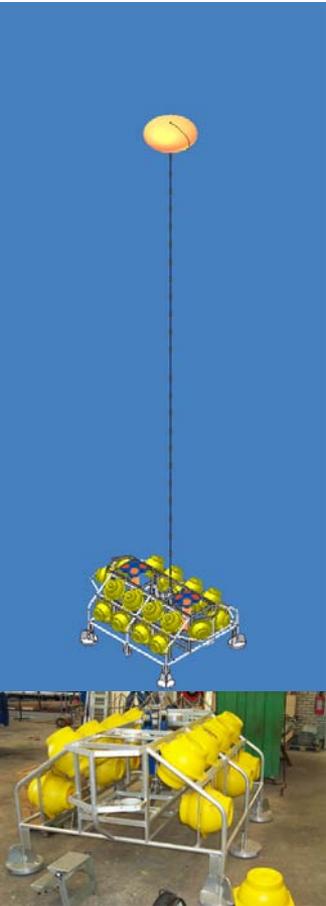


Some specialties (1)

Deep sea bottom landers



Mooring anchor comprising sediment trap



ADCP-lander + thermistor string mooring



BOBO-lander: for bottom and boundary layer research



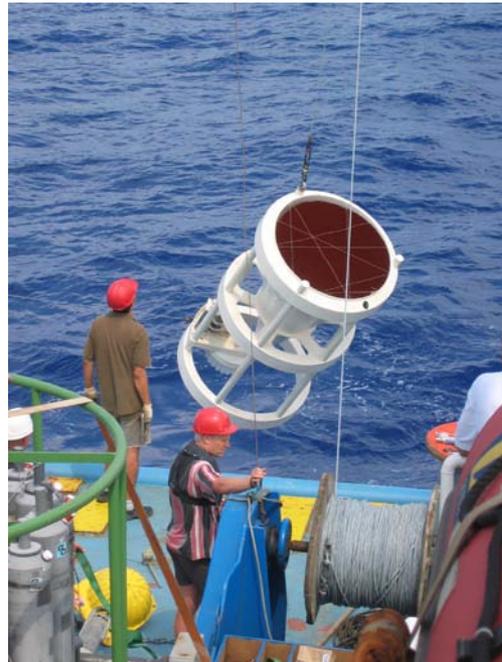
Bio fouling on shallow water/high current lander



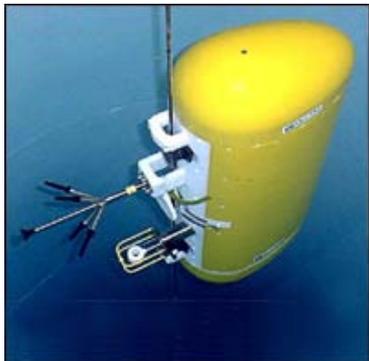
Some specialties (2) Moorings



Good old Benthos Spheres

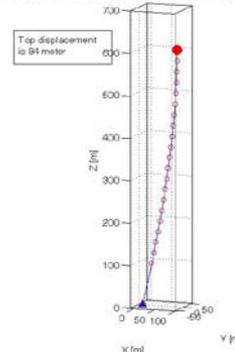


Sediment trap mooring



Vertical mooring
current and
CTD profiler

KM3-2, difers only in current speed from KM3-1, speed raised from 15 to 35 cm/s



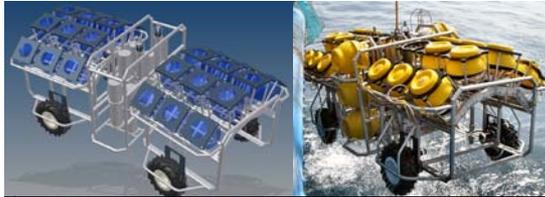
Hydrodynamic shaped
buoyancy units



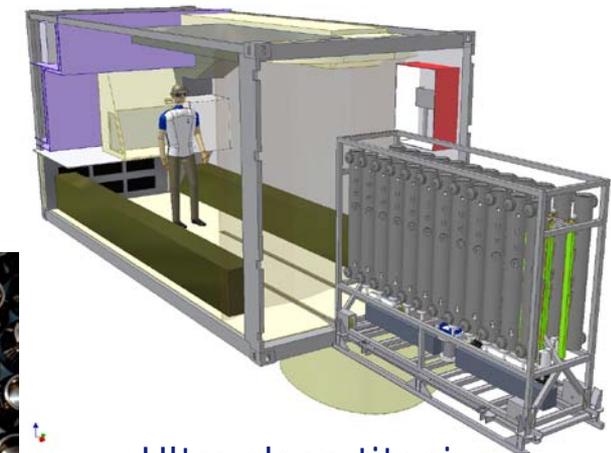
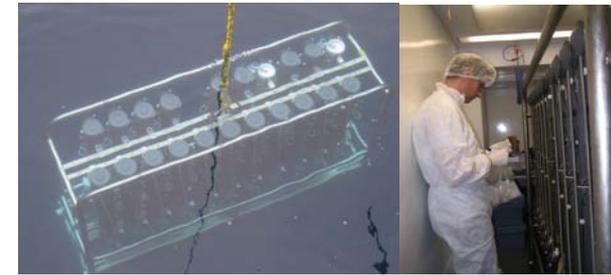
Some specialties (3) Instrument Development



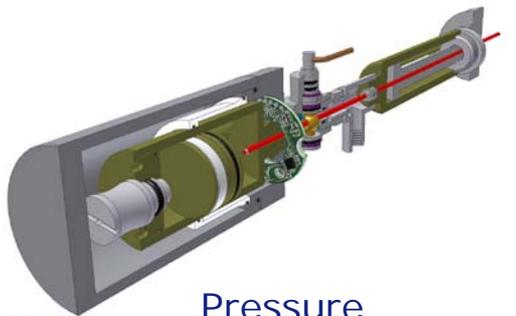
XRF core scanner



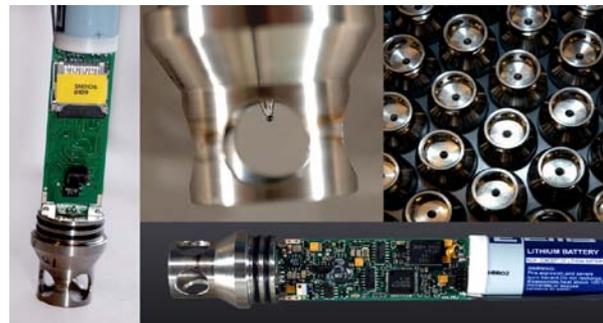
MOVE: deep sea crawler



Ultra clean titanium water sampling system



Pressure retaining deep sea sampler



Fast, accurate and wireless thermistor string



Some figures

Our Clients

Staff

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

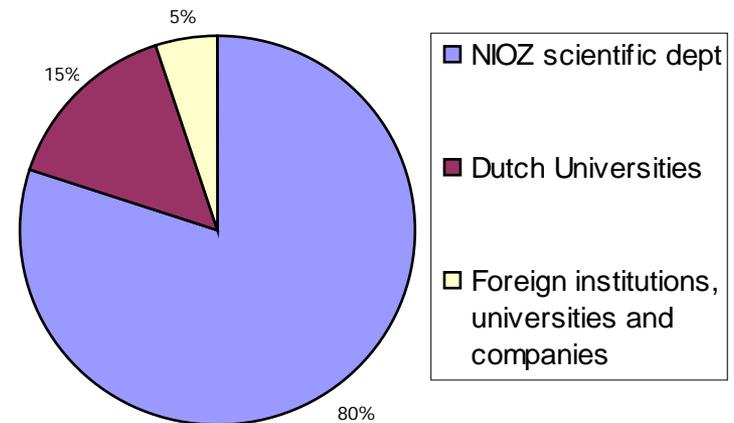
Purchases (materials, services and products)

- appr 1 mln EUR/year
- 95% funded by clients

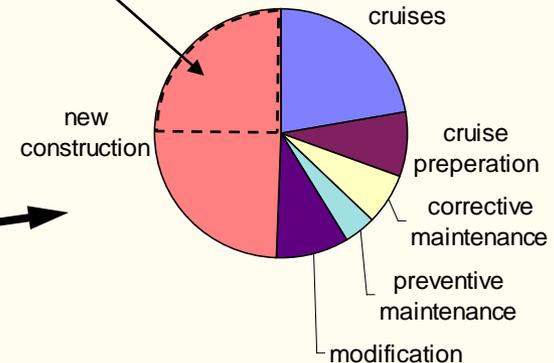
Projects

- 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

Our clients



by flex capacity





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”



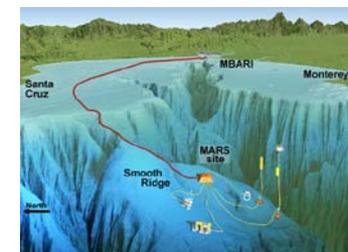
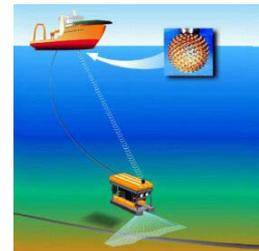
Today's technical challenges

- 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





Royal Netherlands Institute for Sea Research

Remarks?

”Effective Technology for
Excellent Science”

What’s peculiar? in your eyes

Questions?

