



**inmartech<sub>08</sub>**

Toulon, France

8-10 October 2008

hosted by Ifremer



**Ifremer**

International Marine  
Technicians Symposium



<http://wwz.ifremer.fr/inmartech08>

# DAY ONE

## AUV'S & GLIDERS

- **First Science Missions for Autosub6000 AUV** (*Stephen McPhail, NOC, UK*)
- **AUVs fleets exploitation feedbacks**  
(*Jan Opderbecke & Volker Ratmeyer, Ifremer/MARUM, France/Germany*)
- **Daurade: an AUV for rapid environmental assessment** (*Jean Meyrat, SHOM, France*)
- **AUV Abyss** (*Friedrich Abegg, IFM GEOMAR, Germany*)
- **Experiences with different underwater gliders** (*Thierry Terre, Ifremer, France*)

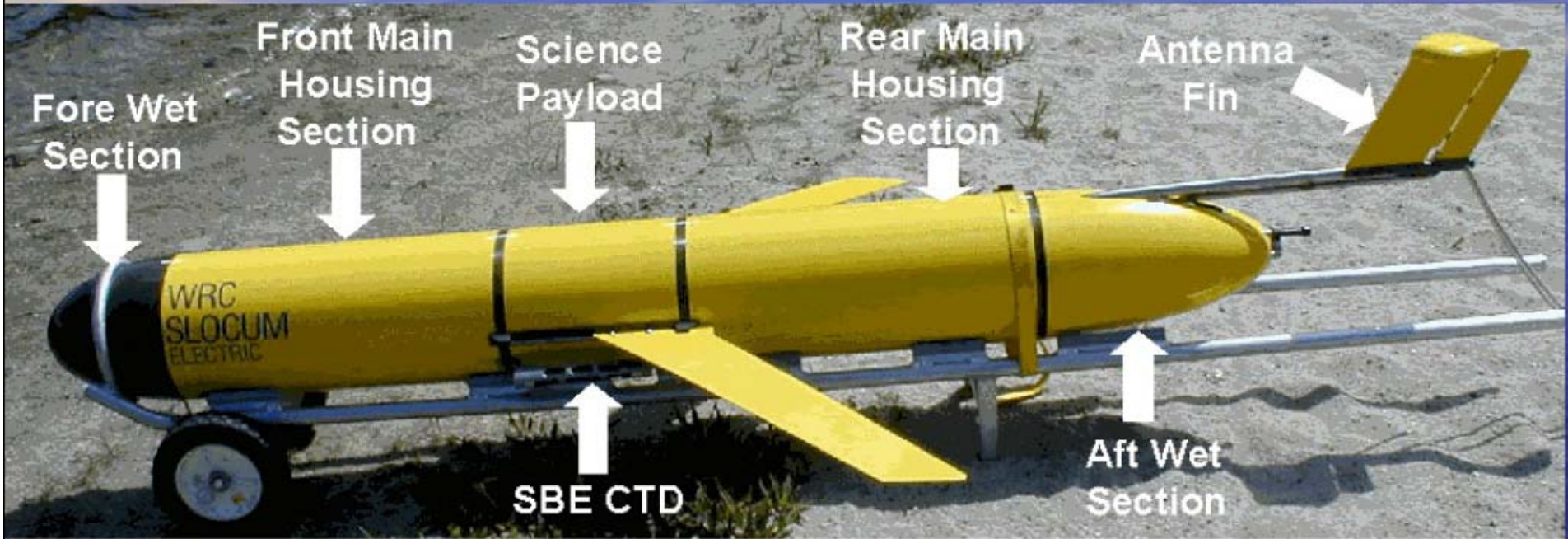
## MANNED SUBMERSIBLES

- **Multidisciplinary Design Optimization Method Applied to a HOV Design**  
(*Weicheng Cui, CSSRC, China*)
- **Introduction to Design and Construction of Deep Manned Submersible “Harmony”**  
(*Feng Lui, COMRA, China*)
- **Nautilie status and trends** (*Jean-Pierre Leveque & Jean-Paul Justiniano, Ifremer/Genavir France*)

## NEW VESSELS

- **A New Norwegian Ice Going Research Vessel**  
(*Hans Petter Knudsen, Institute of Marine Research, Norway*)
- **AURORA BOREALIS – Development of a new European Research Ice Breaker and Deep-Sea Drilling Vessel**  
(*Lester Lembke-Jene, AWI, Germany*)
- **R/V L’Atlante Modernization** (*Sebastian Dupont, Ifremer, France*)
- **New Research Vessels in China** (*Sun Song, Institute of Oceanology, China*)
- **Haliotis: An easy to use survey launch for very shallow waters** (*Herve Bisquay, Ifremer, France*)

# Slocum Electric Glider



## Glider Specs.

Length: 1.5 m

Hull Diameter: 21.3 cm

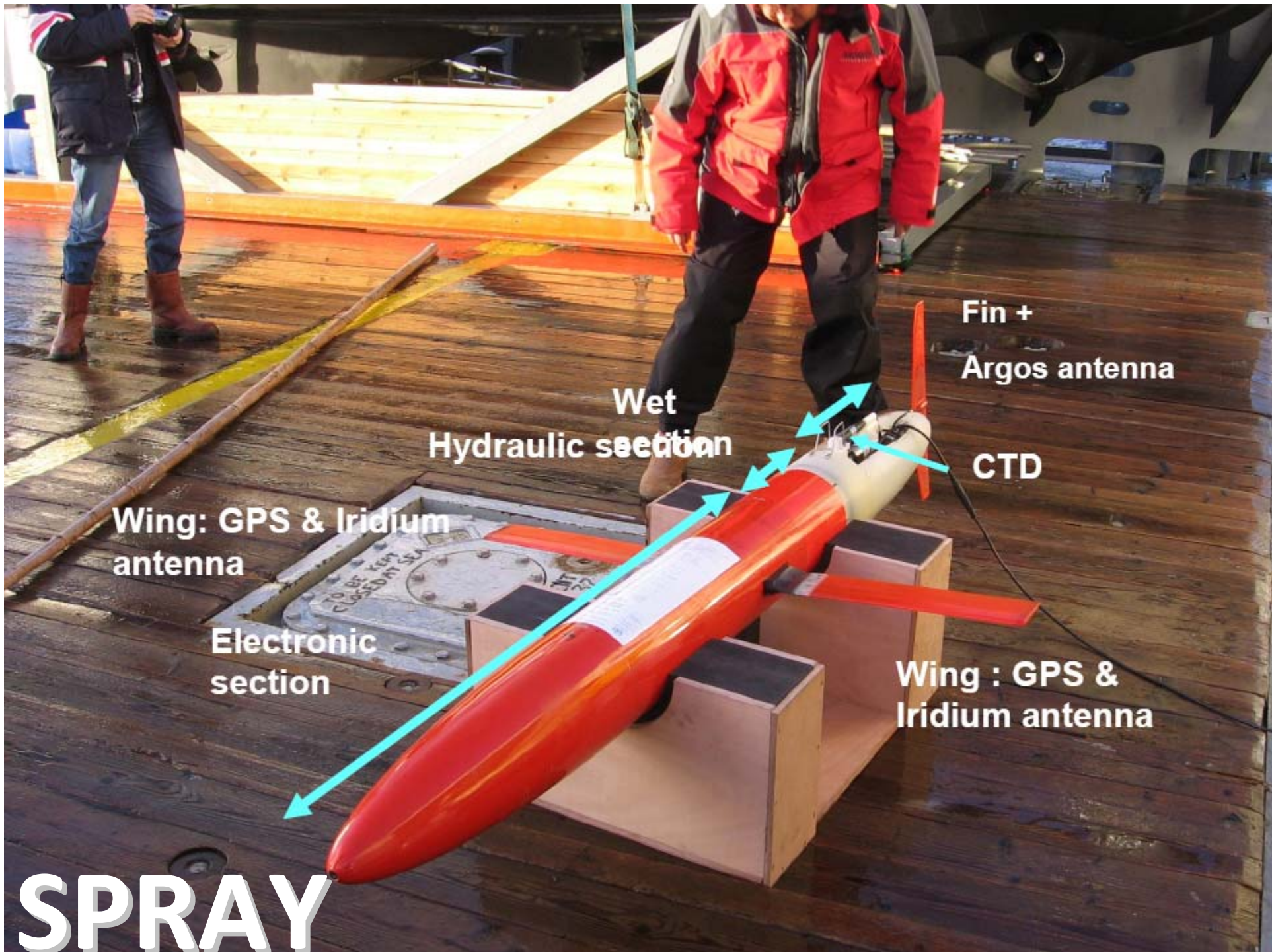
Weight: 52 kg

## Science Bay Specs.

Length: 30 cm

Diameter: 21.3 cm

Max. Payload Weight: 4 kg



Fin +  
Argos antenna

Wet  
Hydraulic section

CTD

Wing: GPS & Iridium  
antenna

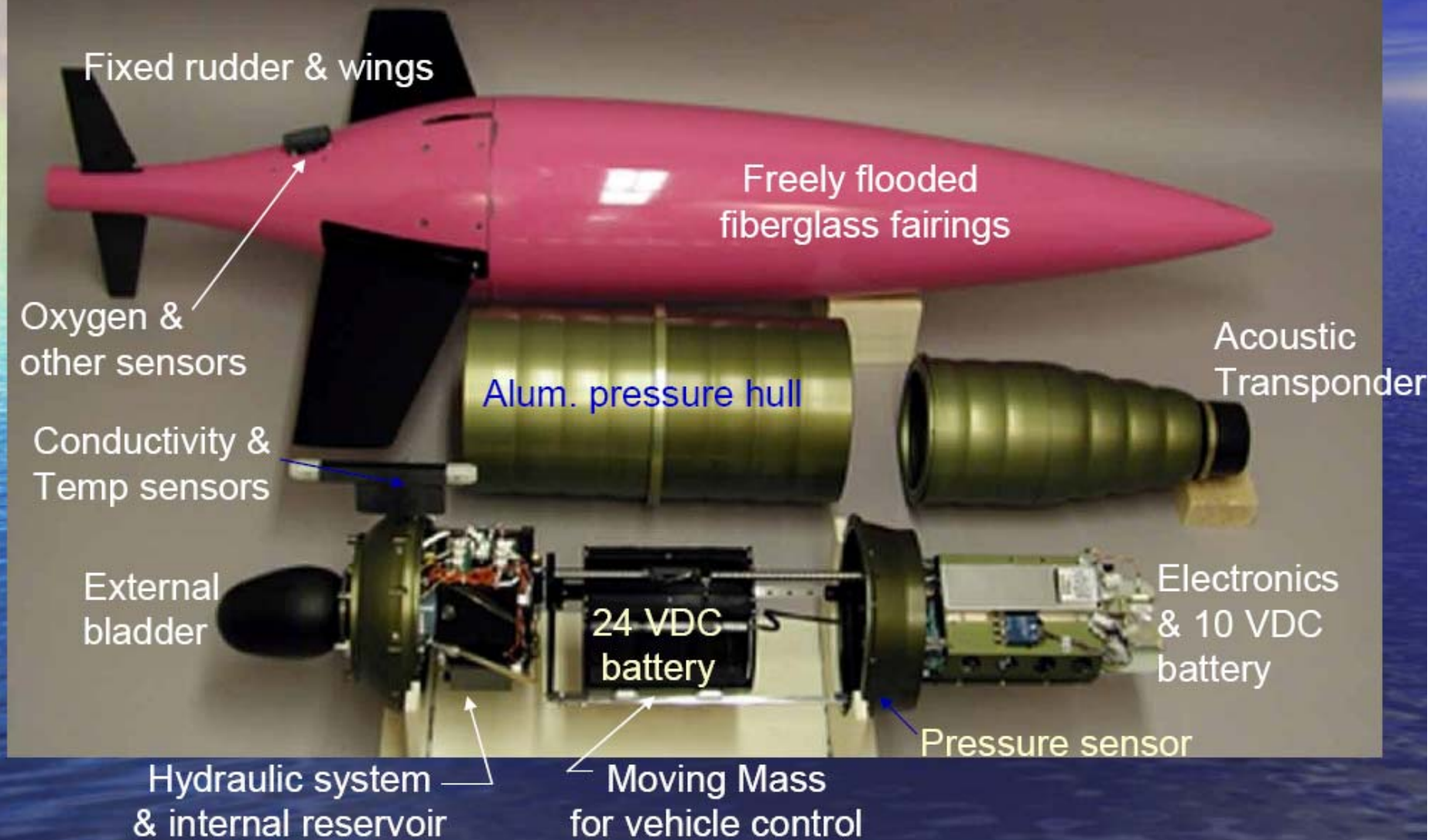
Electronic  
section

Wing : GPS &  
Iridium antenna

**SPRAY**

# Seaglider - main systems & parts

(Not shown: antenna & mast)



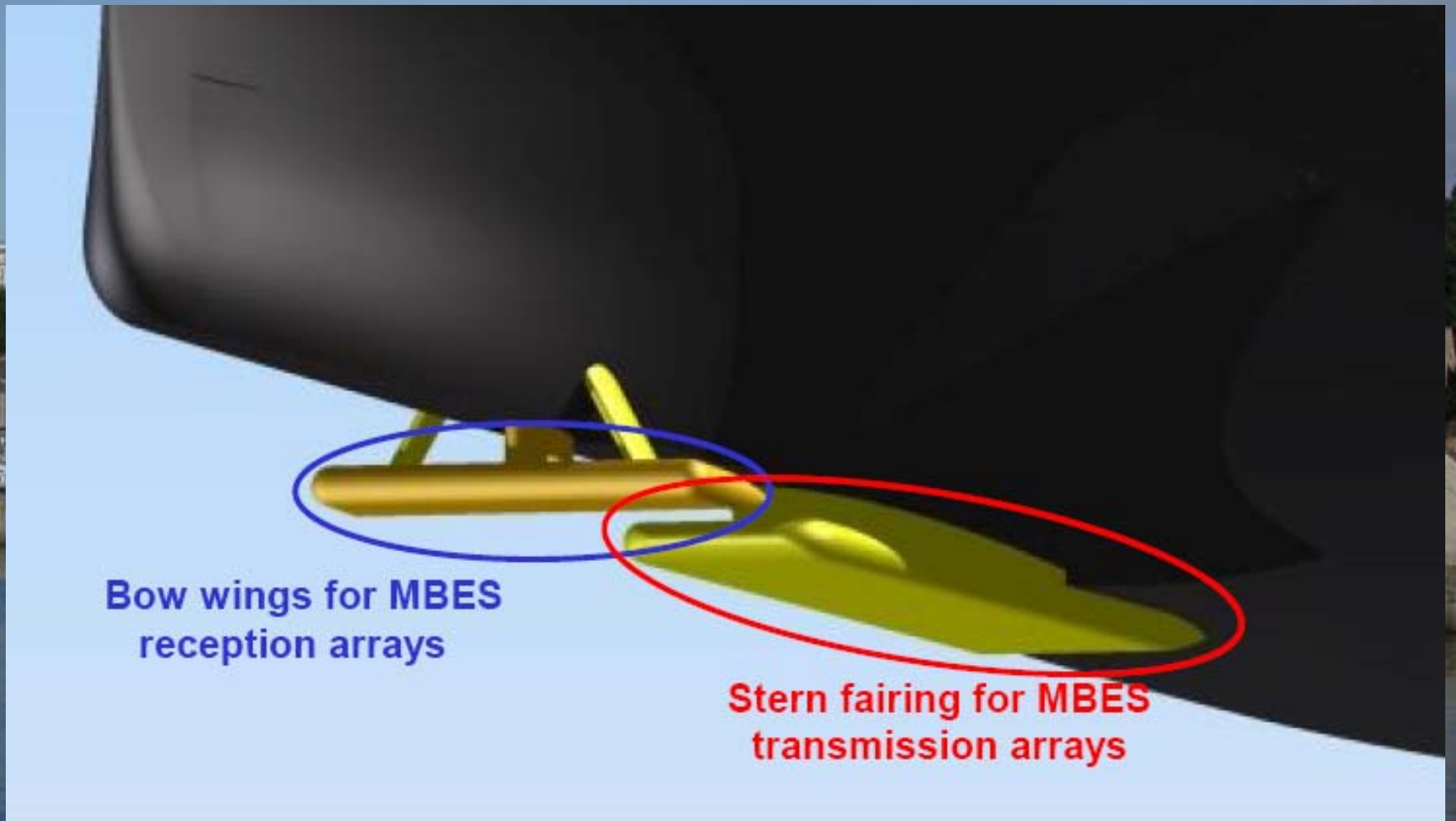
# Differences & Similarities



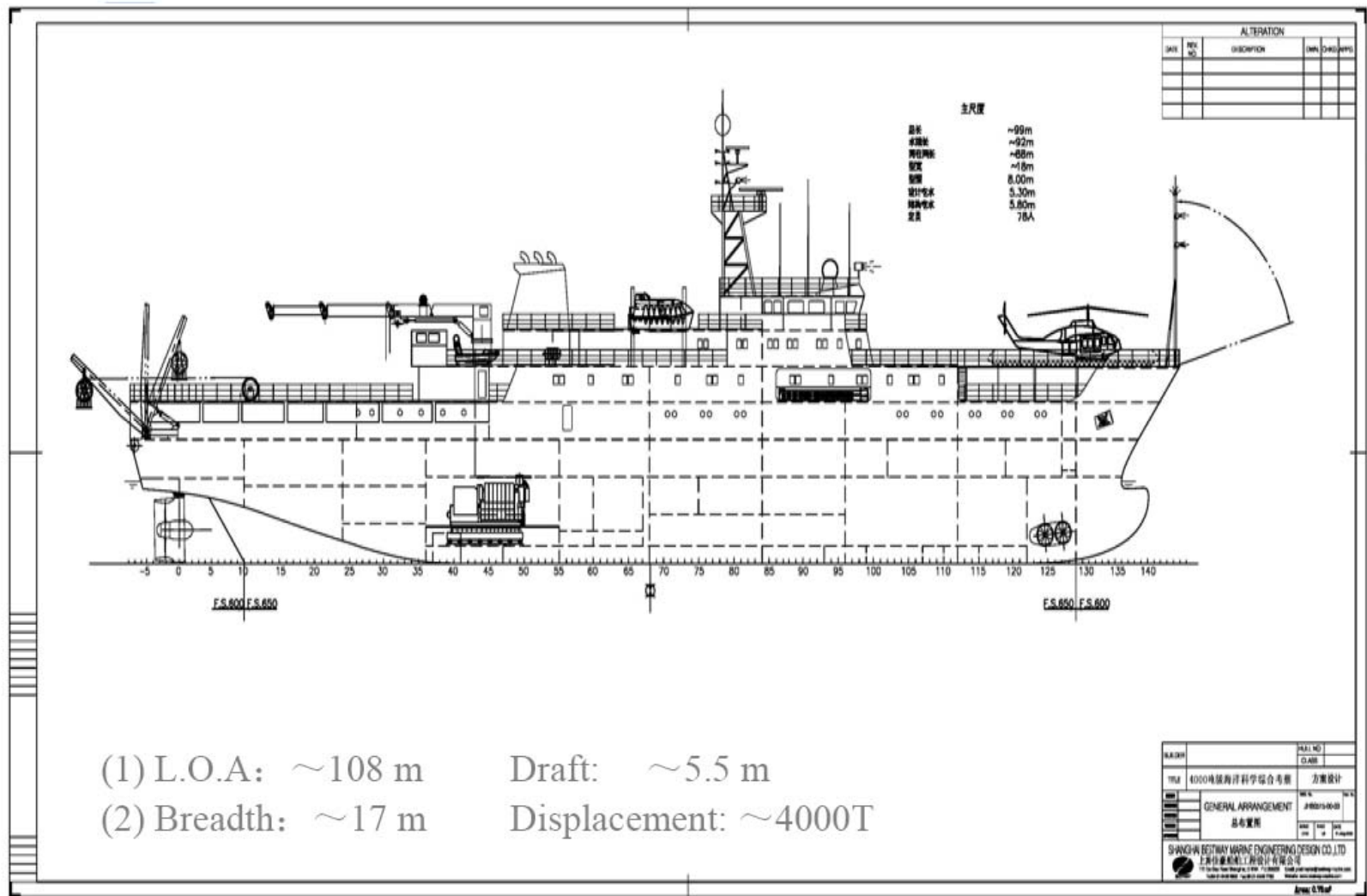
	<b>Spray</b>	<b>Seaglider</b>	<b>Slocum</b>	<b>Slocum 200</b>
<b>From</b>	<b>SIO/BlueFin</b>	<b>UW</b>	<b>WRC</b>	<b>WRC</b>
<b>Depth range</b>	<b>1000m</b>	<b>1000m</b>	<b>1000m</b>	<b>200m</b>
<b>Endurance (PTS+Opt)</b>	<b>3000 km 500 dives 100 days</b>	<b>4000 km 600 dives 210 days</b>	<b>2000 km 400 dives 60 days</b>	<b>~200 km ~30 days</b>
<b>CTD sensor</b>	<b>Pumped Seabird</b>	<b>Seabird</b>	<b>Seabird</b>	<b>Seabird</b>
<b>Comm</b>	<b>Iridium (email) + Argos</b>	<b>Iridium (data)</b>	<b>Iridium (data) + Argos + radio</b>	<b>Iridium (data) + Argos + radio</b>
<b>Hull</b>	<b>Aluminium</b>	<b>Aluminium +Fiberglass</b>	<b>Composite</b>	<b>Aluminium</b>



# R/V L'Atalante







**R/V Ke Xue Outboard Profile**



## R/V Shiyan-1



- **Owned by Chinese Academy of Sciences**
- **the first large-scale Small Waterplane Area Twin Hull (SWATH) in China**
- **launched in 12 Sep,2008 at Huludao shipyard**
- **will be delivered to CAS by the end of 2008 after trial trips**



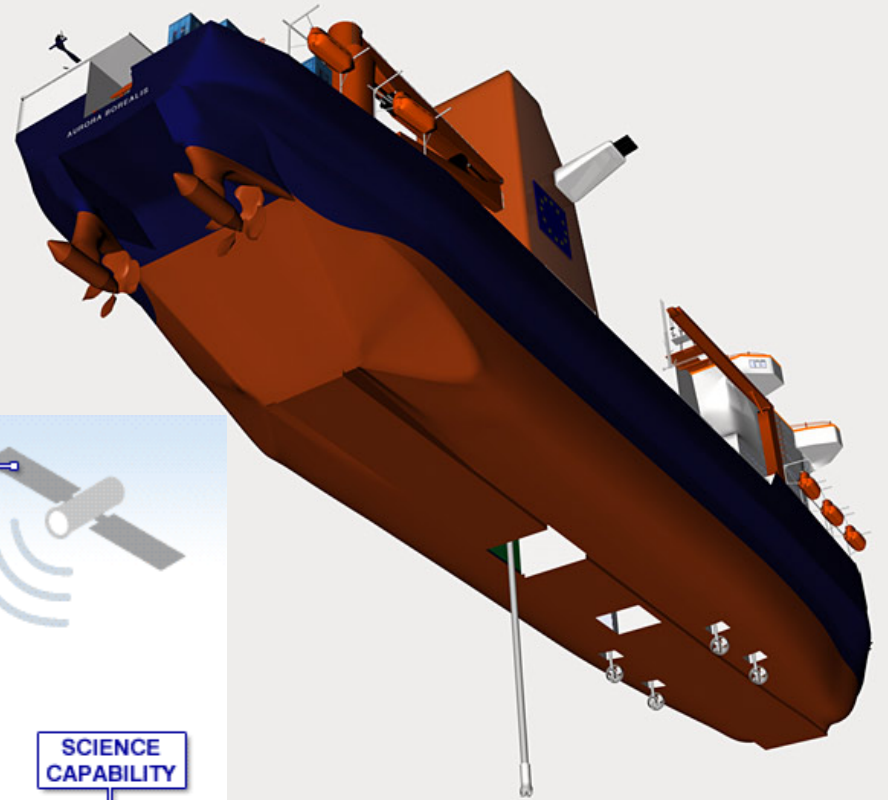
## R/V Hai Yang 6 Hao

- Gas Hydrate/Geophysical Research Vessel
- Capacity: 45 scientists, 27 crew, 15000nm range

# R/V Aurora Borealis

Multi-National Ice  
Breaker/ Deep Sea Drilling  
Vessel





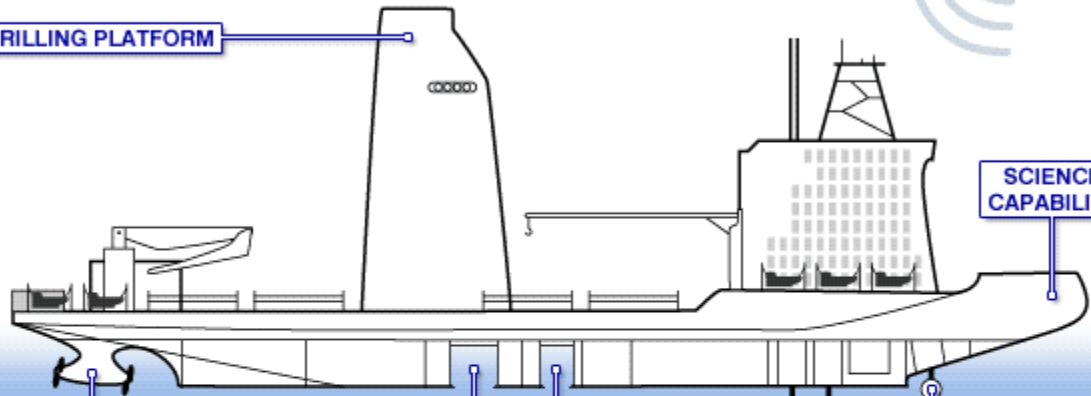
Click on [LINKS](#) to find out more

GPS - GLOBAL POSITIONING SYSTEM



DRILLING PLATFORM

SCIENCE CAPABILITY



AZIMUTH PROPULSION

MOON POOLS

DYNAMIC POSITIONING

Personnel onboard (crew and scientists): 120



ICE BREAKING



OVERVIEW

# DAY TWO

## ROV/AUV DEPLOYMENT & INTEROPERABILITY

- ROV Kiel 6000 on R/V L'Atalante: Experiences and Results (*Friedrich Abegg, IFM GEOMAR, Germany*)
- Using Victor 6000 on board R/V Sarmiento de Gamboa (*Arturo Castellon, UTM/CSIC, Spain*)
- QUEST 5 and 7 LARS System (*Friedrich Abegg & Volker Ratmeyer, IFM GEOMAR/MARUM, Germany*)
- Underwater System Deployment from R/V Pourquoi Pas? (*Marc Nokin & Alain Massol, Ifremer, France*)
- MeBo drill rig: mobilization on Celtic Explorer, status & lessons learned (*Bill Dwyer & Volker Ratmeyer, P&O Maritime Services/MARUM, Ireland/Germany*)
- CALMARS: a solution to facilitate the interoperability and to increase the operational capacities of autonomous unmanned vehicles (*Marc Luccioni, Ifremer, France*)

## INSTRUMENTATION & METHODS

- Hydrostatic Pressure Actuated Cable Cutter (*Chris Griner, WHOI, USA*)
- SUGAR – Submarine Gas Hydrate Deposits as Sites for CO2 Sequestration: Prospection, Exploitation & Transport (*Joerg Bialas, IFM GEOMAR, Germany*)
- The TVHD on Victor 6000 (*Pierre Leon, Ifremer, France*)

## ACOUSTIC & SEISMIC TOOLS

- Ultra deep low frequency sub-bottom profiler for AUV & ROV (*Yves Le Gall, Ifremer, France*)
- SYSIF: A new tool for near-bottom very high-resolution profiling in deep water (*Pierre Leon, Ifremer, France*)
- ISIS Deployment – TMS and 'live boating' (*Dave Turner, NOC, UK*)

# DAY THREE

## BUOYS/MOORINGS/OBSERVATORIES INSTALLATION

- GITEWS deep mooring deployment in Med Sea (*Swen Roemer, Germany*)
- ANTARES installation – marine means & methods (*Jean Roux, et.al., France*)

## DATA TREATMENT, NETWORK AND COMMUNICATION

- HiSeasNet in 2008 (*Steve Foley, Scripps, USA*)
- Facilitating the Access to Marine Research Infrastructure in Europe through dedicated information e-Tools (*Laurent d'Ozouville, EurOcean, Portugal*)

## LESSONS LEARNED

- Revised rosette and CTD system built around a SBE 9Plus underwater unit (*Michel Hamon, Ifremer, France*)
- Dropping box for ARGO profiler launches (*Stephane Leizour, Ifremer, France*)
- Water and bottom sampling combined in one cast (*Jack Schilling, NIOZ, Netherlands*)
- Air Bubbles & hydroacoustic equipment (*Olivier Lefort, Ifremer, France*)

# Antares lines deployment



Astronomy with a Neutrino Telescope and Abys environmental REsearch



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