ERVO
EUROPEAN RESEARCH VESSELS OPERATORS

UTM
Unidad de Tecnología Marina

New Builds: Research Vessel Design and scientific requirements
An Open Discussion

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CSIC

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Research Vessel Know how

Research : Operations, equipment, labs, methods …

Vessel : Ship form, services, propulsion , accommodation …

Multipurpose vessel (~50 m Regional) design

Objective: design of a "LEGO" ship

Why Multipurpose/LEGO ? : "open vessel" , new opportunities , including industry (survive¡¡) , interoperability…

Common procedure for building a RV:

1. Basic specifications

2. Public tender for conceptual design and Complete technical specifications (4-5 months)

3. Public tender for construction

Multipurpose vessel design (CSIC experience)

2. Public tender for conceptual design and complete technical specifications (4-5 months)

Not enough time for good definition … sometimes preferred to modify old design

Need for advisors, experienced people in R/V design

Some shipyards with no experience or knowledge in these type of ships

Users are the experts, they know what they need. From captain and bosom to technicians and researchers

Fighting with shipyard during construction

Design Procedures

- Budget
- From the equipment / operation definition, ship design is obtained
- Depth range of operation is also the starting point
- Both will define the ship in a 70%
- Some equipment recommendations and operations definitions should be considered

An example of equipment types and services for multipurpose RV that could be defined

Deployed equip. All equipment deployed with cables ,or autonomous

Hull Mounted Equip. All equipment fixed to the ship, from hull to mast and antennas

Deck Operations All equipment for deploying: cranes, frames, winches and deck facilities

Laboratory Equip. All equipment used in labs, experimental, analytical

Services Fresh water , sea water, distilled water, shared data (lat/lon…) , air, gases , Ethernet, DAS,…

Mobile Equipment Containers, mobile winches…

But also…

"New" Scientific Equipment Requirements and new missions for:

- ROV´s
- AUV´s
- Submarines
- Gliders
- Mission: Support Seafloor Laboratories ? Cabling ?

To be (easily) implemented

Multipurpose vessel design
Could be useful a (common) definition of specifications?

Sharing specifications between countries / organisms

Reduce costs in conceptual design bill /Equipment?

Evolution of design, adaptable , not a serial construction? Different shipyards

Mid size (~50 m) as “European Research Vessel” ? EUROFLEET 2?

Interest in defining equipment, performance and service and operations?

Interoperability?

Evolution of propulsion and construction standards will not affect design of operations and equipment ?

Experience (culture) inside ERVO members? Not inside shipyards?