

UTM

Unidad de Tecnología Marina

REGIONAL RESEARCH VESSELS

Design and scientific requirements

Concepts for an Open Discussion

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<http://www.utm.csic.es/>

ERVO is a contact point to raise discussion on proposals and viewpoints for an efficient development of a European strategic coordination mostly on **Regional research vessels (RRV) and associated equipment**

Contributing to ensure maximum use/share of available infrastructure, and assisting in the development of standardized operational procedures, shared designs concepts, and protocols for vessel operators:

- Enhanced interoperability of large exchangeable equipment on existing and future RRV
- Coordinated scheduling of activities
- Standardisation and harmonisation of procedures.
- Towards a sustainable “low cost” common RRV design

Guidelines recommendations for equipment requirements in European RRVs

Define the requirements for installation, deployment and services for efficient multipurpose European RVs:

Scenarios Definition:

- Deployed Equipment, CTD, Multinet, SSS, AUV, ROV, Seismics*
- Hull mounted (fixed) equipment, Acoustics, SST, MRU, Meteo, DGPS, etc.*
- Deck Operations & Gears, Winches, Cranes, Frames, etc.*
- Services, Lat/Lon and attitude data, PPS, Sea Water, Distilled water, Internet*
- Laboratories, Lab equipment, Cold and freezers, etc.*
- Information & Communications Technologies. Hardware, Software, Comm*
- Mobile Equipment, Containers*

Research Vessel Know how



Research : Operations, equipment, labs, methods ...

Vessel : Ship form, services, propulsion , accommodation ...

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

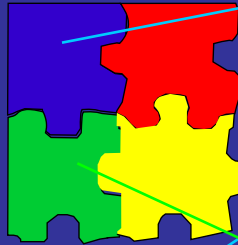
Fighting with shipyard during construction

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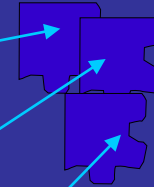
Scenarios

DEFINE

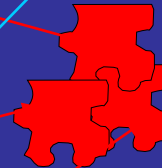
Seismics



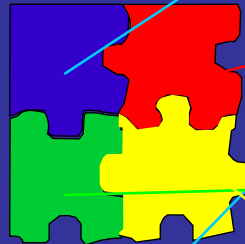
Deployed Equipment



Hull mounted equipment



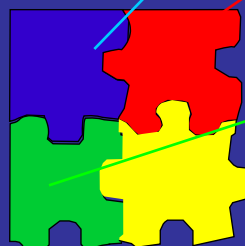
Fisheries



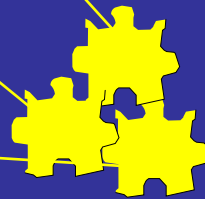
Deck Operations



Marine Biology



Services



Laboratories



Inform. & Communications Technologies.



Mobile Equipment

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...



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“New” Scientific Equipment Requirements and
new missions for:

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

To be (easily) implemented

RRV generic design could be useful for (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” ?

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?



Standardization Pourquoi Pas ?



!!!! Many Thanks !!!!