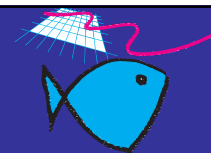# VMS: the implementation
## Details, details and still more details

Planning is the key

- A four-step procedure
  - Feasibility study
    - Available resources: technical, human and economic
    - Determination of objectives
  - Creation of a functional specification, finalisation of documentation for public tender
  - Selection of supplier
    - Implementation calendar
  - Delivery
   - System installation, technical verification
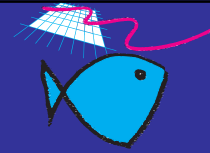
Technical choices are of fundamental importance

- System for transmission from ship to shore
- Means of terrestrial transmission
- Characteristics of FMC and "clients"
- Which supplier (price? Technical qualities? Training and support? Experience?
- Assurance of life-span of system
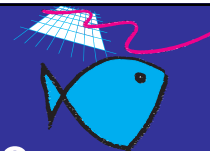
Questions involving ship to shore transmission

- What are the geographical limits of the zone to be monitored
- What is the maximum transmission time for reception of data?
- What are the typical characteristics of electric supply aboard vessels?
- Which supplementary services will be required in the medium to long term?
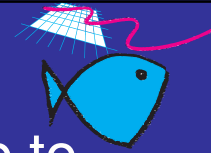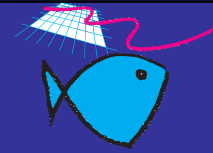
Available systems for ship to shore (non exhaustive)

- ARGOS
- Inmarsat: -C, D+, Fleet
- Iridium
- Thuraya
- Systèmes terrestres (radio, téléphonie)
- Systèmes bande vocale
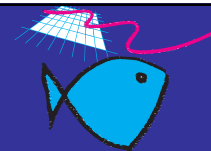
ARGOS

- Advantages
  - World-wide cover
  - Simple and reliable
  - Low power consumption
- Disadvantages
  - Data delivery delays
 - Communication shore to ship limited

Inmarsat

- Advantages
  - Quasi real-time or duplex
  - Broad range of equipment
  - Several equipment suppliers
  - GMDSS
  - Two-way communications

- disadvantages
  - Some equipment is expensive
  - No cover in polar regions
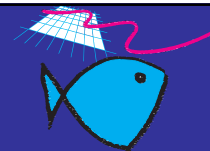 - High quality and reliable power supply imperative
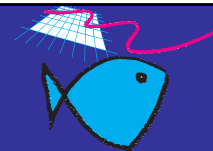
Iridium

- Two-way data and voice communications
- True global coverage

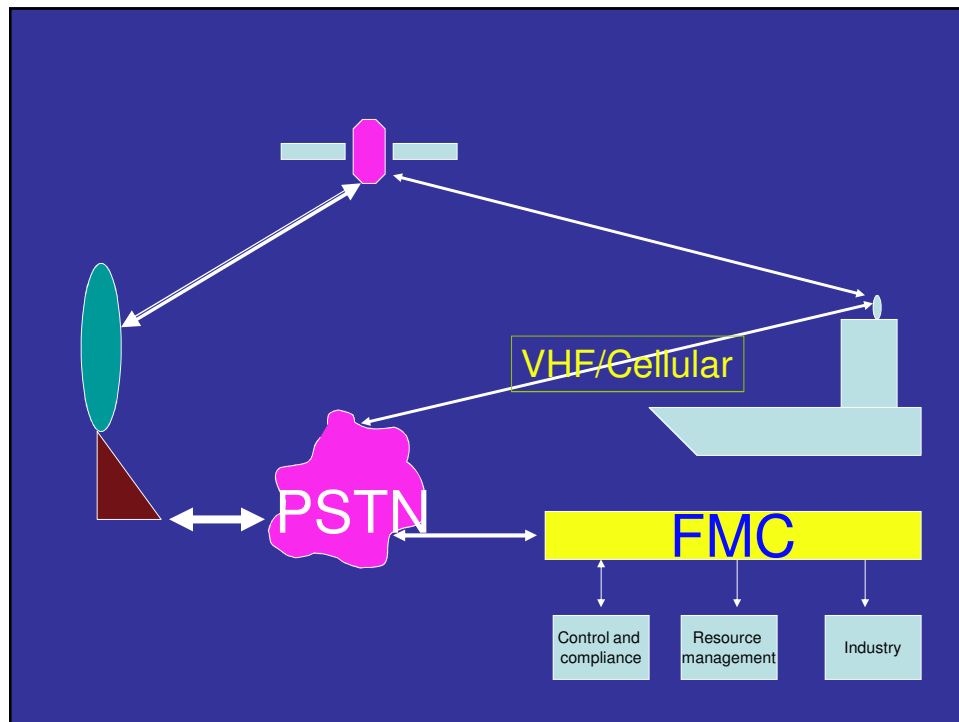- System under control of U.S.A. military
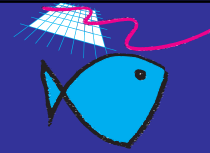
Thuraya

- High-quality, two-way data and duplex communications
- Range of equipment types and suppliers

- Coverage limited to footprint in Middle-East and Europe
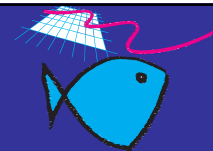
## Terrestrial systems (VHF/cellular)

- Typically very low service costs
- Reasonable equipment costs
- Low power supply requirements

- Very limited coverage

The diagram shows a satellite communication system with labels: VHF/Cellular, PSTN, FMC, Control and compliance, Resource management, Industry.

Terrestrial transmission: delivery of data to FMC

- Choice determined by infrastructure
  - Availability of data transmission services, e.g. Internet, dial-up, ADSL?
  - Availability of high quality telephone lines (e.g. ISDN)
 - Availability of high-quality analogue telephone lines
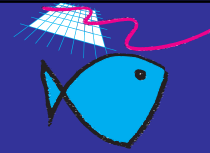
Choice of an FMC

- Above all, be realistic about needs:
  - How many users?
  - Maximum delay for data access for each user?
  - Are personnel resources available to maintain and update software and hardware?
  - What are data sharing requirements (between departments, other countries, RFMO…etc.)?
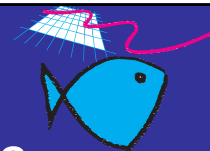
Never forgetting security is fundamental

- Each vessel's fishing grounds are highly confidential data
- Vessel operators and crew have the right to know that the security of their data is appreciated and respected
- Not respecting confidentiality responsibilities can put the VMS at risk, as well as the credibility of the authority
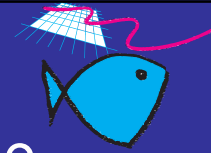
Always keep an eye on the future

- What is the likely evolution of data use?
- How will resources and personnel develop in the coming years?
- Will there be additional demands from external services?
- Is there a regional project for VMS or MCS?
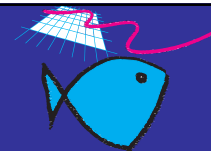
Time invested in planning and understanding user needs always improves added value