National Marine Facilities – Sea Systems

Geraint West
Director National Marine Facilities
Final departure and disposal of old RRS Discovery
Naming by HRH Princess Royal – 10 Oct 2013
James Cook:
L 89.5m; B 18.6m; D 5.5 – 5.7m

Discovery:
L 99.7m; B 18.0m; D 6.5m
Boat Deck
Mezzanine Deck
RRS Discovery Issues1 – Propulsion

- Modifications to main azimuth thruster headboxes in Vigo
- Engine Modes:
  - Speed mode - 50% order will give 50% rpm according to speed ref motor = unstable load
  - Power mode - 50% order will be 50% power (KW) ref to motor power = stable load
  - Cook has both modes, Discovery only has Speed Mode.
RRS Discovery Issues 2 – Winches

- Cooling
- Spooling
- Gearbox/brakes
James Cook Programme 13/14

**RRS James Cook**
- N Atlantic
- Equatorial Atlantic
- Caribbean
- E Pacific
Unmanned Surface Vehicles

- Long Endurance Marine Unmanned Surface Vehicle (LEMUSV)
- NERC and the DSTL SBRI competition, in partnership with the Technology Strategy Board
- Target: 90 day endurance with 10kt over 100NM ‘sprint’
- 6 x £50k concept studies awarded 2012
- Down-selected to ASV Ltd. and MOST Ltd. 2013
- Initial prototype trials Portsmouth Harbour Dec 2013
- 2nd trials Scotland Feb 2014
- Large experiment in Autumn comprising:
  - 2 x LEMUSV
  - 2 x Slocum gliders
  - Seabed array
  - UAV (TBC)
International Research Ship Operators (IRSO)

• 2013 – St Johns
  – Hosted by Memorial University, Newfoundland

• 2014 – Nantes
  – Hosted by Ifremer
  – 9-12 September

• 2nd International Ocean Research Conference (IORC), “one planet one ocean”
  – One hour long film on work of the world’s research vessels
  – The film will be shown in Barcelona, Nov 2014.
IRSO On-Line

- http://irso.unols.org

- Linkedin
RRS Discovery – how to build a research ship in two minutes…(June 2011 – April 2013)