



Jason Developments



- Replaced HMIs with lighter more luminous LED alternative
 - Completed dives with 3 HMIs and 4 LED arrays, vs 4 HMIs
 - 48% increase in light
- New P&T to replace heavier model, 3 total
- Old P&T and HMIs moved to *Medea*
- Additional Mini-Zeus HD camera, replaced pilot's cam, 2 total
- NDSF HD camera integration improvements
- *Medea* FO telemetry upgrade to expand video and data
- Added personnel to the ops team, WHOI and contract
 - Jonathon Miller, Eddie Dow, Hugh Popenoe
 - Akel Sterling EL on Chadwick cruise
- Installed ODI connector to facilitate observatory cable testing via FO link thru *Jason*
- Developed observatory-related capability, including FO testing and precise package deployment



Sentry 2011 Upgrade & Overhaul



Vehicle Upgrades

- New Ti electronics housing
- Additional 175 lbs of flotation including deeper rated foam
- Iridium unit for emergency location
- Reson spares
- New magnetometers (3x so gradiometry is possible)

Infrastructure Upgrades

- New shipping/operations van
- Computing upgrades
- CAD model updates

Standard Maintenance



Sentry 2011 Upgrade Housing



- Improves operational range from 4,500 to 6,500m (6,000m*)
- Ti housing – spherical endcaps
- New connectors – including fiber
- Improved payload
 - Valentine 2011 – mass spec, Reson, fluorometer, sub-bottom, 3-D camera, plus full standard sensors
 - Can also do sidescan, subbottom, Reson, camera, plus full standard sensors simultaneously
- Some sensors on the vehicle are only rated to 6000m (e.g. Reson)



Photo: Upgraded Sentry – courtesy Catherine Carmichael



Data Management



Long-Term Goals

- Increase capacity and throughput of archiving
- Modernize storage methods
- Improve data sharing capabilities
- Migrate some at-risk media to archival media

Priority Issues

- Funding for purchase, maintenance, and duplication for redundant offsite storage
- WHOI Data Library is at physical capacity
- *Alvin* pipeline is a major driver





Data Management



Proposal:

1. House content at WHOI DLA in LTO tape library robots
 - New technology: *Linear Tape File System (LTFS)*
 - LTO tapes from sea (*Alvin*) loaded directly into robot
 - Disaster mitigation through duplication and spatial separation
 - Video/images/files available near-line
2. Make room at DLA by migrating old media, particularly optical
 - Reduces risk of losing historical data (*Jason* DVDs)
 - Labor costs can be minimized by use of a ripper robot