



# DeSSC

## Sentry 2011 Personnel



- Continuing to address personnel shortage highlighted last year
- Personnel additions:
  - Carl Kaiser (3 *Sentry* cruises)
  - Mike Jakuba (experienced WHOI AUV engineer returning)
  - Jared Schwartz (1 *Sentry* cruise)
  - Open EE requisition (reviewing résumés now)
  - Glenn McDonald – shoreside (experienced WHOI designer)
- Looking at options for retention
  - Sustainable schedule
  - Cross training and personal development



DeSSC

# Sentry 2011 Upgrade & Overhaul



## **Vehicle Upgrades**

- New Ti electronics housing
- Additional 175 lbs of flotation
- Iridium unit for emergency location
- New, more reliable release motors
- Repair skin fasteners

## **Infrastructure Upgrades**

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

## **Standard Maintenance**

***Done by September 2, 2011***

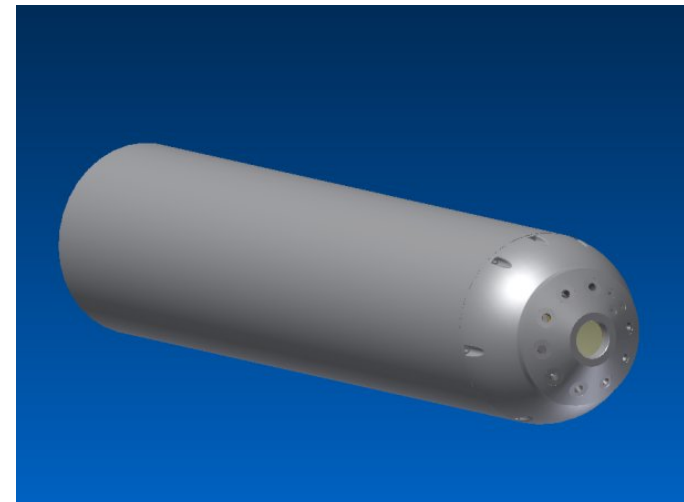


DeSSC



# Sentry 2011 Upgrade Housing

- Improves operational range from 4,500 to 6,500m (6,000m\*)
- Ti Housing – spherical endcaps
- New connectors – including fiber
- All connectors fully water blocked of proven design
- Also requires:
  - Skin extensions
  - Frame extension
  - Significant rewiring





DeSSC

# Sentry 2011 Upgrade Flotation



- Adds 175 lbs of additional flotation in a four inch layer around the middle
- Adds capacity for:
  - New housing
  - Sidescan with Reson
  - New strobe
  - Iridium
  - More ascent and descent weights
  - New camera and/or possible future stereo imaging system
  - Payload of opportunity (TBD ~ 20 lbs)



DeSSC

# Sentry 2011 Upgrade Van



- Necessary due to increased height & age of old van
- Infrastructure for significant additional improvements, i.e., charge rack & cooling system built in (future project)
- More versatile electrical service for worldwide usage  
(110/220/440 VAC 50/60 Hz)





DeSSC

# Sentry 2011 Upgrade Stack & Data



- Upgrade on-vehicle OS (Ubuntu 8.04 to Ubuntu 10.04) to keep pace with industry standard hardware
- New vehicle backup infrastructure
- Data processing machines OS upgrade – to match stack
  - Fixes 4096byte sector problem
- Google Earth & photo movie viewing/tagging tools tested again, soon to be standard



DeSSC

# Sentry 2011 Additional Projects



- Strobe upgrade
  - Strobe identified – mostly off the shelf
  - Hoping to purchase this year and fabricate all mounting etc. and install in early 2012, budget permitting
- Camera spare or replacement – probably 2012
  - Several off the shelf solutions – preferable
  - Requires very high end data processing machine beyond what we currently deploy
  - Cost still unknown
- Reson spare parts
  - Full package ~\$150k but will get as far as we can this year

