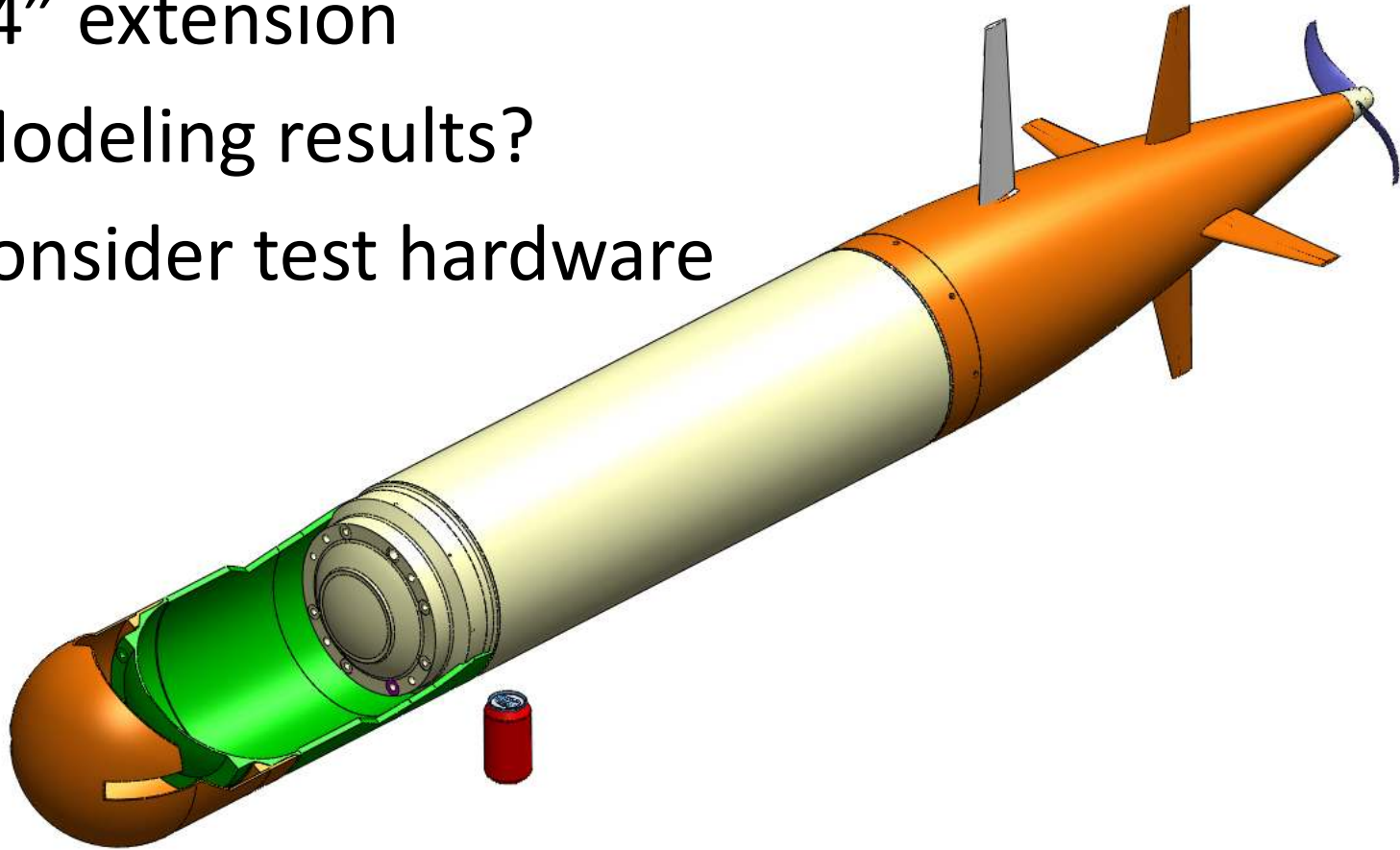


G3 ESP-LRAUV Integration

12-05-2011

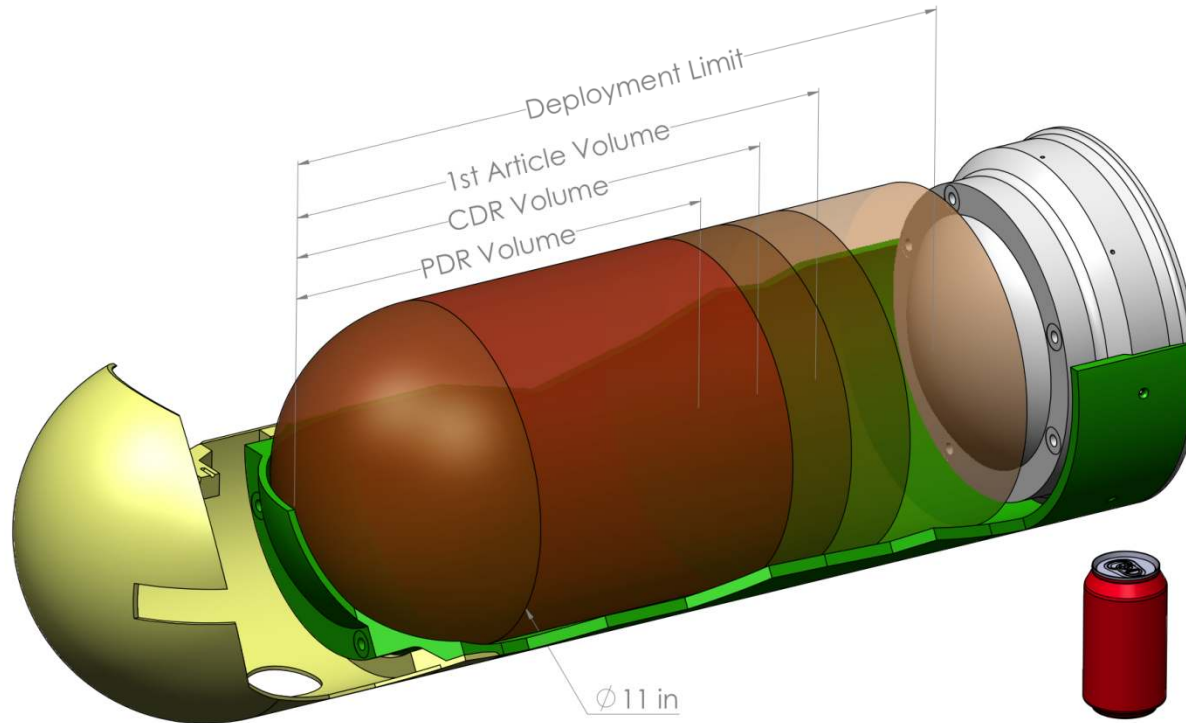
Forward Dry Housing

- 24" extension
- Modeling results?
- Consider test hardware

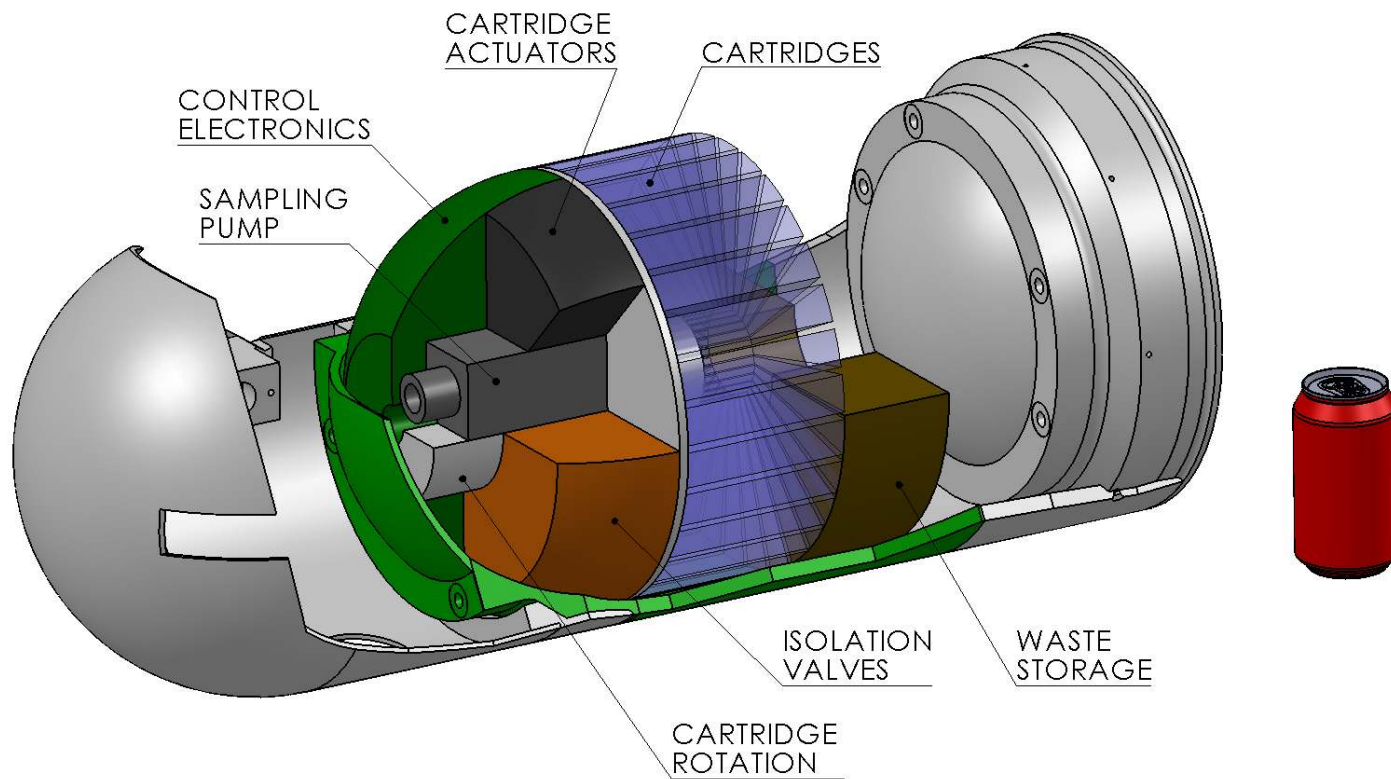


Design Margins

<u>Design Stage</u>	<u>Reserve Margin</u>	<u>G3 “Design To” Volume</u>
Pre-PDR, PDR	40%	1220 cu-in (20L)
Pre-CDR, CDR	30%	1465 cu-in (24L)
1st Article Build	20%	1650 cu-in (27L)
Maximum	0%	2060 cu-in (34L)



Cartridge System



Space Competition

- Space Competition
 - Context / platform sensors in nose
 - Cable pass way thru ESP housing
 - Other water sensors in dry housing (ISUS, etc)
- Sensor interference?
 - Magnetic couplings, motors, etc

Typical Use Case

- Locate a target parcel of water to sample
 - pre-determined location/depth/time of day coordinates
 - adaptive sampling process using onboard sensors
 - initiated adaptively via real-time inputs from an extended networked
- At location, LRAUV signals 3G-ESP to start sample collection, (up to 1 hr)
- After collection, one or more ESP analytical modules will do analysis. (up to 16 hours)
- Based on results, ESP may deliberate on further action
 - initiate an additional analysis on material already collected
 - inform the LRAUV platform of its findings so that the platform can modify its search/operations behavior accordingly.

Power/Comm

- Voltage: 10 to 18V, 24V max (charging)
- Current : max 3A cont., 5A (<25ms) in rush
- Comms:
 - RS-232 signaling, No handshaking, max 115k
 - SSH over Ethernet
 - Comms ground isolated from Power Ground

Block Diagram

