

902401 - Geo-Sense

Week 51

1. Rich Henthorn
 - a. DMO deployment review
2. Denis Klimov
 - a. Working on low power disconnect electronics, we also held a review for the way of deploying and recovering the DAS instrument.
3. Paul McGill
 - a. Got batteries installed into spheres, and held a sphere-sealing workshop
 - b. Began testing Deepsea Connect and found that some changes needed to be made
 - c. Attended deployment review on Dec 18—still lots of details to be worked out
4. Alana Sherman
 - a. Catching up on where each component is at and trying to help move everything forward
 - b. Preparing for deployment review on 12/18/24
 - c. Learned the assembly of the battery spheres from Paul, all three are assembled now
 - d. Made schematic for deck cable
 - e. Dealing with money woes

Week 50

1. Paul McGill
 - a. Had monthly meeting with Sintela—they won't ship DAS until just before Christmas
 - b. Testing Deepsea Connect power and comms functions with ROV toast
 - c. Got battery spheres wired and will install batteries just before we seal the spheres

Week 49

1. Rich Henthorn
 - a. ONYX system training

Week 48

1. Rich Henthorn
 - a. Reviewing Sintela user-guide for training class next Monday
2. Paul McGill

- a. Got Seacon penetrators molded to SubConn connectors
- b. Installed penetrators into Benthos battery spheres

Week 47

- 1. Rich Henthorn
 - a. Preparing for arrival of our modified Sintela DAS unit
 - b. Looking for possible assembly and test areas (Bldg G, ESB, etc.)
- 2. Paul McGill
 - a. Got battery sphere penetrator cables wired so they're ready for molding this week
 - b. Worked with Denis and Alana on low-voltage disconnect circuit
 - c. Worked with Aaron S to fit the Deepsea Connect hardware in a small housing
- 3. Alana Sherman
 - a. Trying to push the pedal on this one. Working through details on every aspect from connectors to reviews and IP.

Week 46

- 1. Rich Henthorn
 - a. Sintela cable interrogator installed in MARS shed
- 2. Denis Klimov
 - a. Working on the low-voltage disconnect board

Week 45

- 1. Alana Sherman
 - a.

Week 44

- 1. Paul McGill
 - a. Filling in for Alana at weekly meetings while she's at sea
 - b. Got quotes for Seacon connectors but they're too expensive

Week 43

- 1. Paul McGill
 - a. Made changes to system interconnect diagram and am fleshing out the details

Week 42

- 1. Paul McGill
 - a. Made lots of progress on DAS sphere schematic
 - b. Researching some system wiring changes to make system more usable and reliable

- c. Disassembled a spare Ti McLane controller housing to see if we can use it for Deepsea Connect

Week 41

1. Denis Klimov
 - a. Ordering optical parts from Sintela
2. Paul McGill
 - a. Working on DAS sphere schematic
3. Alana Sherman
 - a. Spoke with Linden about cable spool and solidified plans for that
 - b. Met with visiting engineer from JPL to discuss DAS

Week 40

1. Rich Henthorn
 - a. Sintela system Docker image
2. Alana Sherman
 - a. Had a meeting with Winchester about issues with our armored cable, they are working on a fix
 - b. Ordered our backup plan cable with Linden
 - c.

Week 39

1. Paul McGill
 - a. Trying to fix error with battery sphere penetrators

Week 37

1. Denis Klimov
 - a. Working on low-battery disconnect, and ordering test optical cables for the DAS system
2. Paul McGill
 - a. Started building battery spheres and ordered required parts
 - b. Found that penetrators I ordered won't work, looking for alternatives
3. Alana Sherman
 - a. Trying to confirm delivery dates from cable manufacturer
 - b. Met with Sintela last Thursday and they are on track and answered a few questions.
 - c. Working on 2025 ship time
 - d. Reviewed budget and ..well it could be worse

Week 36

1. Denis Klimov

- a. We are trying to figure out configuration for test cable(s) for the DAS system; including possibly using thin test cable to do some in-situ measurements at the beach or the slough. The issue for now is to get the optical fiber in the tight buffer with same specs as the fiber in the cable assembly which is on order from Winchester Interconnect.
- 2. Alana Sherman
 - a. Trying to resolve our budgetary issues
 - b. Discussed alternate deployment on Rachel Carson with the team
 - c.

Week 34

- 1. Paul McGill
 - a. Finished initial version of battery sphere schematic

Week 32

- 1. Paul McGill
 - a. Working on battery sphere wiring
- 2. Alana Sherman
 - a. Weekly meeting was tuesday, several small items to follow up on.

Week 31

- 1. Denis Klimov
 - a. We had a Zoom meeting with Patrick at Solifos who is describing an interesting options for the DAS (Distributed Acoustic Sensing) cable, including DTS (Distributed Temperature Sensing) and DST (Distributed Strain Sensing).
- 2. Alana Sherman
 - a. Group meeting this week, trying to focus on what we can do while waiting for the long lead items

Week 30

- 1. Paul McGill
 - a. Met to discuss details of fiber-optic cables and connectors

Week 26

- 1. Rich Henthorn
 - a. Meeting - proposal discussions
- 2. Paul McGill
 - a. Ordered more parts for Deepsea Connect
 - b. Edited 2025 proposal
- 3. Alana Sherman

- a. Aaron and I spoke with Don Muth at ISE and I think they have a cable assembly that will allow us to go from our oil-filled j-box to the 1-atm housing, which hopefully we can get on order soon
- b. Reviewing proposal and budget

Week 25

- 1. Denis Klimov
 - a. Contacting Ametek for fiber optic penetrators, 28 weeks lead time does not sound too promising.
- 2. Paul McGill
 - a. Tested fit of Deepsea Connect components into proposed housing
 - b. Ordered more parts for Deepsea Connect build
- 3. Alana Sherman
 - a. Towards solving the issue of FO connectors: I finally connected with Macartney thanks to Brett's help, but their penetrator is not PBOF, and we have had bad experience with their connector, so we were despairing. Then the Ventana pilots told us about a miracle cable assembly from ISE that would probably meet all our needs. Aaron and I have a meeting with Don Muth from ISE this afternoon. Fingers crossed.

Week 24

- 1. Rich Henthorn
 - a. Meeting
- 2. Alana Sherman
 - a. We got bad news on our planned fiber optic penetrators—they are no longer available in Ti or rated for PBOF. Luckily, Brett is in Denmark and had already planned on visiting the manufacturer, so we are trying to see what we can work out. My initial search did not yield other options or better options.
 - b. Read and edited Aaron's first draft of the Geo-Sense proposal and the CSEM proposal. We still need to hammer out the labor hours and milestones.
 - c. Project meeting was focused on the issue of the fiber penetrator and the bitter end of the cable with relation to deploying through the sheave.

Week 21

- 1. Rich Henthorn
 - a. Weekly meeting
 - b. Cable selection
- 2. Denis Klimov
 - a. We narrowed down the cable supplier (Winchester Interconnect, former Falmat) and had several rounds of discussions adjusting parameters of the cable. For the team, the cable selection for this unusual application had been quite an exercise. The good news, the cable is selected and order placed this week.

3. Paul McGill
 - a. Reviewed Winchester cable design and agreed to go ahead with order
4. Alana Sherman
 - a. Cable decision was finalizedized this week and PO was submitted - this is a big milestone
 - b. Put together notes and slides from review to share with our collaborators
 - c.

Week 20

1. Rich Henthorn
 - a. Weekly meeting
2. Paul McGill
 - a. Received power supplies for Deepsea Connect, working on wiring design
3. Alana Sherman
 - a. Following up from review last week - collecting notes
 - b. Trying to order FO penetrator this week
 - c. Conference call with TMT to discuss termination of the cable

Week 19

1. Rich Henthorn
 - a. Prep for Thursday PDR
2. Denis Klimov
 - a. We conducted the cable selection review where we were able to collect useful feedback. Working on the system design review this week.
3. Paul McGill
 - a. Preparing for design review on Thu morning
 - b. Have drawn most of schematic for Deepsea Connect can
4. Alana Sherman
 - a. Preparing for System review thursday

Week 18

1. Rich Henthorn
 - a. Cable review meeting
2. Paul McGill
 - a. Attended FO cable design review.
 - b. Ordered and received parts for Deep Sea Connect.
3. Alana Sherman
 - a. Prepared slides for cable review
 - b. Starting on slides for concept design review
 - c. Still looking for fiber optic connectors

Week 17

1. Rich Henthorn
 - a. Team is down-selecting cable purchase options
2. Denis Klimov
 - a. Summarizing the data on density and other parameters for the optical cable for DAS instrument; preparing for the cable selection design review
3. Paul McGill
 - a. Got replacement connector to correct mis-shipment by SubConn

Week 16

1. Paul McGill
 - a. Inventoried latest shipment from SubConn and am dealing with their mistakes
2. Alana Sherman
 - a. All cable quotes are in hand. I am still working on the quotes for FO connectors.
 - b. Scheduling design reviews

Week 15

1. Rich Henthorn
 - a. Weekly meeting
2. Alana Sherman
 - a. Starting to get in cable and connector quotes, lots of communications with vendors and team. We should be able to have a cable review in two weeks.
 - b. Got quote for glass sphere hard hats
 - c. Trying to set date for system review

Week 14

1. Denis Klimov
 - a. Ordering 'black hole' fiber optic terminators.
2. Alana Sherman
 - a. Progress! We are closing in on several quotes for the cable. We had another zoom meeting to discuss specs with Winchester (formally Falmat)
 - b. Also should have quote on another option for fiber connectors- one that is actually APC (angled physical connector)
 - c. Met with Aaron about CSEM issues with export controls in light of next years international cruise opportunities

Week 13

1. Paul McGill
 - a. Ordered all of the SubConn connectors and cable assemblies
 - b. Emailed Sintela about heat management of new DAS and they will simulate different orientations

- c. Inspected glass and Ti spheres with Aaron M and Aaron S to make sure that they'll work for us

Week 12

1. Denis Klimov
 - a. Ordering a set of "black-hole" fiber-end terminators; we also have a series of discussions about the deployment and recovery strategy
2. Paul McGill
 - a. Working on deployment strategies and options for fiber-optic cable
3. Alana Sherman
 - a. Still trying to find cables, looked into some options based on feedback after the oceanology conference
 - b. Meeting with captain andrew to discuss deployment...again

Week 11

1. Rich Henthorn
 - a. Weekly meeting
2. Alana Sherman
 - a. Collected materials for Sintela in advance on meeting this week in London
 - b. More work on cables and connectors though no resolution
 - c. Found two missing Ti spheres..finally!! One will become the electronics housing for the system

Week 10

1. Rich Henthorn
 - a. Weekly meeting
2. Paul McGill
 - a. Re-laying out electrical connectors so we can use stock cables and connectors instead of long-lead-time custom assemblies.
 - b. Getting vendor quotes for parts.
 - c. Preparing for Loding trip next week.
3. Alana Sherman
 - a. Helped Aaron on some CSEM loan agreements
 - b. Collected materials for Sintela in prep for Paul and Aaron's visit
 - c. Still working on getting quote from Birns for cable

Week 9

1. Rich Henthorn
 - a. Weekly meeting
2. Paul McGill
 - a. Designing Deep-Sea Connect for Geo-Sense
 - b. Ordering connectors

3. Alana Sherman
 - a. Spent time getting the mutual NDA form written and signed
 - b. Trying to get Birns quote for cable and connector
 - c.

Week 8

1. Paul McGill
 - a. Searched in Castroville for both glass and Ti spheres.

Week 7

1. Rich Henthorn
 - a. Prep for meeting with Sintela (DAS manufacturer)
 - b. Meeting morning of Feb 14
2. Paul McGill
 - a. Working on requirements doc
 - b. Had telecon with Sintela people in England

Week 6

1. Rich Henthorn
 - a. Weekly meeting
 - b. Prep for meeting with Sintela next Monday
2. Alana Sherman
 - a. Preparing for kickoff meeting with DAS manufacturer, also looking at housings for DAS unit, several options but each with its own issue.

Week 5

1. Alana Sherman
 - a. Got PO for instrument and batteries sent out
 - b. Working on housing and connectors next

Week 4

1. Paul McGill
 - a. Trying to figure out new connectors will fit into existing holes in Ti sphere
 - b. Setting up travel for visit to Sintela in England
2. Alana Sherman
 - a. Working on POs
 - b. Trying to figure out how to put connectors in existing sphere

Week 3

1. Paul McGill

- a. Working on system interconnects and connector selection with Alana
- 2. Alana Sherman
 - a. Worked through NRE issues with management team. Looks like we can write the PO for the DAS unit

Week 2

- 1. Rich Henthorn
 - a. Weekly meeting
- 2. Paul McGill
 - a. Attended kick-off meeting for this year.
 - b. Starting to draw system interconnect schematic.
- 3. Alana Sherman
 - a. Had weekly meeting, current tasks are:
 - i. Negotiating funds for Sintela NRE and terms of PO
 - ii. Discussion of mechanical design of cable termination on bitter end and frame
 - iii. Next step ordering batteries