

February 10, 2026

February 2026 LBNF/DUNE-US Project Update

Joshua Willhite (BSI Project Manager) and Jolie Macier (FDC Project Manager)



U.S. DEPARTMENT
of **ENERGY**

Fermi National Accelerator Laboratory is managed by
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Agenda

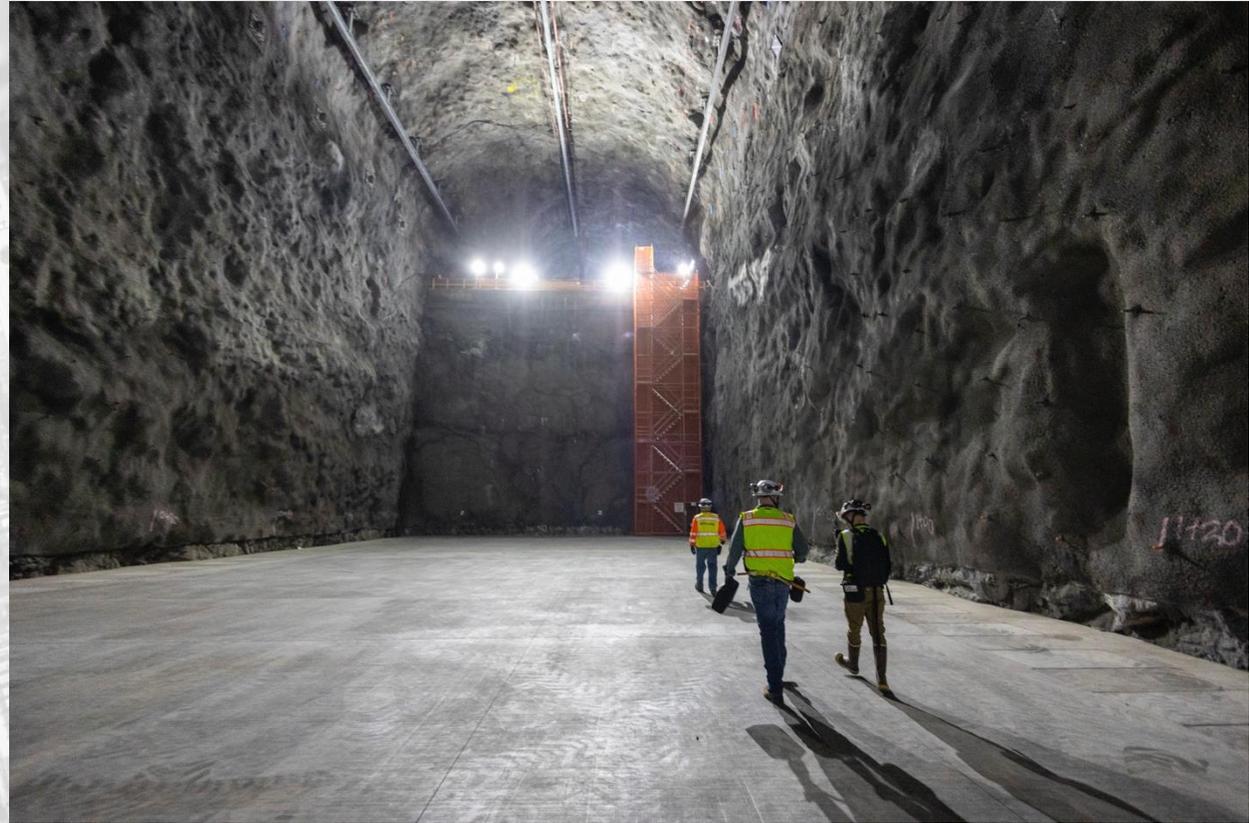
Welcome – *Zach Burton, Communications Manager*

Human resources and hiring – *Zach Burton, Communications Manager*

BSI update – *Joshua Willhite, BSI Project Manager*

FDC update – *Jolie Macier, FDC Project Manager*

Q&A



Human resources and hiring

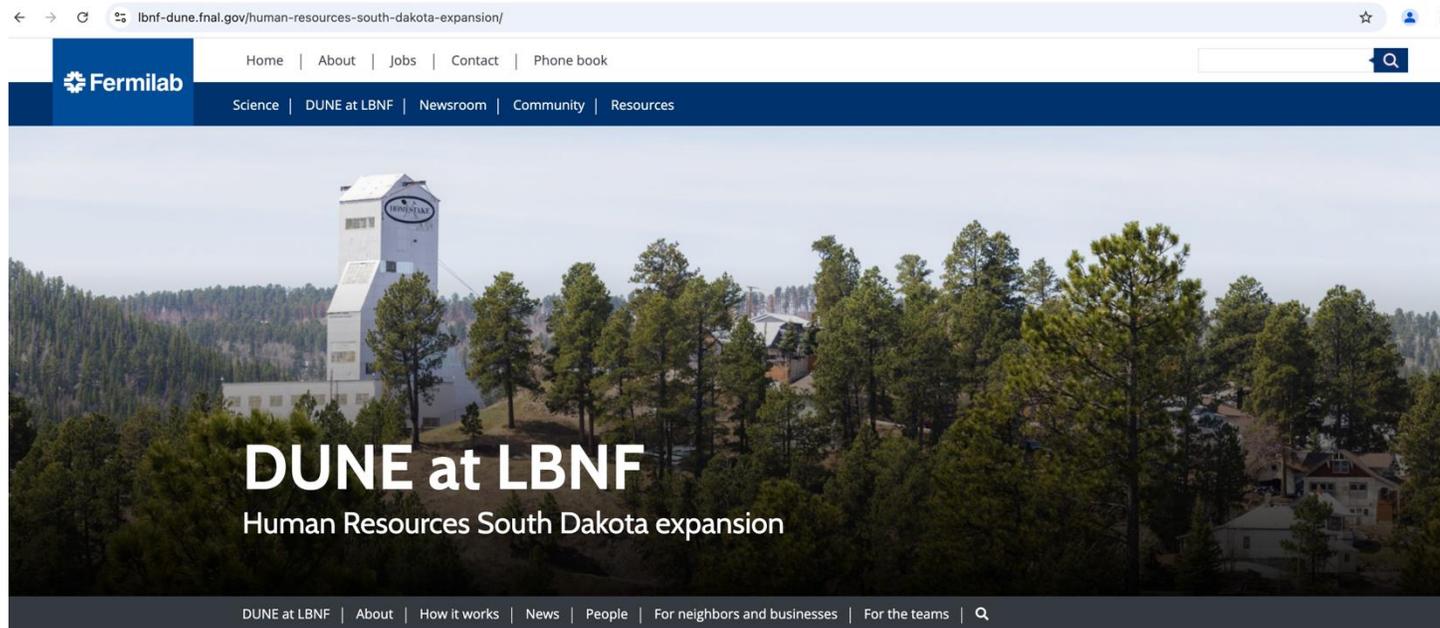
Zach Burton, Communications Manager



Current openings

- 16 open jobs
- Lots of interesting opportunities
 - Rigging technicians
 - Mechanical techs
 - 12-hour shifts with 10 days on and 10 days off; rotate days to nights every 2 months
 - Project manager
 - Electricians
 - Procurement
 - IT
 - Internships (**deadline to apply = Feb. 17**)
 - More!

Job opportunities



Work with us

Fueled by a passion for scientific discovery and innovation, we are on a mission to build a talented and collaborative team that will contribute to groundbreaking research in particle physics. Join us on this exciting journey as we seek individuals who are not just looking for a job, but an opportunity to be part of a pioneering project that explores the fundamental mysteries of the universe.

Employment: <https://lbnf-dune.fnal.gov/human-resources-south-dakota-expansion/>

Contracts: [SAM.gov](https://sam.gov)



Project update - BSI

Joshua Willhite, BSI Project Manager



Project footprint



Project overview



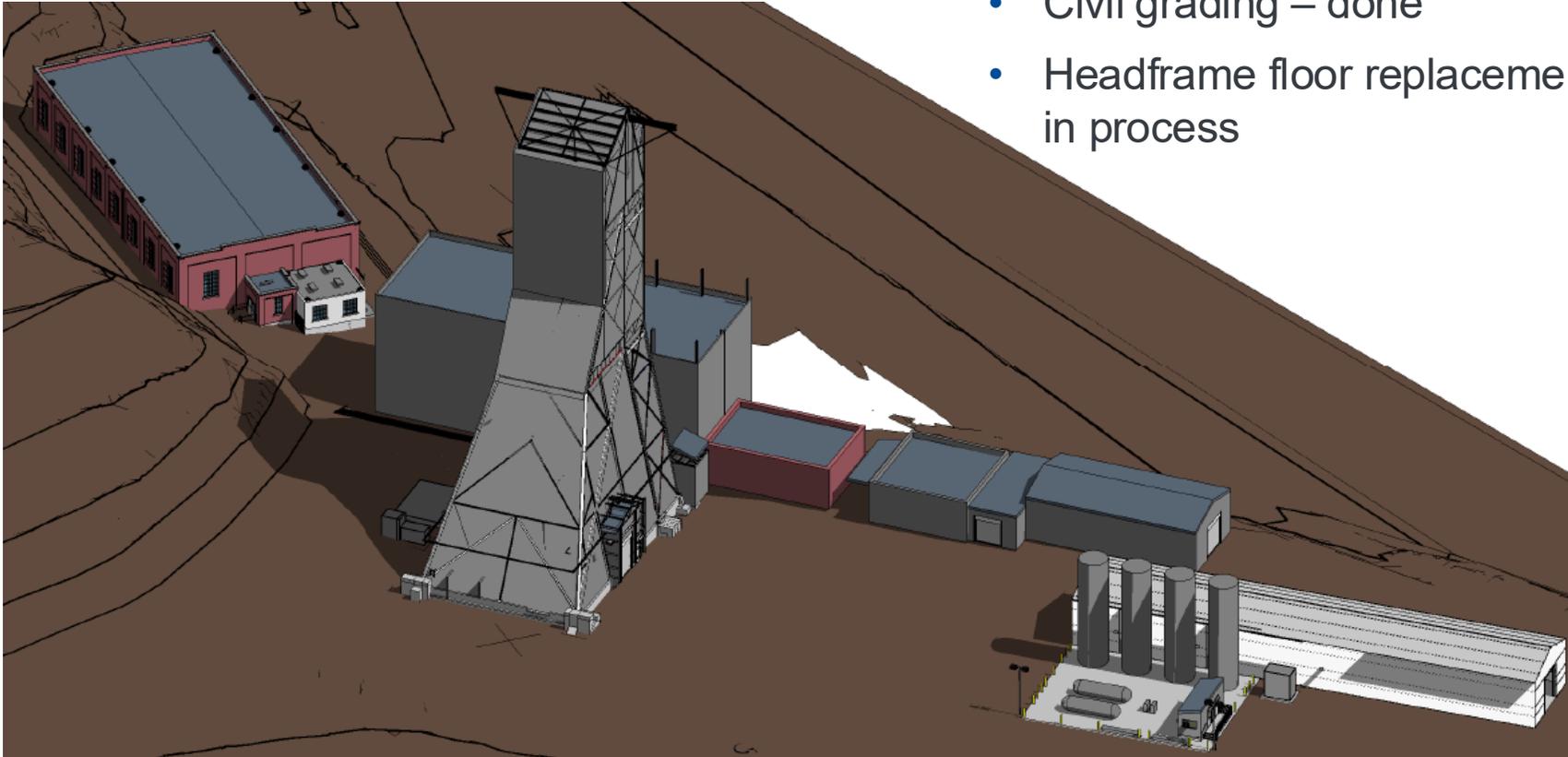


Project overview

- Infrastructure installation continuing now for (BSI phase)
 - Power, lights, fire sprinklers and detection, HVAC, etc.
- Detector parts, including steel, are being stored in Rapid City but will begin move to Lead this spring
- Expect to start cryostat construction mid-2026 (FDC phase)
 - Overlaps with BSI phase
- Construction will continue through the early 2030's
- First detector will begin taking data while second detector is still being built

BSI – Surface work

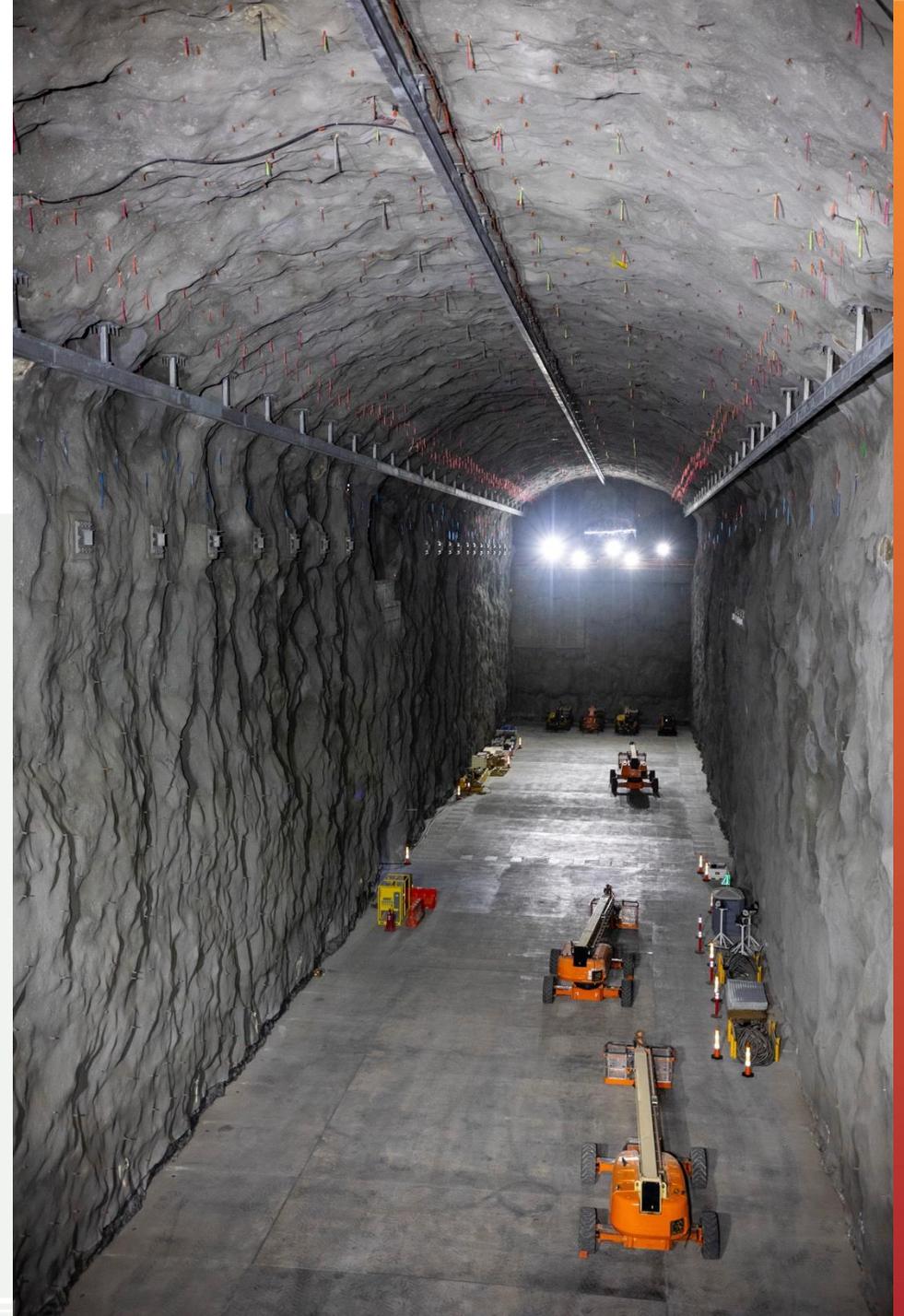
- Some remodeling in the Ross dry for offices and communications – mostly done
- Trench for argon pipe - 2027
- Preparations for argon receiving equipment – mostly done
- Civil grading – done
- Headframe floor replacement and door enlargement – in process





BSI - Underground

- Most surface work already complete, focus is underground
- Mostly regional contractor pool
- ~ 50-60 workers each shift
- Generally working 5 days/week, 2 shifts/day. Occasional Saturday day shifts as well
- Type of work being performed:
 - Civil, architectural, and structural features – nearing completion
 - Mechanical and plumbing including HVAC, chilled water and water supply
 - Electrical including normal, emergency, standby
 - Fire detection, protection and alarm – nearing completion
 - Cyberinfrastructure
 - Security
 - Argon gas pipe (incl. shaft) - 2027



BSI - Underground



BSI - Underground



BSI - Underground



BSI - Underground



BSI - Underground



BSI - Underground



BSI - Underground

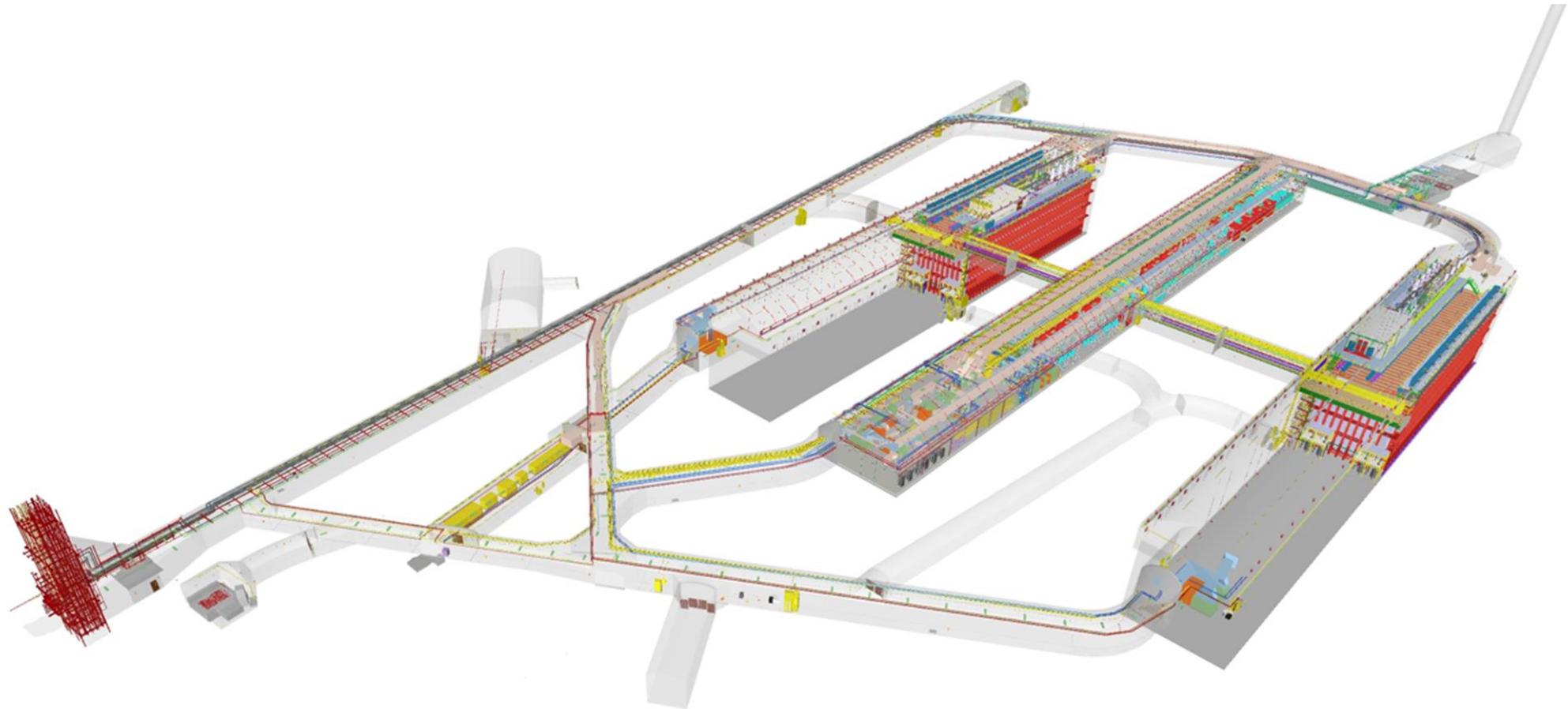


Project update - FDC

Jolie Macier, FDC Project Manager

Next phase: Far Detectors & Cryogenics (FDC)

Installs **cryostats**, **cryogenics**, two time-projection chamber **detectors**
EACH filled with 17,000 metric tons of LAr





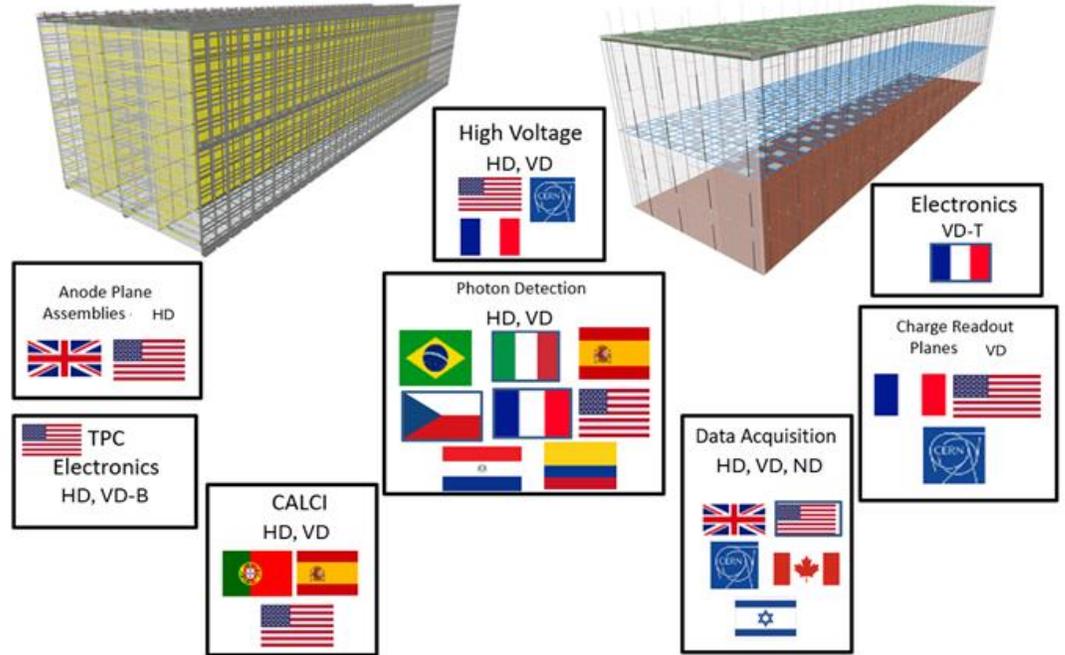
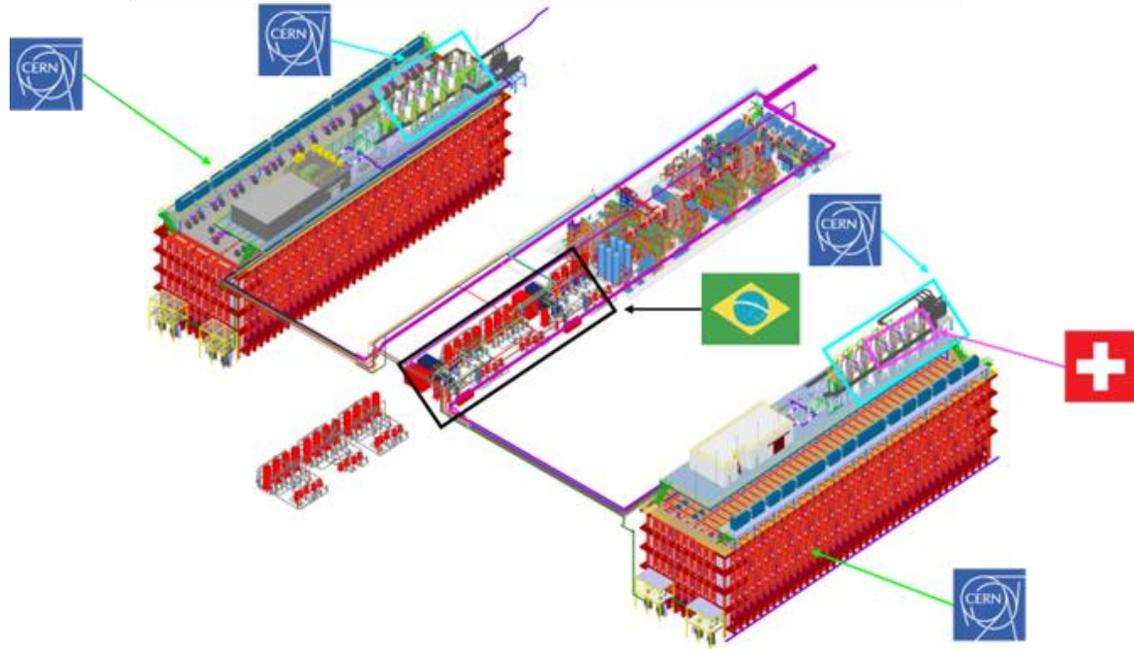
LBNF/DUNE-US project

- Excavation subproject created the underground cavern space, installs cranes, wall supports & ceiling anchors for cryogenics mezzanine
- Buildings & Site Infrastructure subproject installs all house services: electrical, ventilation, architectural, chilled water, fire protection
- Far Detector & Cryogenics subproject builds & installs cryostats, detectors & cryogenics; liquid argon filling



Anode Plane Assembly (APA) Production Facility at University of Chicago

FDC includes international partners



FDC planning for underground work



Installation Prototyping at University of Minnesota's NOvA facility in Ash River Minnesota

Prototyping precedes FDC underground activities in Lead

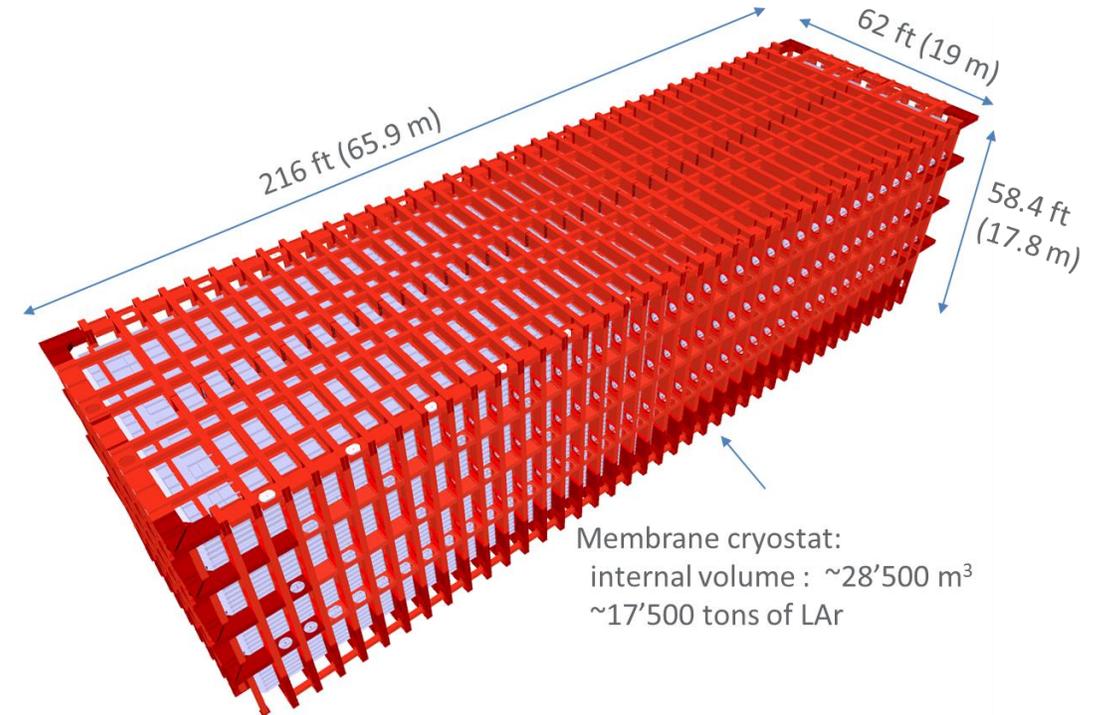


ProtoDUNE detectors (red boxes) at CERN (left); wire plane Anode Plane Assemblies in ProtoDUNE (right)

Each detector is housed in a cryostat

- CERN contribution
- Material & installation
- Two components
 - Steel
 - Insulation
- Each is 3 million pounds of steel
- 5 stories high
- Each is two basketball courts long

- CERN = European Organization for Nuclear Research, located in Geneva, Switzerland





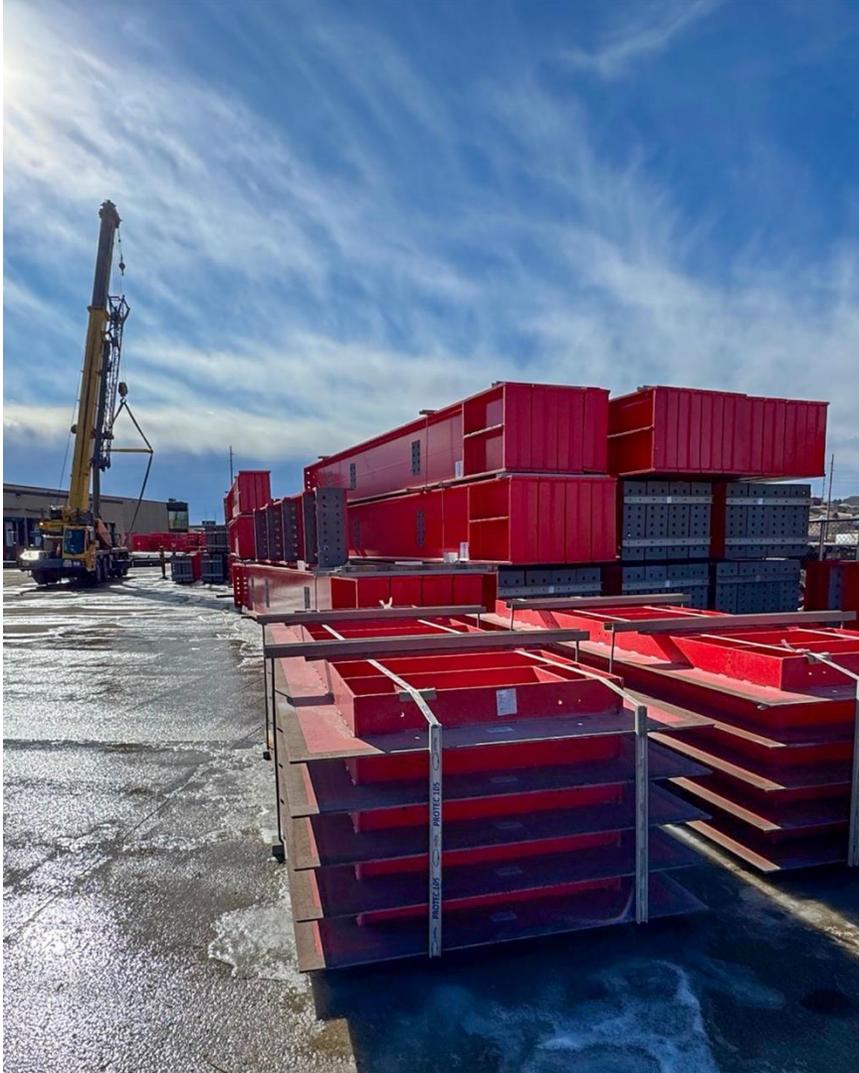
Cryostat steel fabricated in Spain (CERN contribution) and shipped to Houston



Steel arrived in Houston in early 2025



Steel is in Rapid City, awaiting transport to Lead!





Steel arrival in Lead anticipated in spring 2026

- Truck transport from Rapid City
- LBNF/DUNE truck traffic ~20 trucks per week during Excavation
- Anticipate LBNF/DUNE truck traffic during FDC at 20-25 trucks per week
 - Anticipate max 48-ft. trailers, 53-ft. proven to make transport route
- Mill St. remains main route for deliveries to SURF based upon guidance from City of Lead
- Daytime deliveries (7:00 a.m. – 5:00 p.m.)
- Leverage SURF assistance to transport steel underground



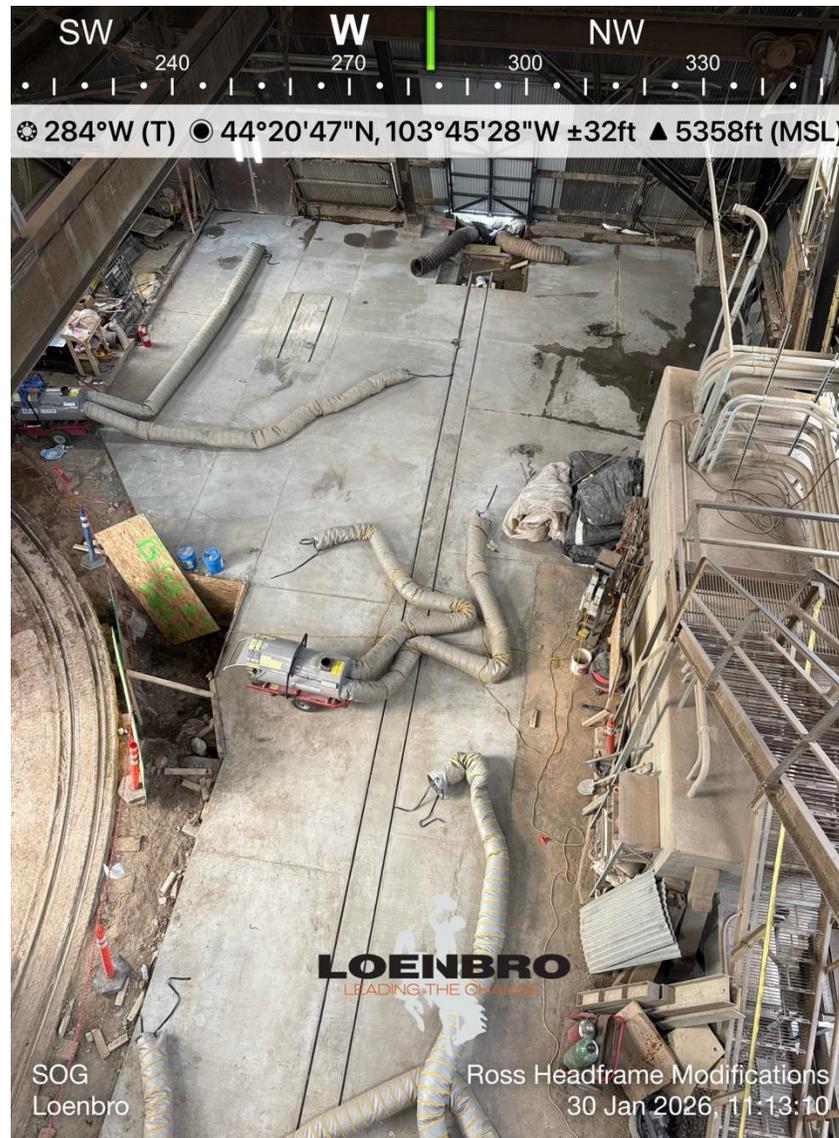
Advancing planning for cryostat installation



- Installation contract awarded in December 2025
- Contractor mobilizing
- Visited Lead in January
- Underground visit
- Planning session

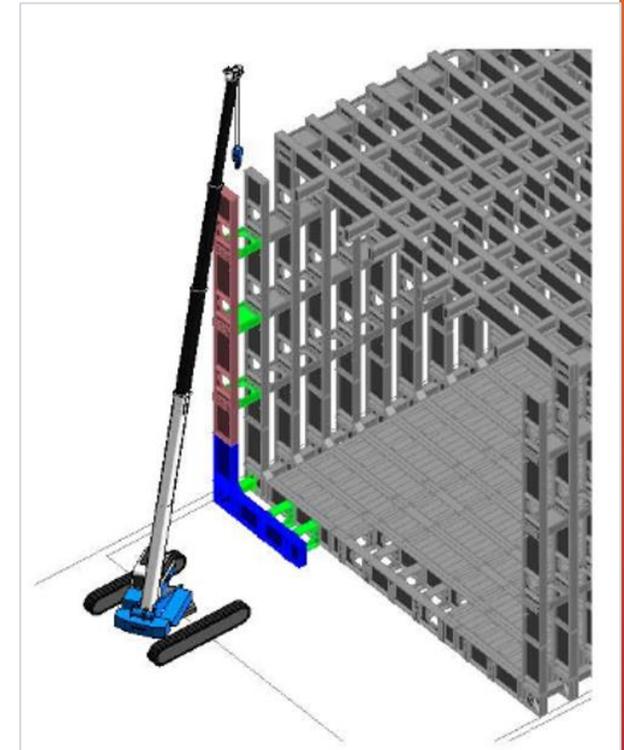
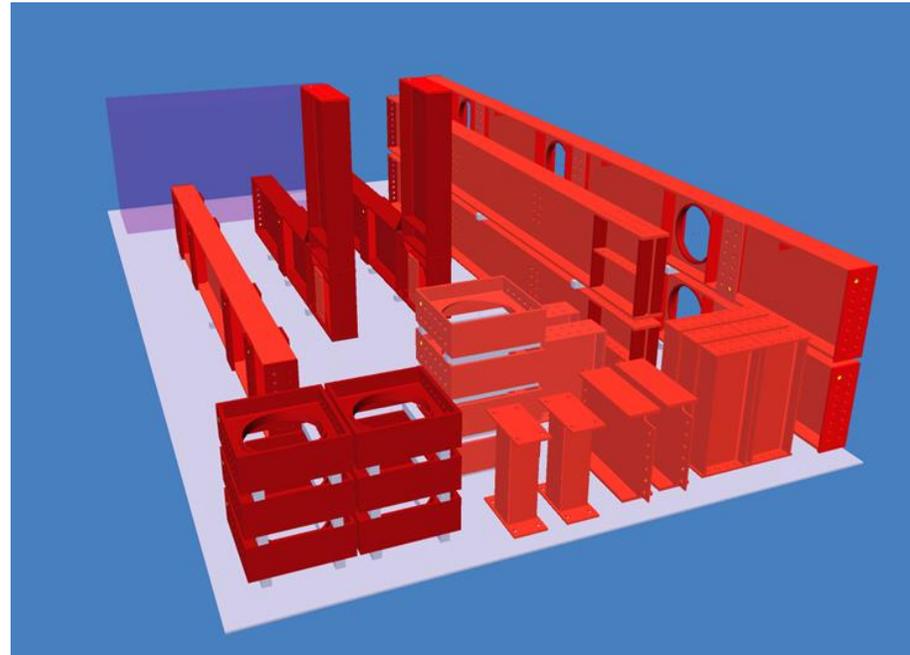
Ross Headframe modifications

- Underway now
- Replacing concrete floor
- Raise door height for safety and efficiency



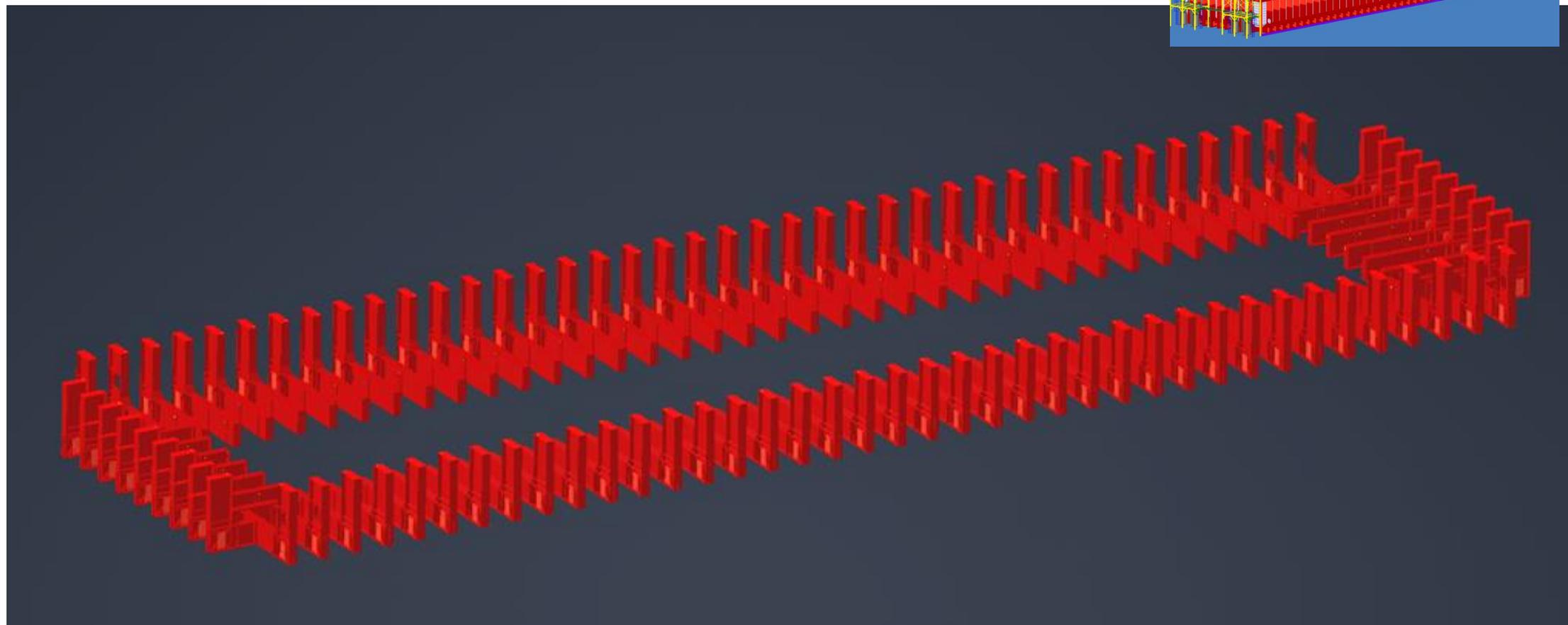
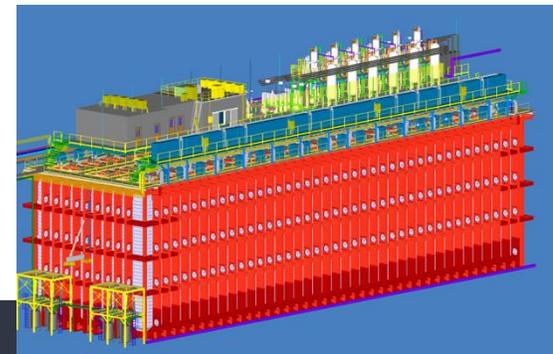
Cryostat assembly requires precise sequencing

- I-beams
- L-beams
- Connectors
- Tertiary membrane
- Plates



L-beams: Underground transport

- The two DUNE Cryostats consists of 192 L-beams





Far Detector
Production Sites



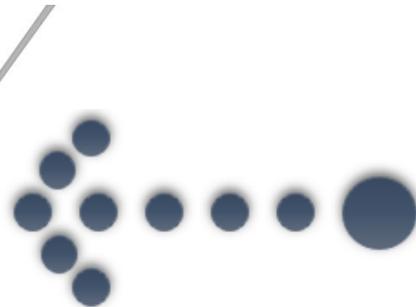
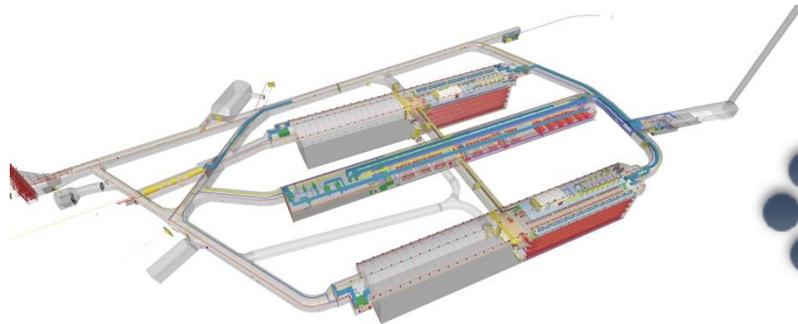
Cryogenics
Manufacturing sites



SD
Storage



Infrastructure,
consumables, supplies

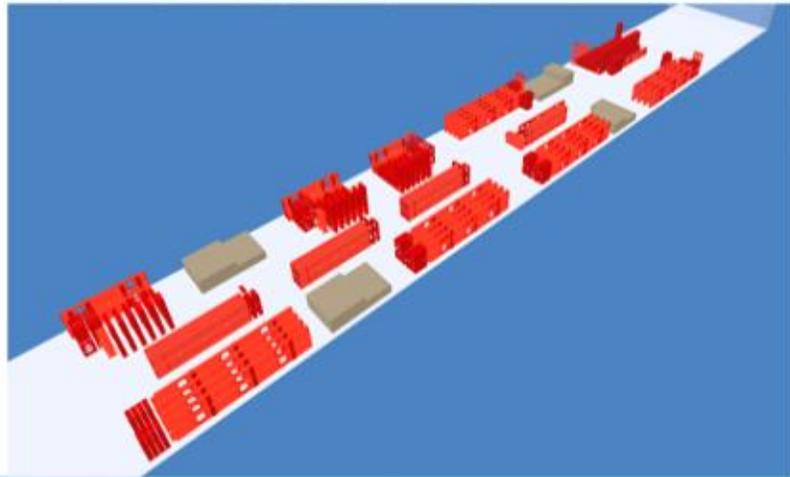
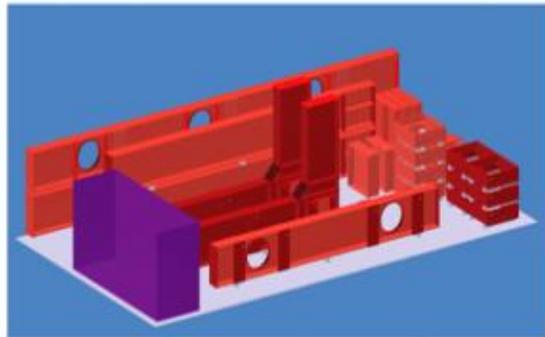
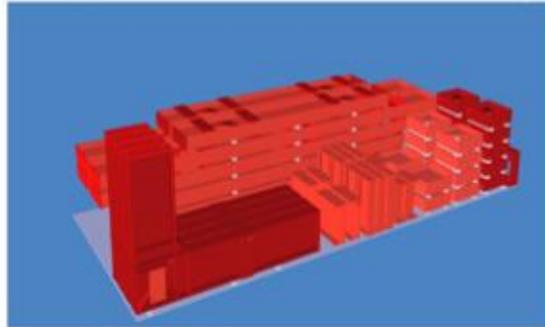


LBNF/DUNE-US - Summer interns

- Participated in SDSMT Career Fair last week
- Project is hiring three interns

Underground Steel Storage

- Goals: Model the cryostat steel to see what storage method would be most effective in the cavern.
- This allowed the team to better visualize if using a monorail would be more efficient and to understand the laydown plan that DCCI presented.
- Lessons learned: Often if you just cold call people, it is faster and allows for better communications.





Follow our journey!

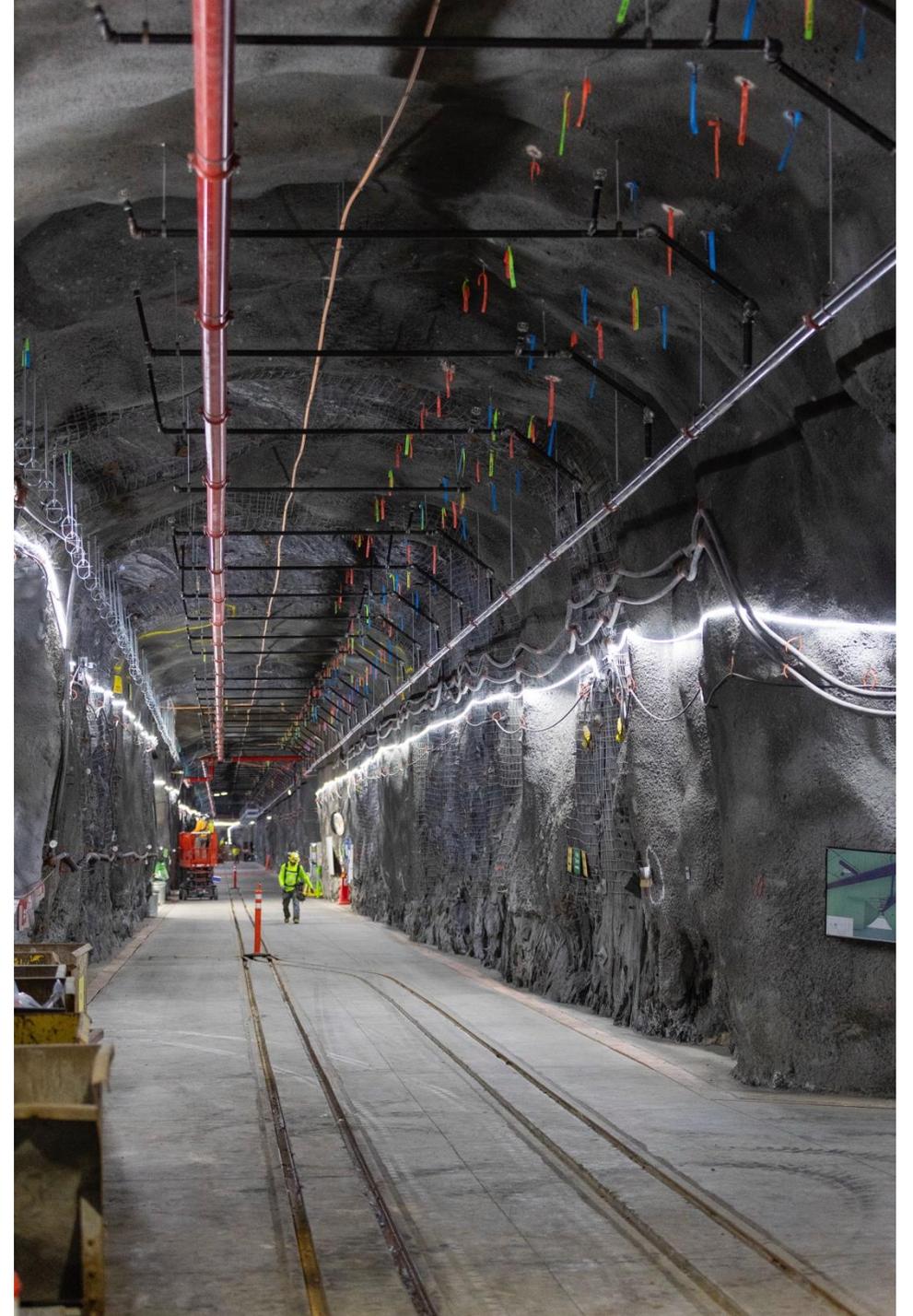
Stay informed with project updates:

LBNF/DUNE-US

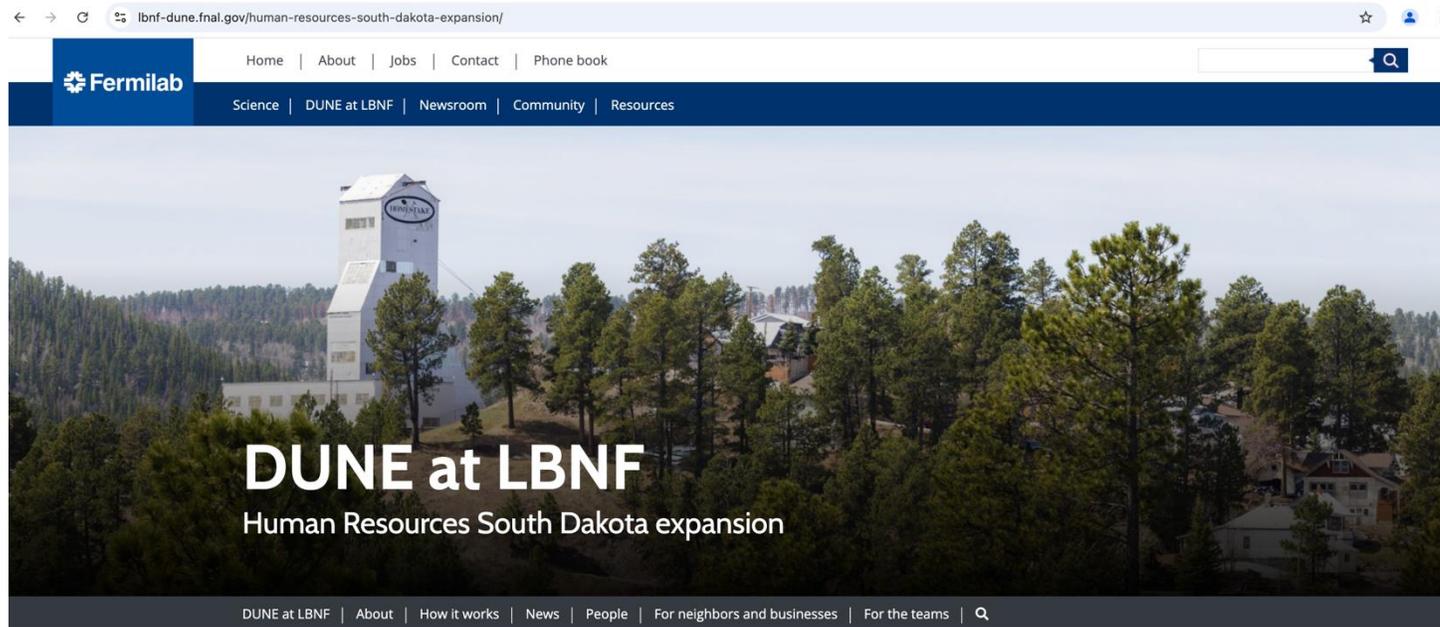
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Reminder: Job opportunities



Work with us

Fueled by a passion for scientific discovery and innovation, we are on a mission to build a talented and collaborative team that will contribute to groundbreaking research in particle physics. Join us on this exciting journey as we seek individuals who are not just looking for a job, but an opportunity to be part of a pioneering project that explores the fundamental mysteries of the universe.

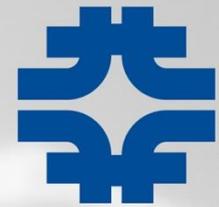
Employment: <https://lbnf-dune.fnal.gov/human-resources-south-dakota-expansion/>

Contracts: [SAM.gov](https://sam.gov)



 **Thank you!**

Q&A



Fermilab

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