**Fermilab resources needed at DAB for receiving the magnet and to assist in the installation of detectors**

# Site preparation for receiving the magnet

**When**: August/September 2024

**Resources**: 3 wks - 2 technicians

**Coordination**: ELO

**Safety**: SO

**Activities**: area cleanup, including the magnet path inside and outside DAB

**Notes**: Installation of tools, if necessary, will be handled by personnel from SAND consortium and by the company in charge of the magnet transport.

# Assistance to the installation of detectors

## ECAL

### Site preparation

**When**: January 2025

**Resources**: 3 wks - 2 technicians

**Coordination**: ELO

**Safety**: SO

**Activities**: area cleanup, assistance in the installation of special tools. Installation of scaffolding on one side of the magnet and a Lifting platform for 7 US ton and with an area of 5 x 2 m^2 on the opposite side.

**Notes**: Installation of special tools will be handled by personnel from SAND consortium.
 Special tools will be delivered by from SAND consortium.

Scaffolding and Lifting platform will be procured/rented onsite. Sharing of cost between SAND
consortium and Fermilab still to be defined.

## Preparation of test stand

**When**: December 2024 - January 2025

**Resources**: 4 wks – 1 electrical engineer

**Coordination**: ELO

**Safety**: SO

**Activities**: review of documentation and assistance in preparation of ORC

**Notes**: Equipment provided by SAND consortium.
 Installation handled by personnel from SAND consortium.

 Rack borrowed onsite.

### Assistance to ECAL installation

**When**: February - April 2025

**Resources**: 10 wks - 1 technician

**Coordination**: ELO

**Safety**: SO

**Activities**: crane operation for lifting 24 barrel modules and position them in the installation jig.

**Notes**: Installation of ECAL modules will be handled by personnel from SAND consortium.

 Scaffolding and Lifting platform will be procured/rented onsite. Sharing of cost between INFN
 and Fermilab still to be defined. Scaffolding and lifting platform will remain in place until the
 end of installation of all detectors (Sep. 2026).

## Inner tracker

### Site preparation and installation of Inner Tracker support structure

**When**: May 2025

**Resources**: 4 wks - 2 technicians

**Coordination**: ELO

**Safety**: SO

**Activities**: area cleanup, assistance (operation of the crane) in the installation of special tools and

 tracker support structure.

**Notes**: Installation of special tools and tracker support structure will be handled by personnel from

SAND consortium.

Special tools and support structure will be delivered by SAND consortium.

### Preparation of test stands

**When**: May - July 2025

**Resources**: 8 weeks – 1 electrical engineer

**Coordination**: ELO

**Safety**: SO

**Activities**: review of documentation and preparation of ORC (2 to 3 test stands)

**Notes**: Equipment provided by SAND consortium.
 Installation handled by personnel from SAND consortium.

 Racks borrowed onsite.

### Assistance to inner tracker installation

**When**: June 2025 - February 2026

**Resources**: 27 weeks - 1 technician - 2 to 3 days/week

**Coordination**: ELO

**Safety**: SO

**Activities**: crane operation for lifting and moving inner tracker modules.

**Notes**: Installation of inner tracker modules will be handled by personnel from SAND consortium.

## LAr target

### Site preparation and assistance to the installation of LAr target railing system

**When**: February 2026

**Resources**: 2 wks - 2 technicians

**Coordination**: ELO

**Safety**: SO

**Activities**: area cleanup, assistance (operation of the crane) in the installation of special tools and

 LAr target insertion railing system.

**Notes**: Installation of special tools and railing system will be handled by personnel from

SAND consortium.

Special tools and railing system will be delivered by SAND consortium.

### Preparation of test stand

**When**: February - March 2026

**Resources**: 4 weeks – 1 electrical engineer

**Coordination**: ELO

**Safety**: SO

**Activities**: review of documentation and preparation of ORC

**Notes**: Equipment provided by SAND consortium.
 Installation handled by personnel from SAND consortium.

 Rack borrowed onsite.

### Assistance to LAr target installation

**When**: April 2026

**Resources**: 2 weeks - 1 technician

**Coordination**: ELO

**Safety**: SO

**Activities**: crane operation for lifting and moving LAr target cryostat.

**Notes**: Installation of LAr target cryostat will be handled by personnel from SAND consortium.

## Move of the assembled system from DAB to DUNE-ND facility

### Site preparation and assistance to the installation of moving equipment

**When**: January February 2027

**Resources**: 6 wks - 2 technicians

**Coordination**: ELO

**Safety**: SO

**Activities**: area cleanup, assistance (operation of the crane) in the installation of special tools for lifting and moving the assembled magnet.

**Notes**: Installation of special tools and railing system will be handled by personnel from

SAND consortium.

Special tools will be delivered by SAND consortium.