

# WBS's e Responsabilità

# *Obiettivi del meeting*

Bologna, 11/10/2021  
Sergio Bertolucci

**Status di LBNF/DUNE**

**Status di DUNE-IT**

**Piano di lavoro per il 2022 (e seguenti)**

**Struttura organizzativa in DUNE-IT e in LBNF/DUNE**

1 July 2021

Conceptual Design Report

## Conceptual Design Report of the SAND detector

Abstract

This document is the Conceptual Design Report of the SAND Detector at the DUNE Near Detector complex focusing on the activities involving INFN groups.

Author	Verified by	Approved by
NU_AT_FNAL	L. Patrizii G. Sirri	S. Bertolucci

Distribution List:

- INFN CSN2 President
- Referees of NU\_AT\_FNAL

1 July 2021

Technical Design Report

## Technical Design Report of DUNE Photon Detection System

Abstract

This document is the Technical Design Report of the DUNE Photon Detection System focusing on the activities of the INFN groups.

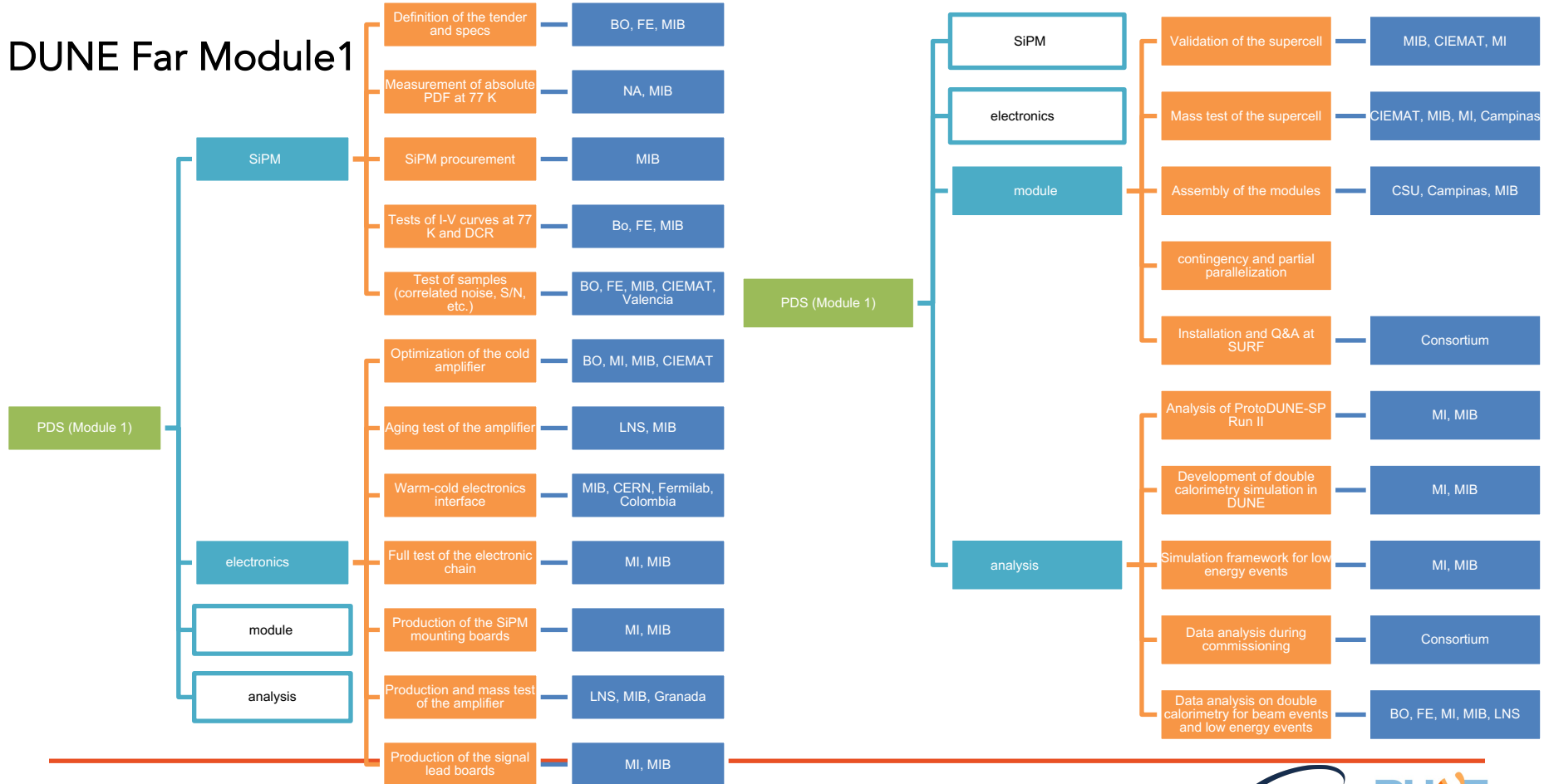
Authors	Verified by	Approved by
NU-AT-FNAL	F. Terranova A. Montanari L. Patrizii	S. Bertolucci

Distribution List:

- INFN CSN2 President
- Referees of NU-AT-FNAL

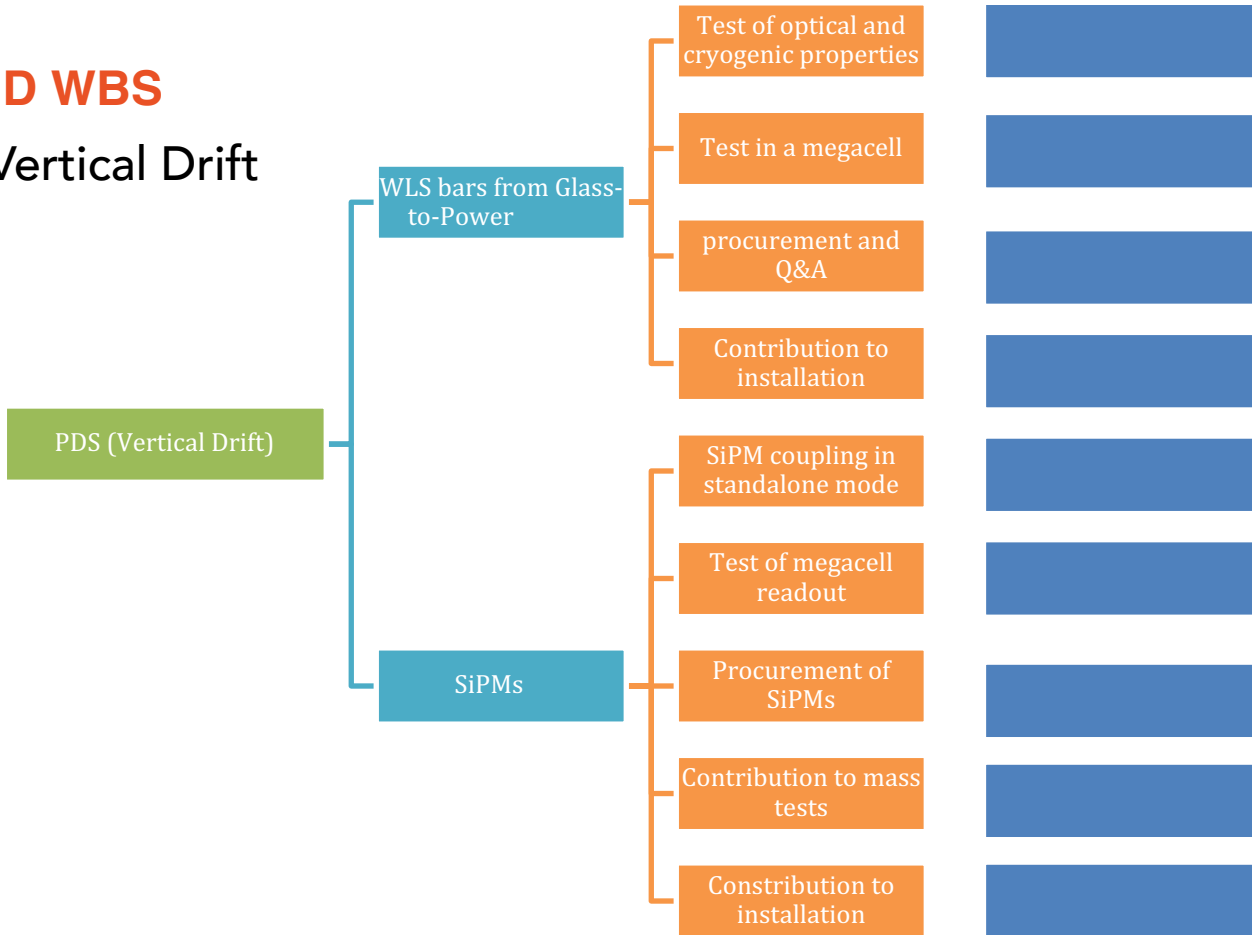
# PDS WBS

## DUNE Far Module1



# SAND WBS

## PDS Vertical Drift



# Contributo europeo

Francesco Terranova  
Meeting di DUNE Italia  
12 Nov 2021

- Abbiamo presentato il possibile contributo europeo al workshop di Luglio 2021 basandoci su quanto avevamo preparato per il CTS dell'INFN
- Items di cui siamo responsabili [100% core costs, 75% labor nel Master Plan di DUNE (P6)]:
  - Responsabilità dello sviluppo, test, procurement dei **SiPM**
  - Responsabilità dello sviluppo, test, procurement delle **barre WLS**
  - Responsabilità dello sviluppo, test, procurement dei **filtri dicroici** (possibile contributo dal Brasile)
  - Design, meccanica e produzione delle **membrane tiles**
  - Design e produzione della **warm electronics**
  - Sistema di **calibrazione** delle membrane tiles
- Item sui quali collaboriamo con gruppi US [25% labor in P6]: cold electronics, power-over-fiber, optocoupler

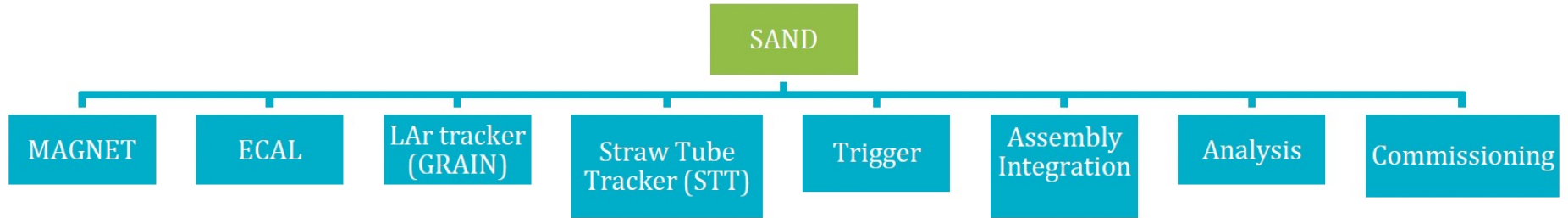
# Gruppi finora coinvolti

Francesco Terranova  
Meeting di DUNE Italia  
12 Nov 2021

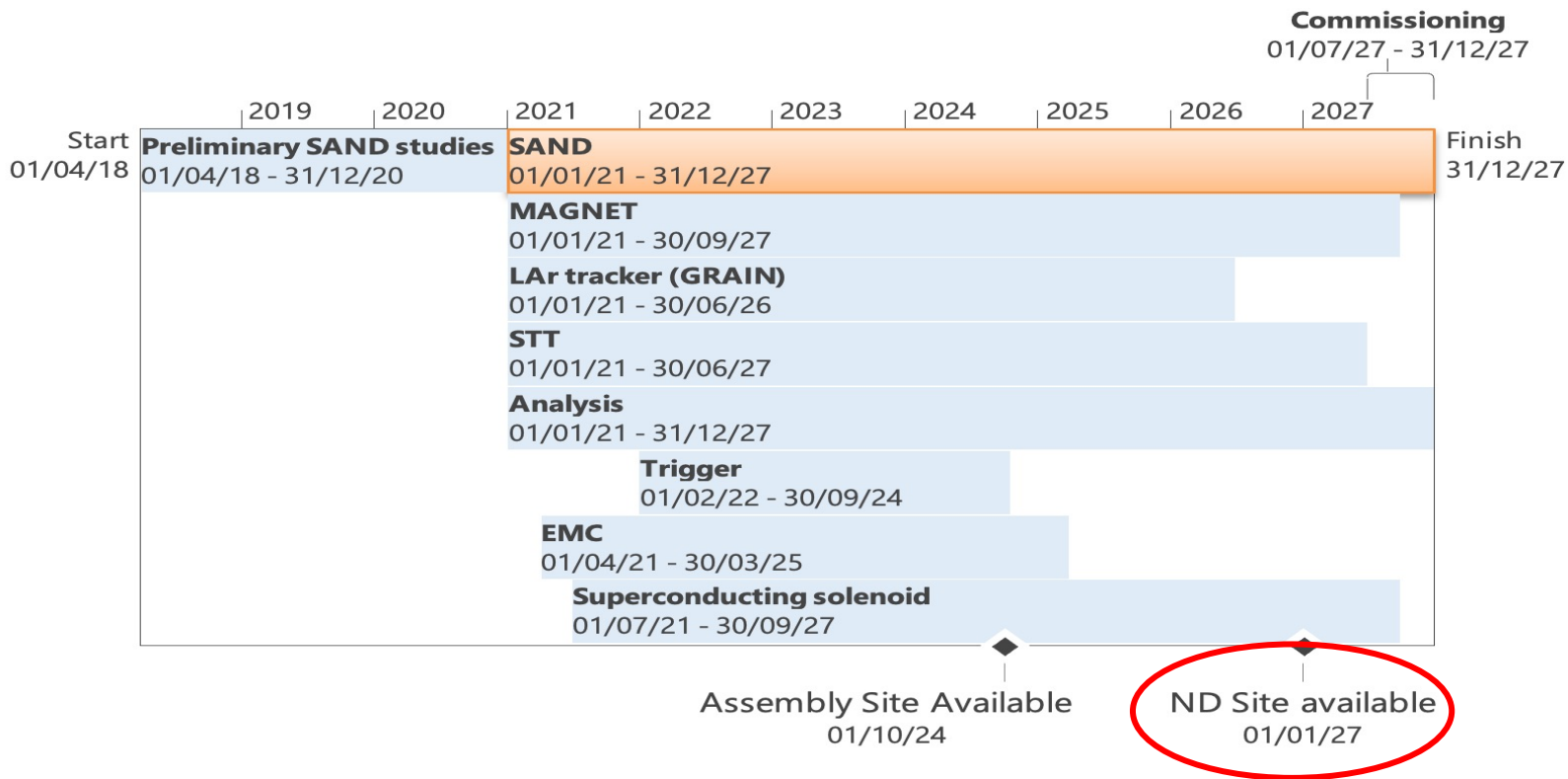
Gruppo	Attività finora	Task possibili	Note
Bologna	SiPM (+non shrinked)	SiPM, warm electronics	Da armonizzare con le attività del near detector
Ferrara	SiPM (+non shrinked)	SiPM, warm electronics	
Milano	Simulazione, Power-over-fiber	Analisi, Power-over-fiber	Interesse anche per altri item
Milano Bicocca	SiPM, cold electronics, WLS, filtri dicroici	SiPM, cold electronics, WLS, filtri dicroici	Sta crescendo il gruppo di analisi e simulazione
Napoli	SiPM	Cold box tests @CERN, warm electronics	Filtri dicroici e coupling SiPM- WLS

E' un'attività ancora in stato iniziale e che offre opportunità di aggregare nuovi gruppi, anche al di fuori di DUNE-Italia

# SAND major components

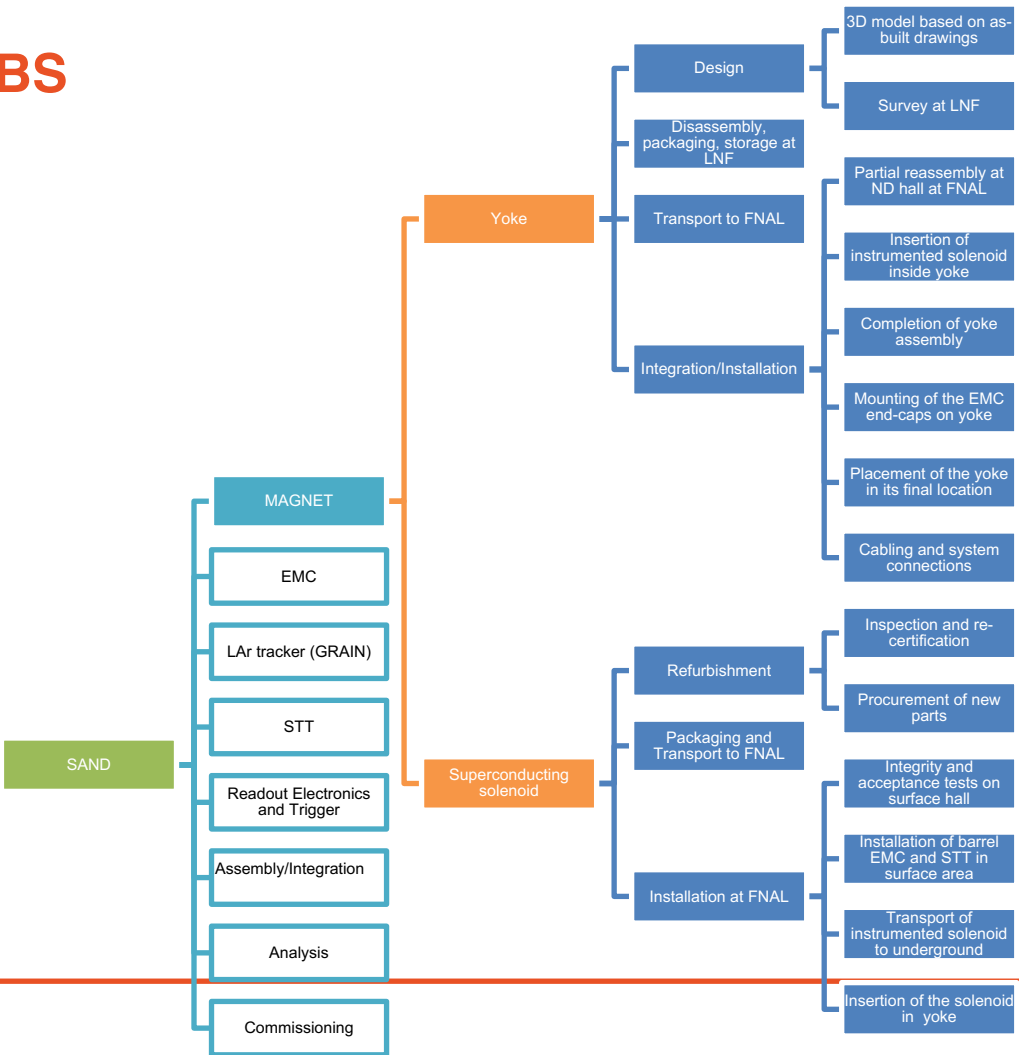






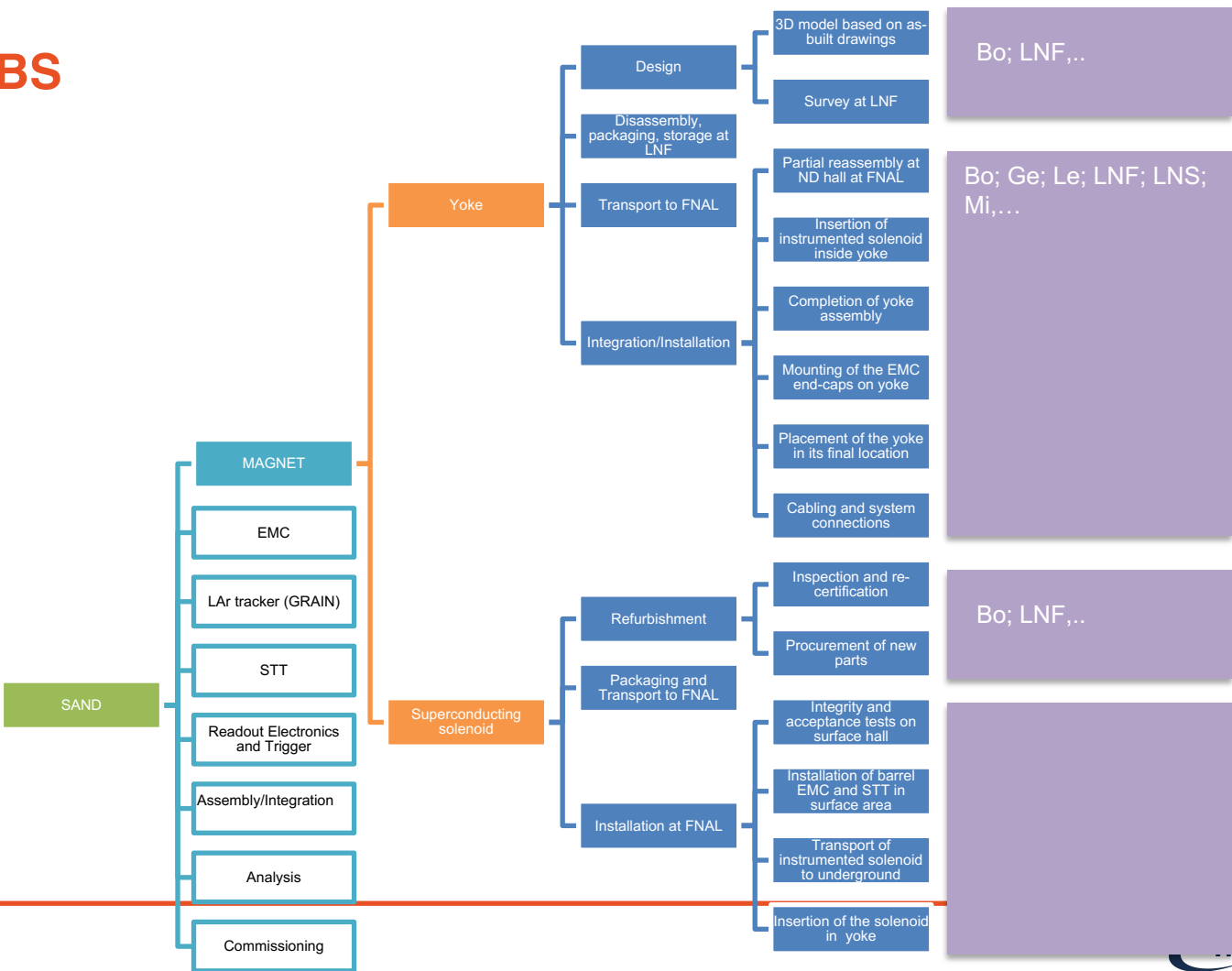
# SAND WBS

## Magnet



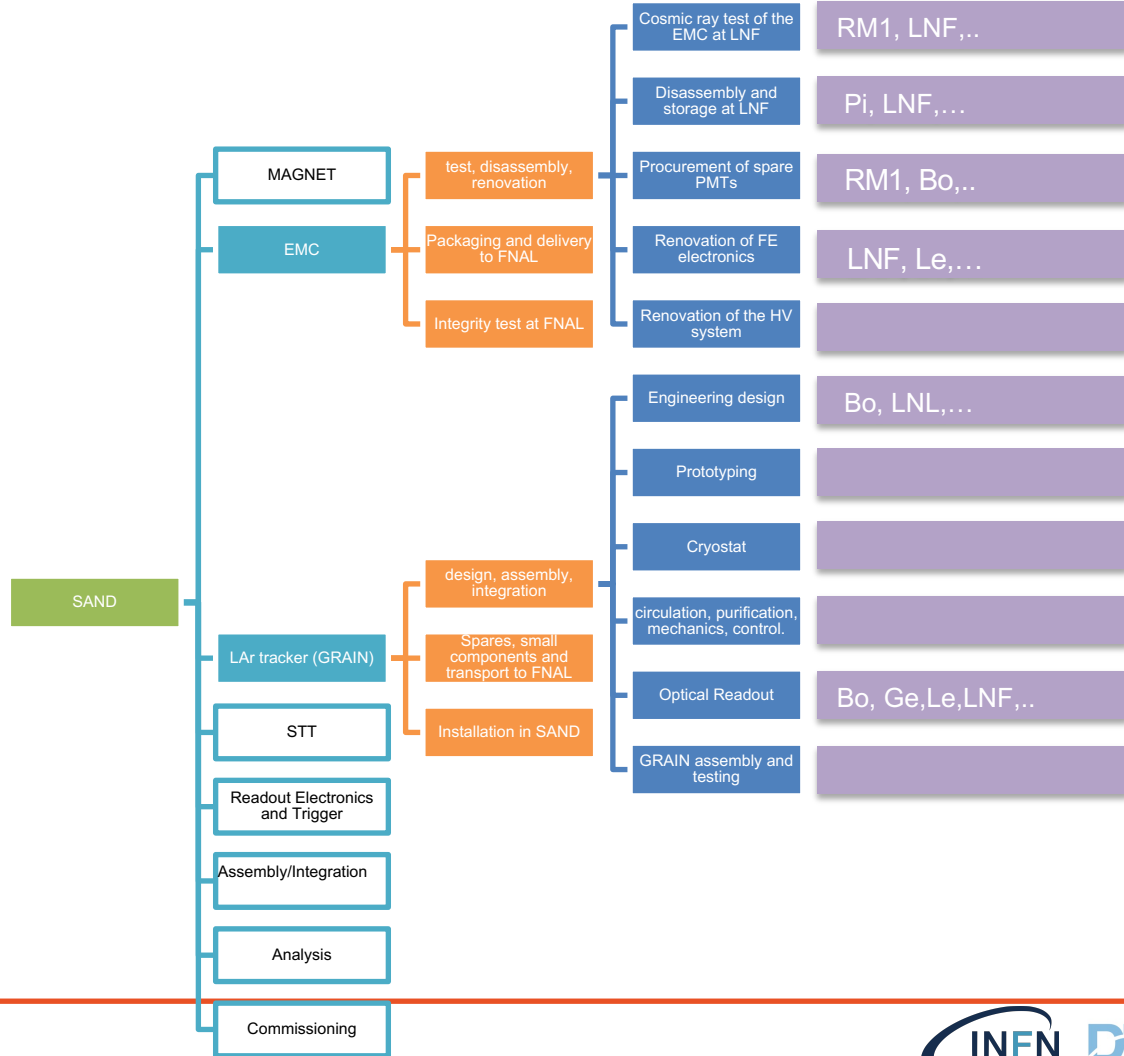
# SAND WBS

## Magnet



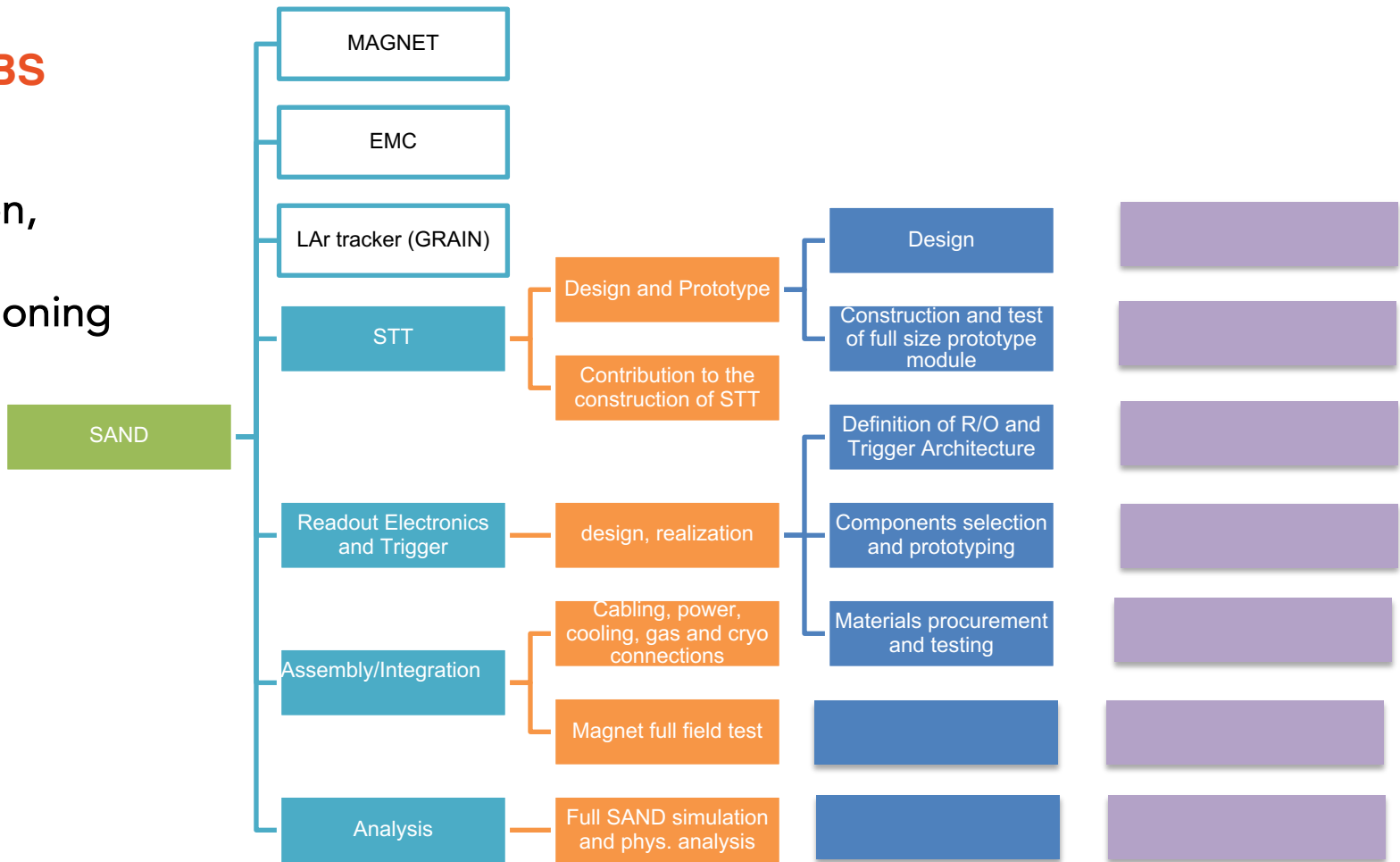
# SAND WBS

## EMC and GRAIN



# SAND WBS

STT,  
Integration,  
Analysis,  
Commissioning



✓ The following working groups can be easily identified:

- ✓ Magnet and yoke
- ✓ ECAL
- ✓ Inner Tracker (this will be split in sub-WGs)
- ✓ GRAIN
- ✓ Muon chambers (decision making process)
- ✓ Slow controls (reference persons)
- ✓ DAQ, trigger and Beam interface (reference persons)

Design & prototyping

Design & prototyping

- ✓ Straw tubes and targets construction
- ✓ Readout electronics
- ✓ Gas system
- ✓ Support structure, mechanics and alignments

**Additional working groups can be defined, according to specific needs.**

✓ The following interfaces are also required:

- ✓ Electrical equipment
- ✓ Installation & Integration (logistic)
- ✓ Cryogenics (interface)
- ✓ Safety
- ✓ Data Management and Computing (shared with Software and Analysis Board)

✓ Also **very** important:

- ✓ Documents collection, organization and distribution



