

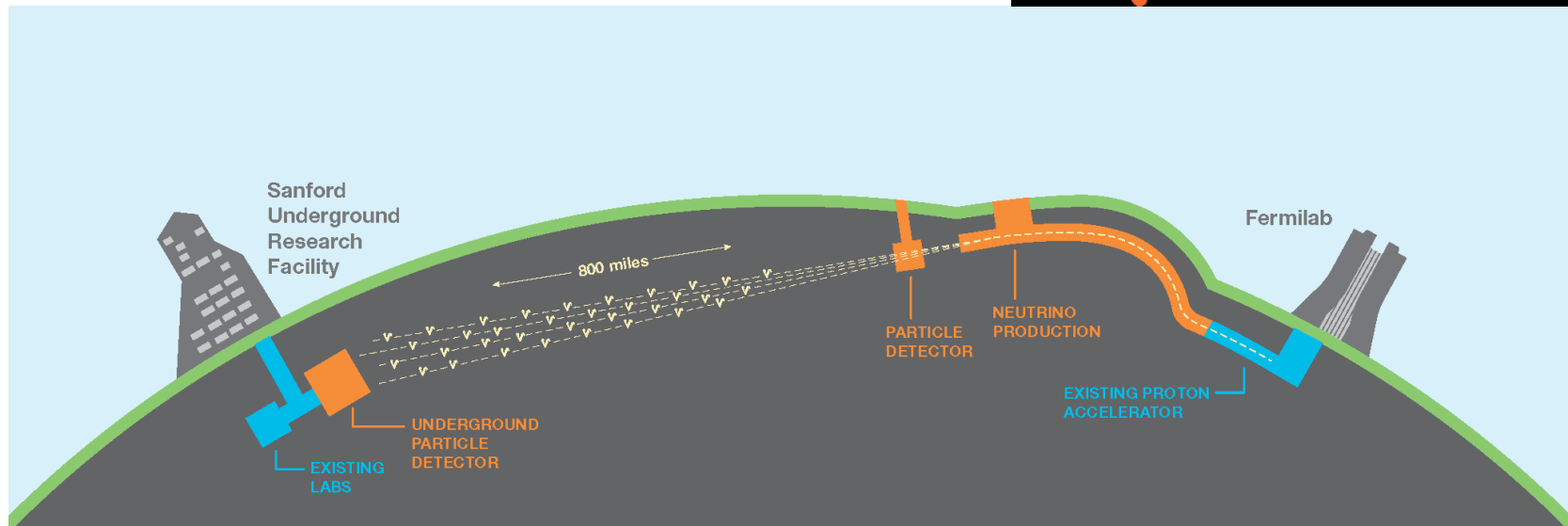
Towards the DUNE Far Detector Construction

How people can get involved, areas of development/R&D beyond ProtoDUNE program, timescales etc.


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The aim is to build a competitive international experiment DUNE

- The Beam Line
- The Near Detector
- Sanford Laboratory infrastructure
- The Far Detector 

*Mass Hierarchy, CP Violation
Nucleon Decay, Astrophysics*

International cooperation

competition



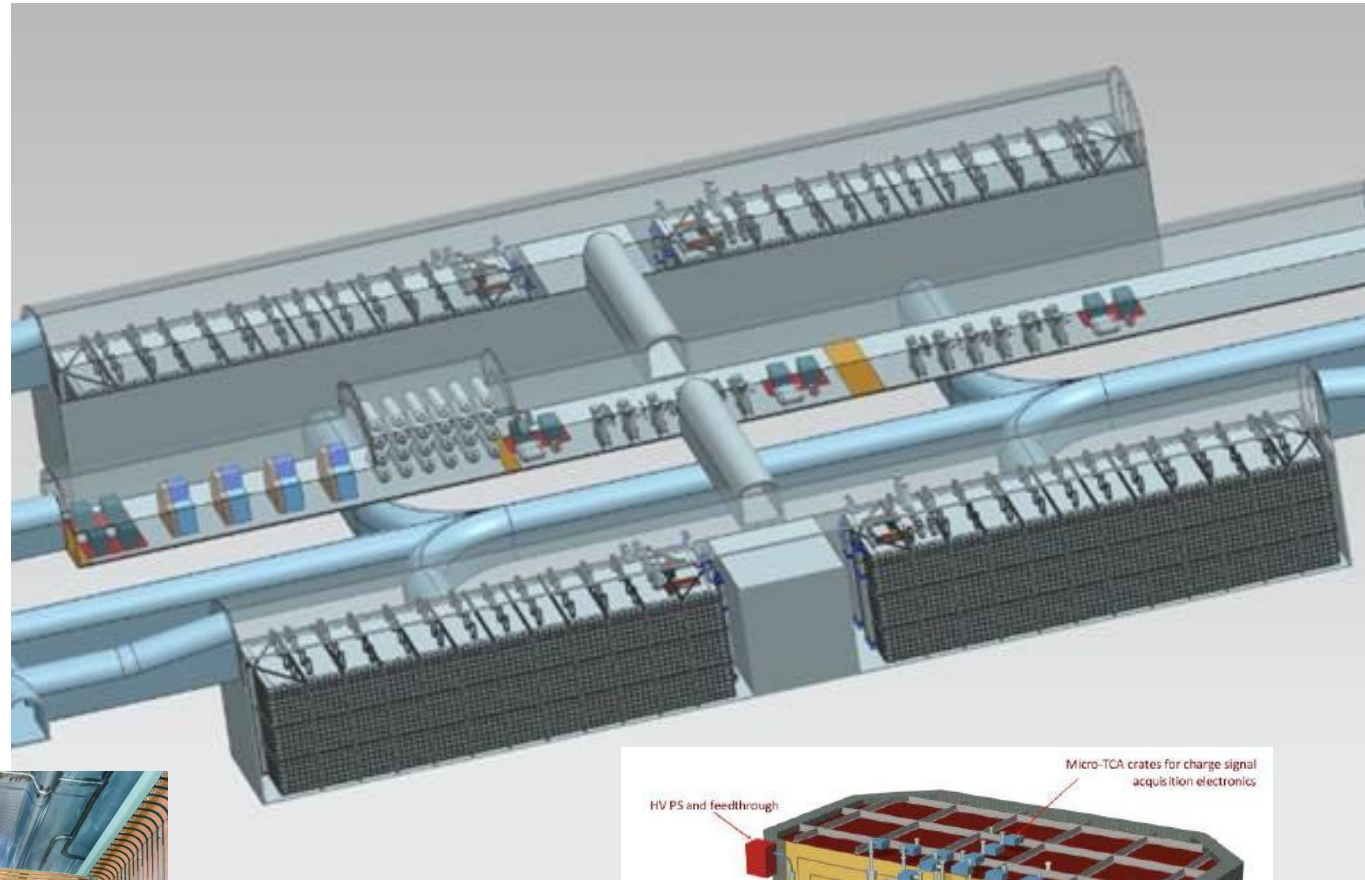
- Aim to build a real international partnership
- Organizational structure, decisions making process, international practices while responding to national requirements
- Create a Collaboration spirit and partnership
 - The physics output is the main motivation

The Far Detector

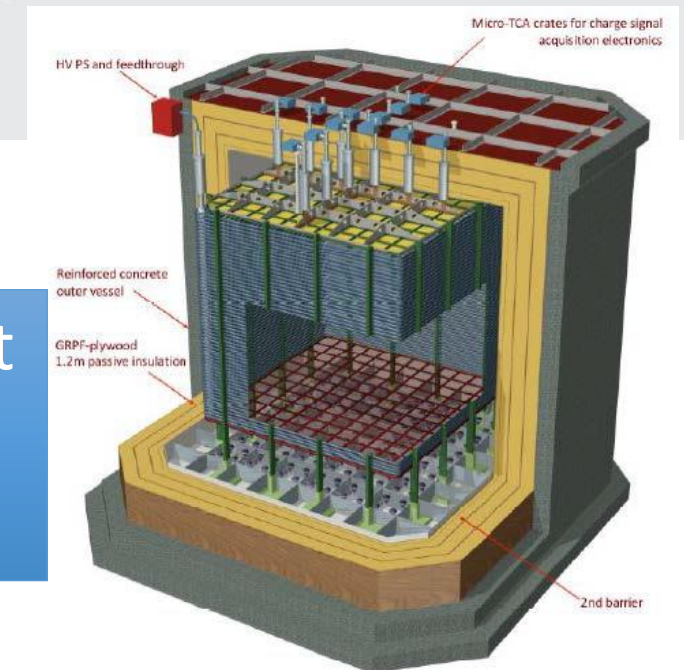
4 x 10Kt detectors
2 technologies today
DUNE *SP/DP*

Two sub-systems for
the same Far
Detector

Aiming for two
proposals
for a FD-TDR



Need 2x10Kt
to be
competitive

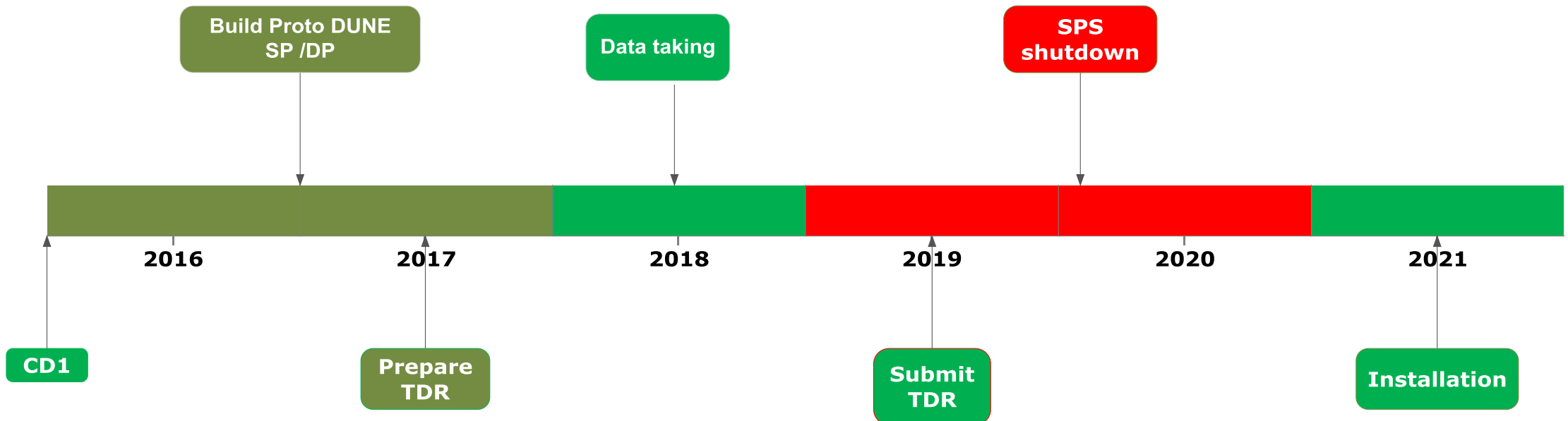
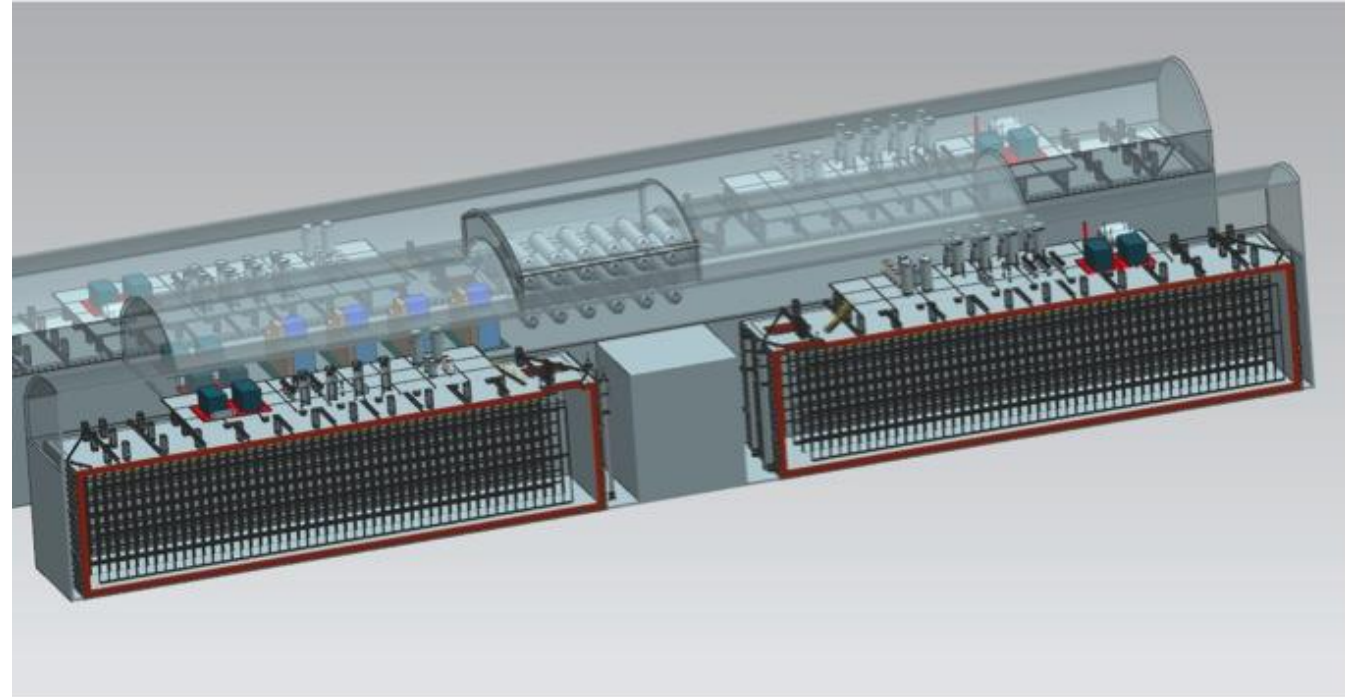


Path to the proposals

- Assess performances, construction, installation, operation
- Gather a reliable community able to build it
- Secure funds and partnerships

Requisites

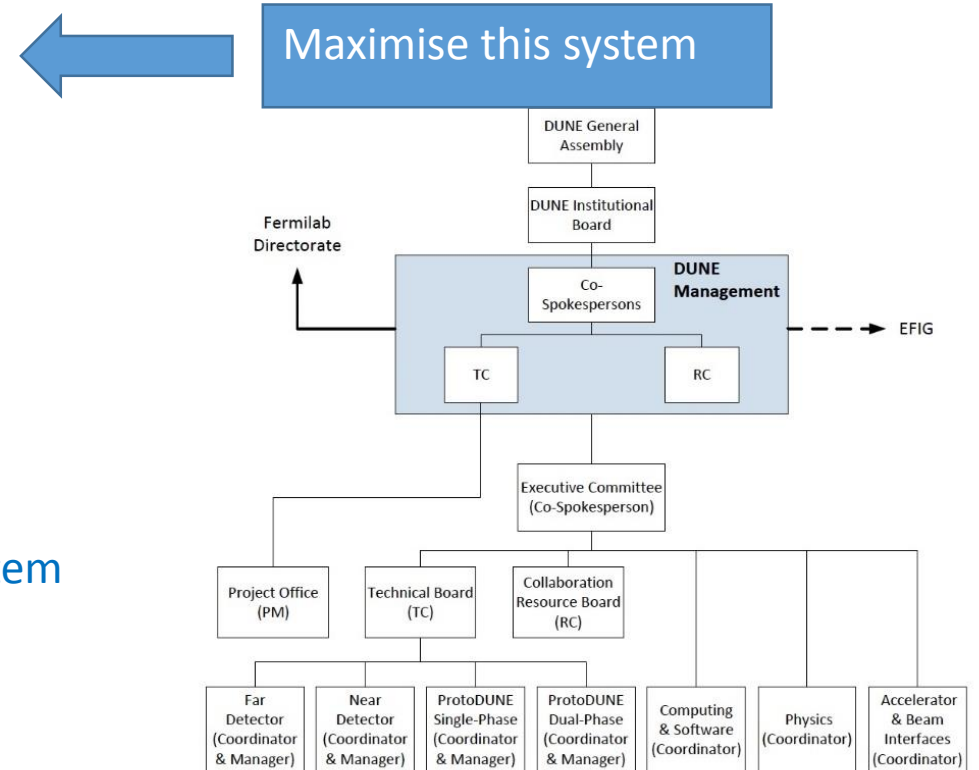
- *Proto DUNE detectors as close as possible to the final design*
- *Need the R&D results to complete TDR for the Far Detector*
- *ONE data taking window at CERN SPS: 2018*



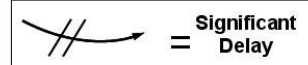
➤ We have in place the structure aiming to build the DUNE-FD which will have to handle the TDR

➤ Needs stronger community and organization

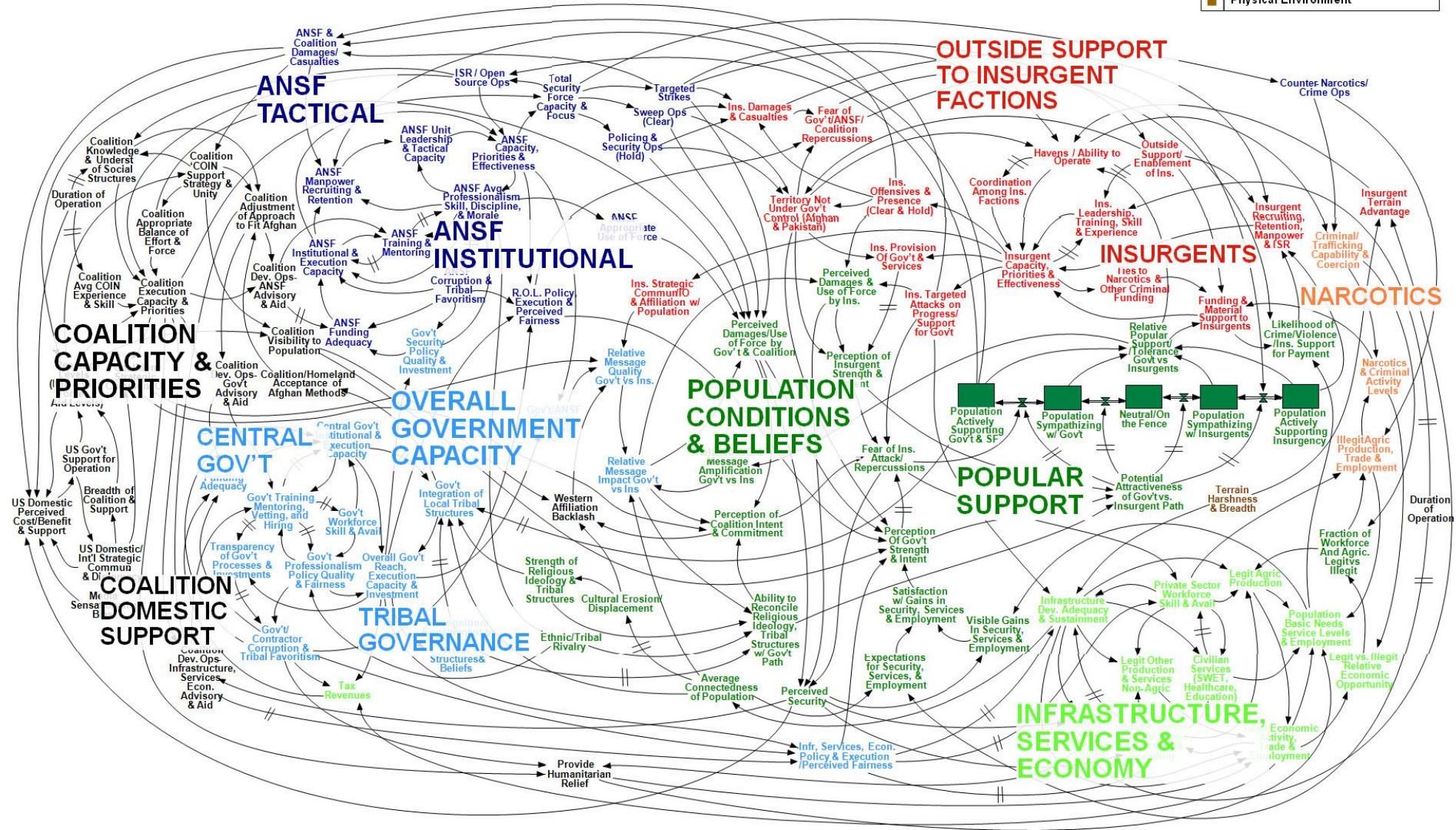
- Sub-divide to work packages or sub-systems specific to each proposal
 - Mechanical Layout
 - Charged particle detection
 - Light Collection
 - Drift
 -
- Identify all common packages and create a 'Root' sub-system
 - Infrastructure (cryostat, cryogenics, in situ facilities,...)
 - Far end electronics
 - Slow control
 - HV and LV
 - DAQ
 - Monitoring
 - Computing
 -
- Create a management structure close to an ATLAS/CMS sub-system



Afghanistan Stability / COIN Dynamics



- Population/Popular Support
- Infrastructure, Economy, & Services
- Government
- Afghanistan Security Forces
- Insurgents
- Crime and Narcotics
- Coalition Forces & Actions
- Physical Environment



WORKING DRAFT - V3

From now to 2019

- Prepare for TDR submission
 - Consolidate / write proposals
 - Internally Evaluate and review the R&D programs (SP/DP)
 - Design and Readiness reviews
 - Status reports
 - Analysis results
 -
 - Define decision process to proceed with proposals
 - Criteria

Year 2019

- TDR evaluation by an external committee
 - Physics performances
 - Technical
 - Manpower
 - Cost
 - Risks

Year 2021 Start Installation and 2026 Bean ON