

# Introduction to the Workshop

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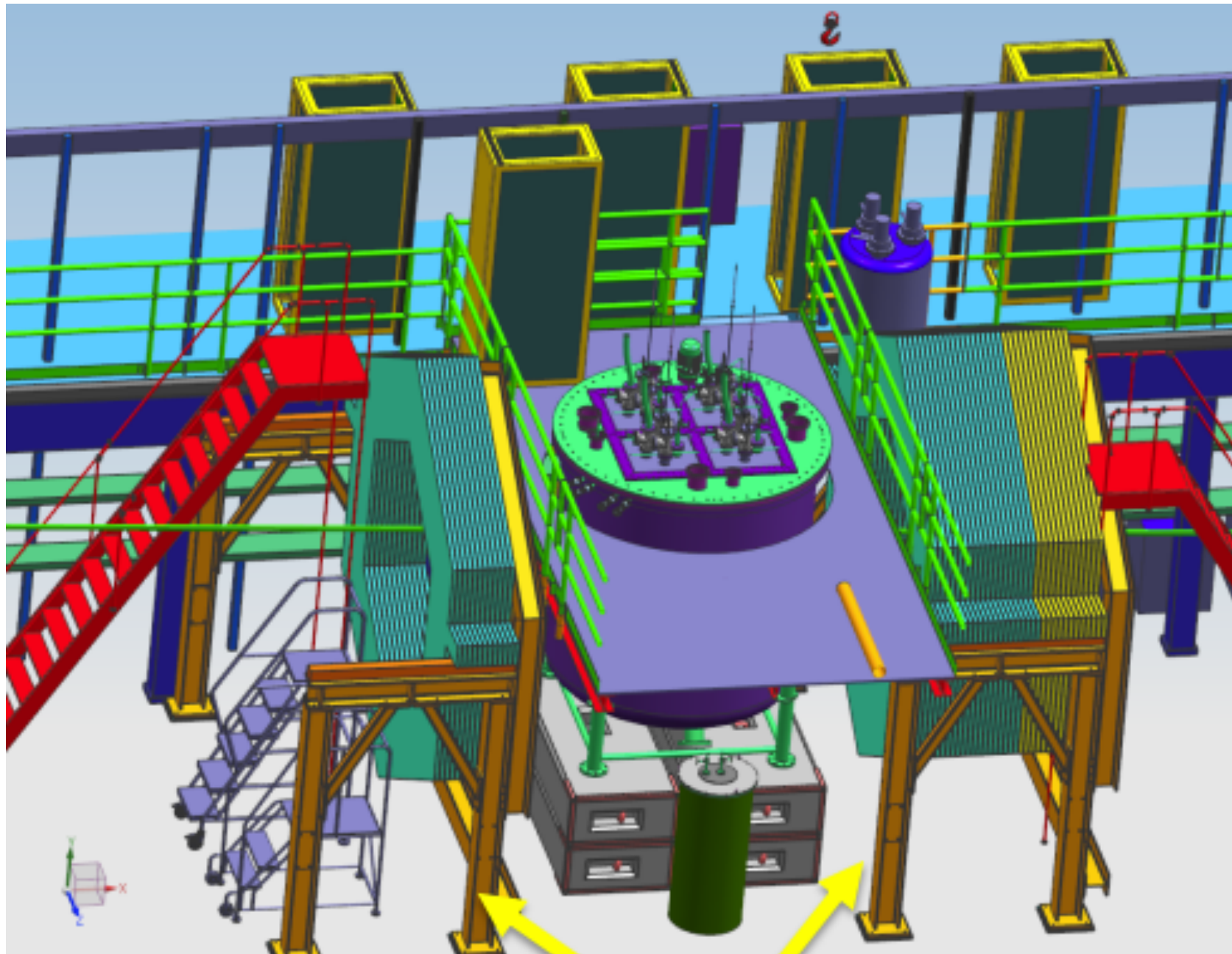
*2x2 Analysis Workshop*

University of Bern, January 2023



# Welcome!

- Welcome to the 2x2 analysis workshop:



The 2x2:

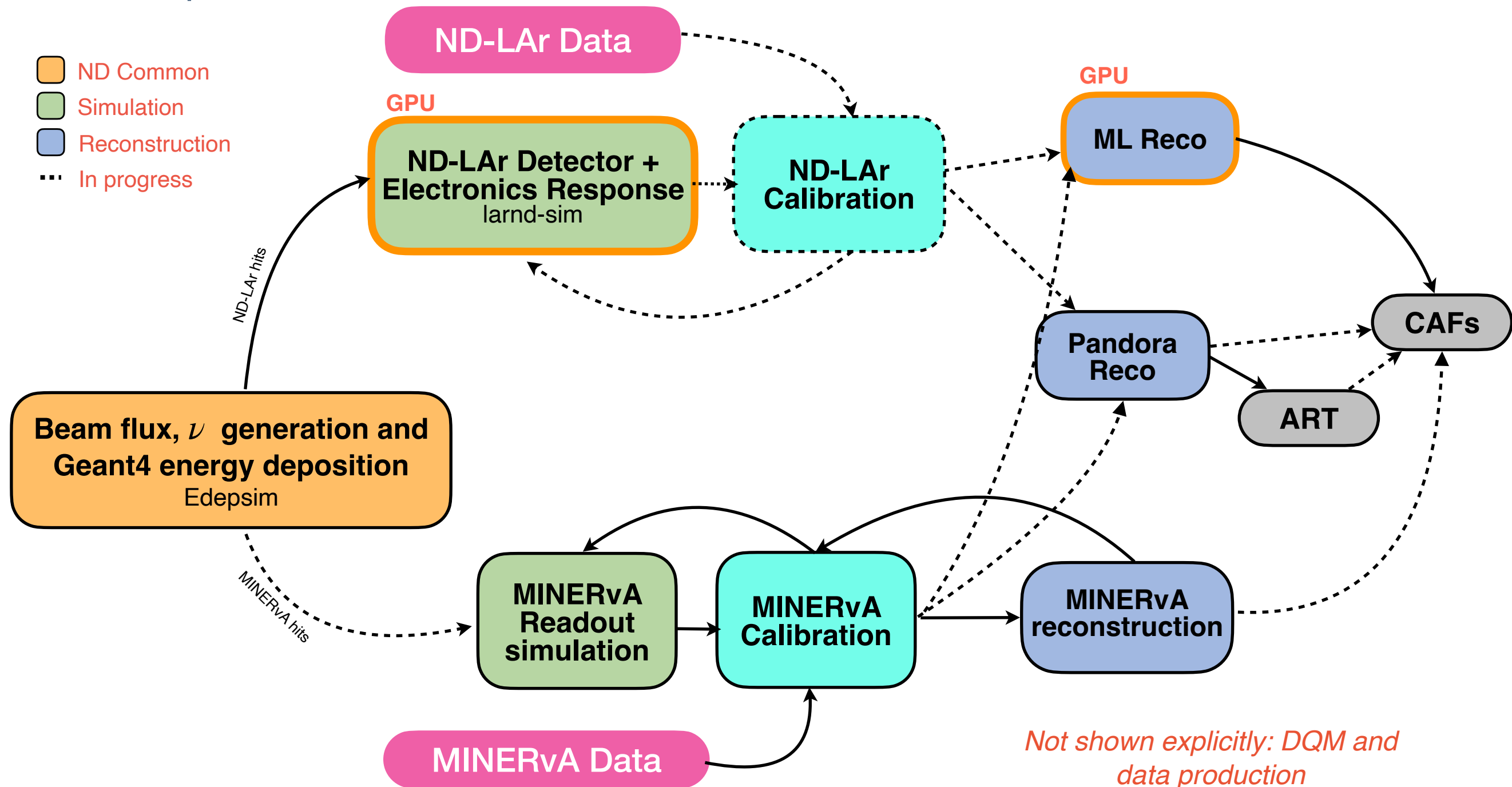
- Four ND-LAr prototype modules in a single cryostat
- A forwards & backwards tracker made of repurposed MINERvA modules
- Exposed to the NuMI beam at Fermilab

# Goals

- The 2x2 offers unique opportunities, both from the detector technology and physics points of view:
  - Innovative LAr technology
  - High-intensity neutrino data
  - (Hopefully) long running span
- But also unique challenges:
  - Two detector systems with very different software & DAQ architecture
  - Big project in an even bigger experiment
  - Pressing timeline!
- Main goals of the workshop:
  - Review the status of the hardware and the timeline
  - Have a preliminary exploration of the physics potential of the 2x2
  - But most importantly: accelerate progress towards getting our analysis infrastructure ready!

# The 2x2 Software Chain: Vision and Status

- We are constructing a complex ecosystem with many interfaces and interdependencies





# Workshop Agenda


- Rough plan for the next three days:

## Day 1

 Welcome


 Status of Installation

 Calibration

 Physics Reach

## Day 2

 LAr Reconstruction

 Production, Data Management  
and Data Quality Monitoring

 MINERvA Software

## Day 3

 Lab Tour

 CAFs

 Closing

- Detailed agenda available in <https://indico.fnal.gov/event/57076/>
- Extra time has been budgeted for each session
  - Want to leave plenty of time for discussion and possibly even working time
- DAQ to be covered in special ND-LAr + DAQ session on Wed Jan 25 at CERN