



FOOT calorimeter

Status Report

Crystals
SiPMs
Readout
DAQ
Mechanics
Plans

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BGO crystals

- **Crystal size mapping: completed**
- **Crystal painting vs. wrapping, coupling**
 - **TYVEK wrapping**
 - **SiPM coupling: tested in Feb2020**
- **4 Crystals coupled to this slice of fast scintillator in front**
- **2021 Plan**
- ✓ **Crystals wrapping and coupling at CERN**

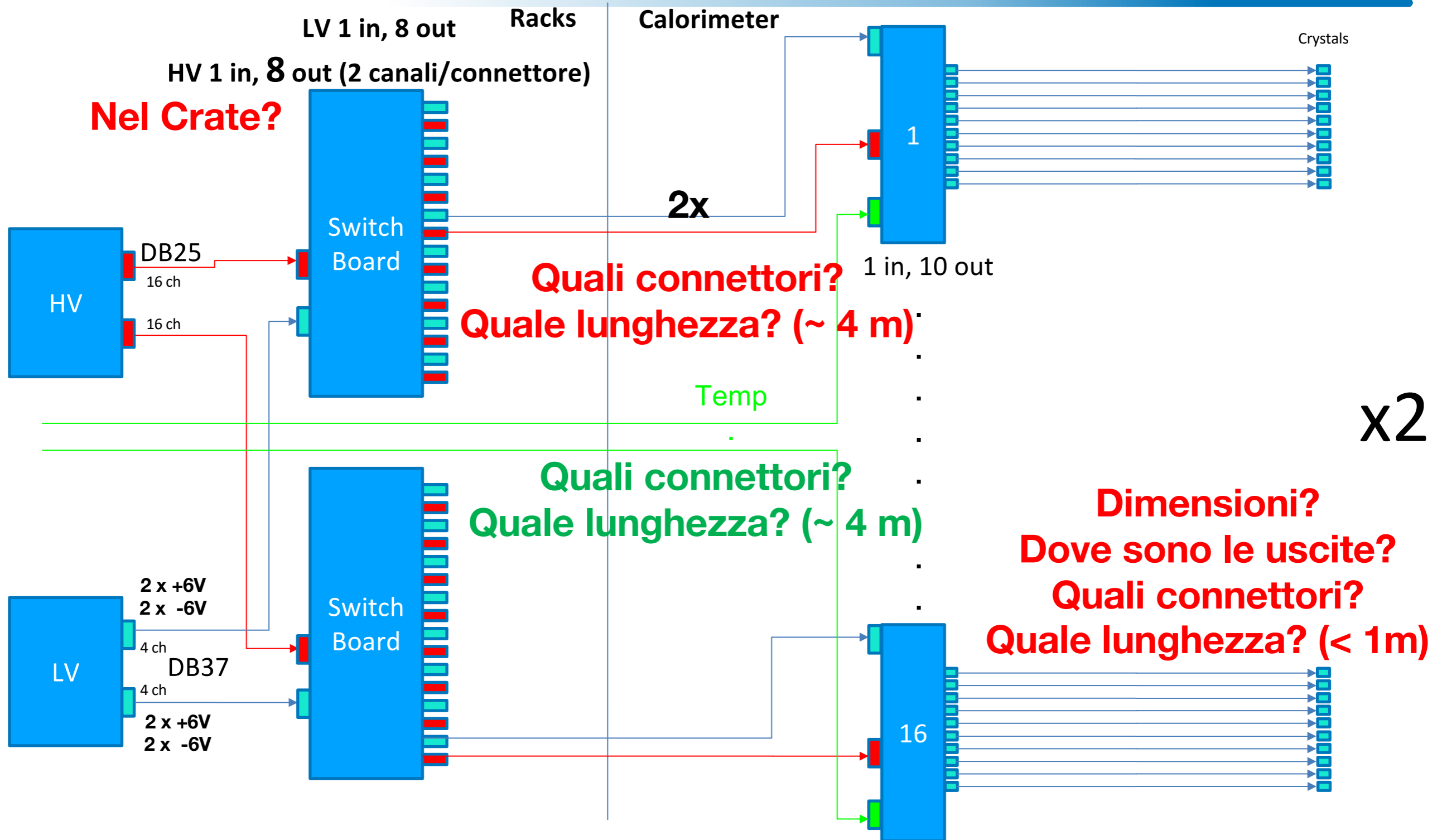


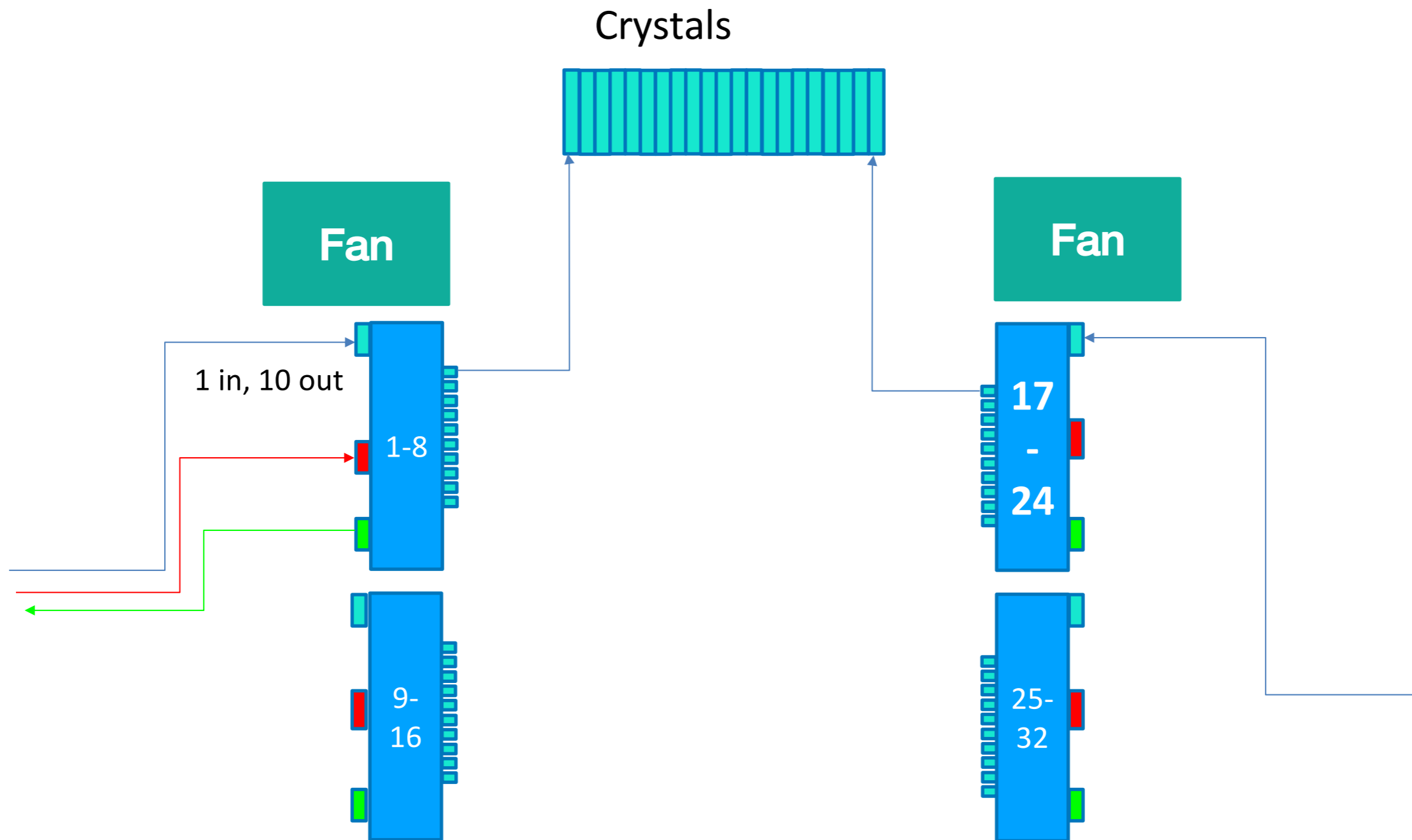
SiPM tiles: to do list

- **Order for production and packaging placed**
- **Silicon production ongoing, resumed after COVID19 stop**
- **Tile delivery delayed to May 2021**

Power supply distribution: to do list

- **System designed (4 switch boards + 32 supply boards) - Order to be placed in 2021**
- **Cables: selected, order delayed to 2021 because of budget constraints**





**Lo schema corrisponde a vista dall'alto,
ogni board e' in realta' un gruppo di 8 una sull'altra**



SiPM readout: to do list

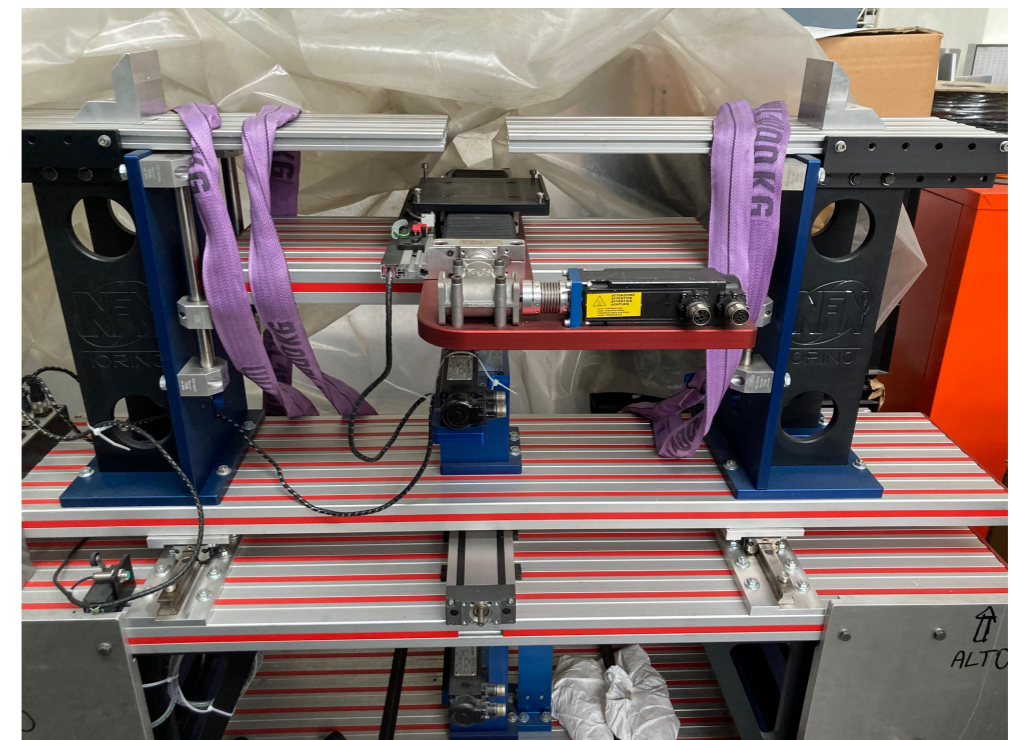
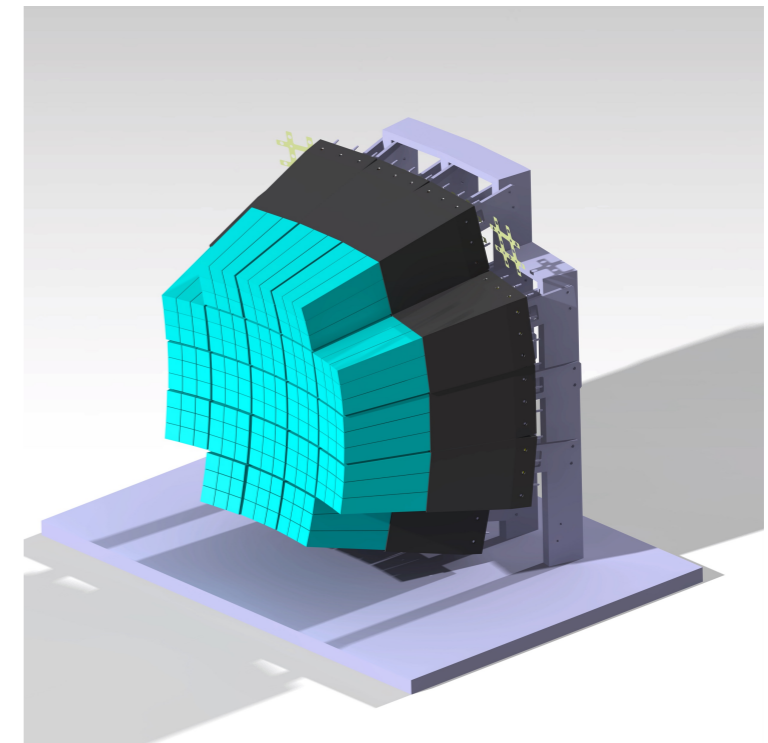
- **Readout board successfully tested at CNAO (November 2019/ February 2020) – order placed**
- **Power supplies selected (CAEN SY5527 + supply boards) - order placed**
- **Readout: from CAEN V1742 to Wavedream – order placed**
- **Signal cables: 5m length - order placed**

Temperature correction

- **System designed**
- **Prototype completed**
- **Orders to be placed in 2021**

Mechanics: to do list

- **Requirements**
 - nothing but crystals and air in the first 12 cm**
 - minimize air gaps, no long gaps in any direction**
 - no thermal control (maybe air cooling)**
 - dark environment**
- **System design nearly completed**
- **3x3 module holders – order placed**
- **Other components: orders in early 2021**
- **Mechanical structure for calibration**
 - x/y displacement remote control**





Software

- **See Francesca's talk in the afternoon**
 - **Reconstruction in SHOE**
 - **Cluster Analysis**



Open issues

- **final mechanical configuration**
- **calibration**

2021 plan

- **start construction**
- **beam test to evaluate temperature stability**
- **take data with full module at HIT with p, He, C, O (?)**

unlikely



Timeline

- early 2021: procurement completion
- SiPM delivery in May 2021
- glueing + wrapping: end of July 2021
- calibration / assembly