

# RICH module 2 construction status

## 1. Photomultiplier tubes

- about 360 already shipped and under test
- completion of the production by mid next year

## 2. Electronics

- part of the Adapter and MAROC boards already shipped
- production of the remaining Adapter and MAROC boards in progress
- production of the FPGA and readout boards: JLab, to be started (?)

## 3. Aerogel

- purchase completed
- problem found in cutting the lateral 2 cm tiles, they are going to be redone
- **about 50 tiles most likely ready to be shipped in few weeks: delivery will be started only if we are ready to receive and store them**

## 4. Planar mirrors

- all mirrors completed and accepted except for:
- the 2 panels of mirror B2 have been produced 50 mm larger than the design
- **shipping of the mirrors most likely in few weeks**
- **verification of the integrity of the mirrors and storage in the small clean room**

# RICH module 2 construction status

## 5. Spherical mirrors

- Need to buy a new mold (the old LHCb one not available any more): about 30% price increase
- Small (few %) price increase for the mirrors
- Order to purchase the mold completed, production started
- Order to purchase the mirrors started: **first mirror delivery expected not before spring 2021**
- Coating of the reflective surface in 2021

## 6. Spherical mirror support

- Investigation for a different producer of the support of the mirror, cost saving might be substantial
- production in 2021

## 7. Mechanical structure

- Construction almost completed
- Final assembly test planned for tomorrow
- **Shipment to JLab by the end of the year, arrival by beginning of 2021**
- **Verification of the integrity of the material and storage in safe place (contact W. Ackers)**

# Testing and assembling activity

- For RICH module-1, all the testing and assembling activities have been done in cooperation between INFN and JLab staff. We want to follow the same work plan also for module-2.
- The present pandemic crisis makes very difficult to schedule mid-term plans. However, we are working to be ready to install the RICH module-2 in CLAS12 at some time at the beginning of FY22.
  - Testing of the components and assembling of the RICH should start before summer 2021

# Testing and assembling activity

## 1. Photomultipliers and electronics

- test in progress at the TED building (Valery)

## 2. Aerogel

- Tests for module 1 done at the Catholic U.
- GW University set up a lab for measuring the RICH aerogel, but was never tested
- Tests can be planned as soon as travel from Italy will be possible again

## 3. Planar mirrors

- No optical tests have been done for module 1
- We might consider assembly tests on the lateral/frontal panels

## 4. Spherical mirrors

- D0 and Shack-Hartman measurements
- Reflectivity measurements (after coating)
- Tests will be planned as soon as the delivery schedule will be defined

## 5. Mechanical structure

- To be scheduled as soon as travel from Italy will be possible again