Handling frames & cells integration status

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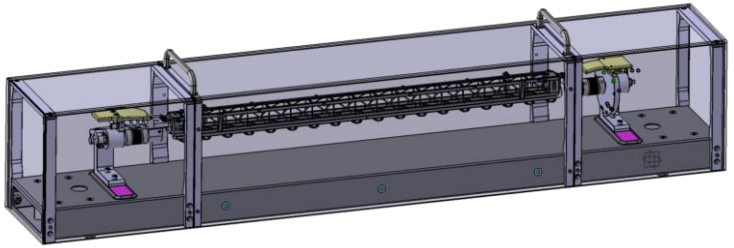
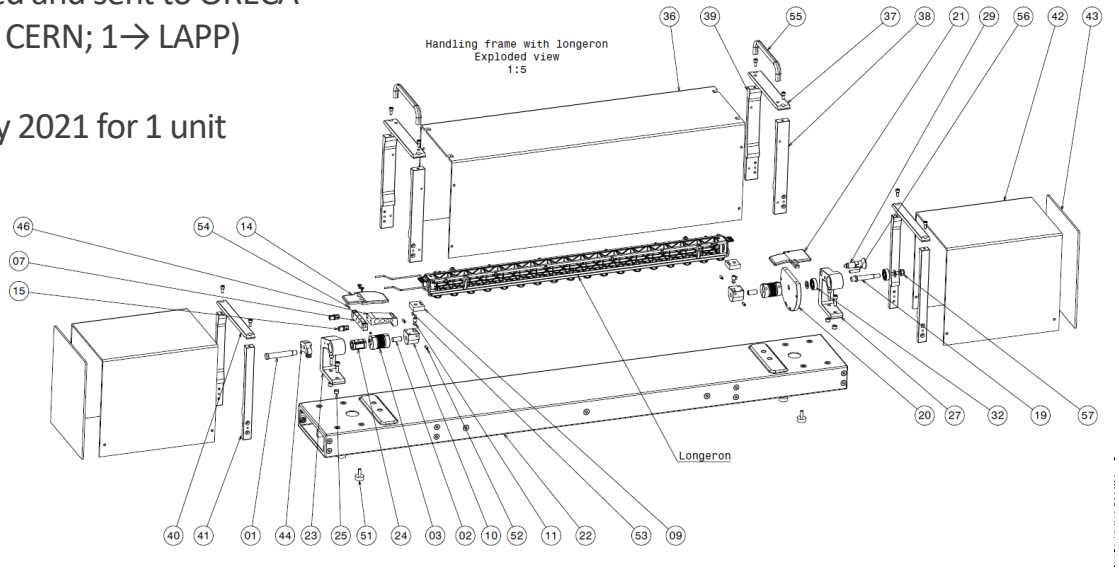
PIXEL MEETING | 30/09/2020

Handling frames status

- **Longeron** handling frame 1/2
  - HF prototype main features tested
  - Minor modifications implemented in PRE-PROD version
    - Handles, feet
    - L3 longeron interface adjustments (pipes, cells angles)
    - Fixation system improvement
  - HF pre-prod definition file completed and sent to ORECA
  - Quotation requested for 2x HF (1→ CERN; 1→ LAPP)
  - Order scheduled for next week
  - Cost around 16k€ | Delivery january 2021 for 1 unit





- Shipping boxes ordered in parallel ↓

Handling frames status

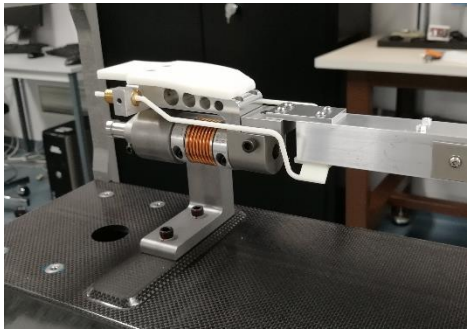
- **Longeron** handling frame 2/2
  - Tests still to be done on the prototype ↓
    - HF and longeron metrology
      - → Longeron positionning accuracy
      - → Stress induced in the longeron
      - → Fixation stiffness optimisation
    - Shipment vibrations response
      - → Accelerometers/data logger to be ordered
    - Pipes connectors test
    - Thermal cycle test (TBD)
  - Longeron dummy provided ↓

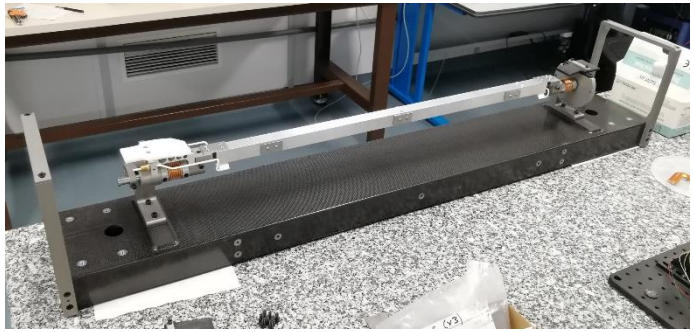
Flexible couplings with different stiffness ordered

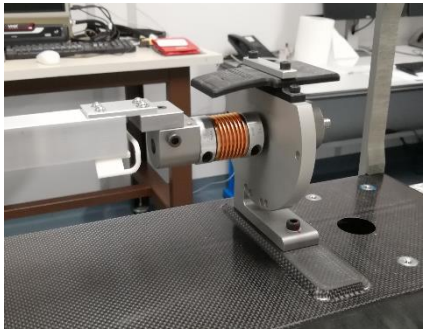
- Trigger
- Temp & H%

- Trigger
- Battery module

- Continuous recorder
- Synchronized

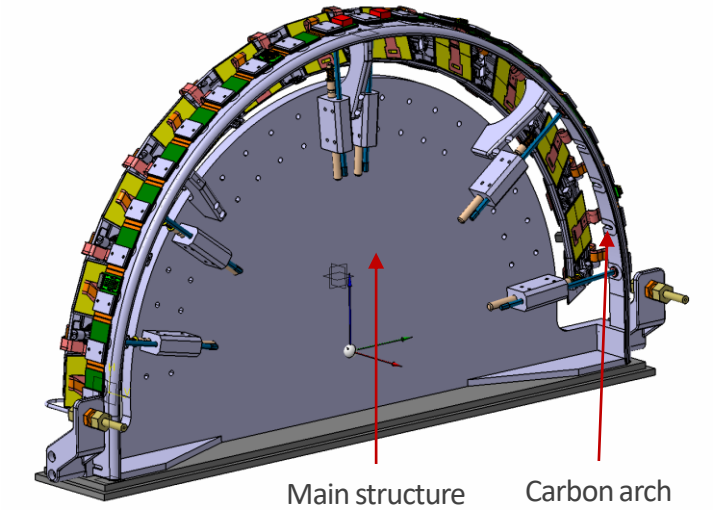


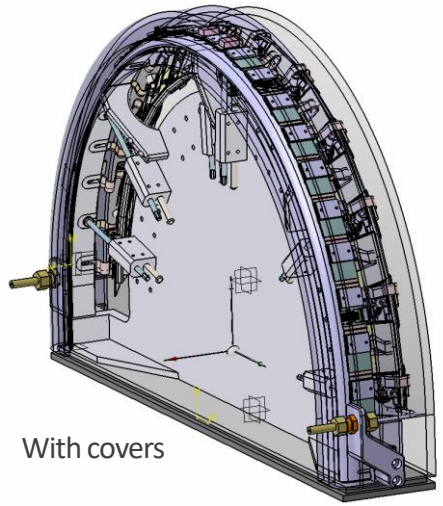


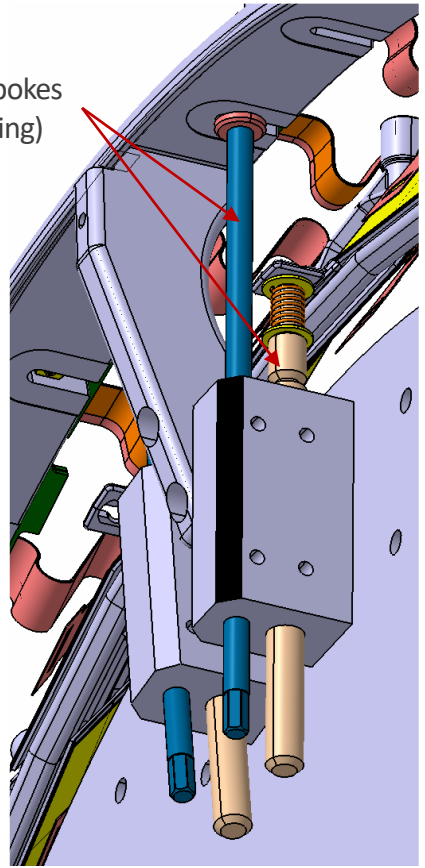


Handling frames status

- **Half-ring** handling frame prototype
  - Meeting with CERN to validate the design ✓
  - Meeting with ORECA to set up carbon parts manufacturing ✓
  - Detailed design 90% completed with updated ring CAD models
  - Carbon main parts drawings to be done this week & sent to ORECA
  - Definition file with all drawings to be done end of next week (09/10)
  - Suppliers consultation during 2 weeks
  - Order scheduled for october last week (ultimate deadline ☠)
  - Cost have to be < 25K€ (moulds + HF) | Delivery january 2021

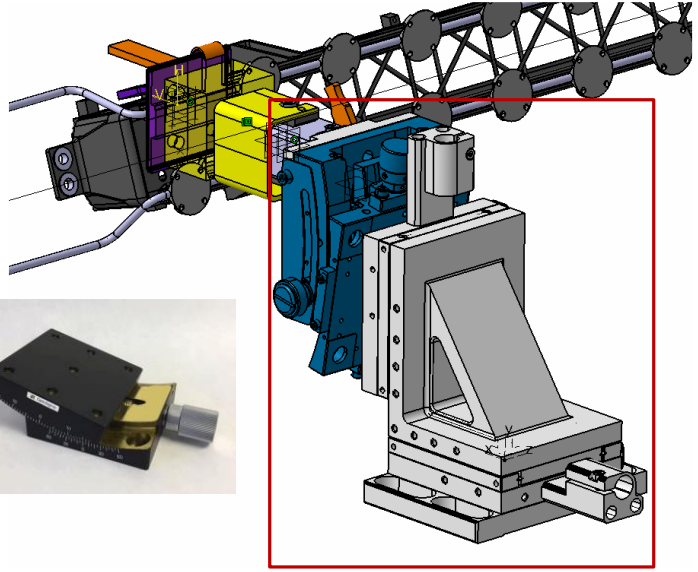






Cells integration

- Cells integration custom bench
  - Not a priority ; no significant progress on this point
  - But manual linear stages + goniometer ordered
  - TBD : fabrication of the 6 DoF flexible system



- Robotized 6 DoF arm option
  - Purpose : R&D meca on accurate integration
  - Fund request to IN2P3 and CPPM
  - Could be very interesting for cells integration on ITK

Universal robots

- Repeatibility 30µm
- Sensitivity 1N with load sensor
- Complex cinematic possible
- Automatic research of aimed position