



ALICE

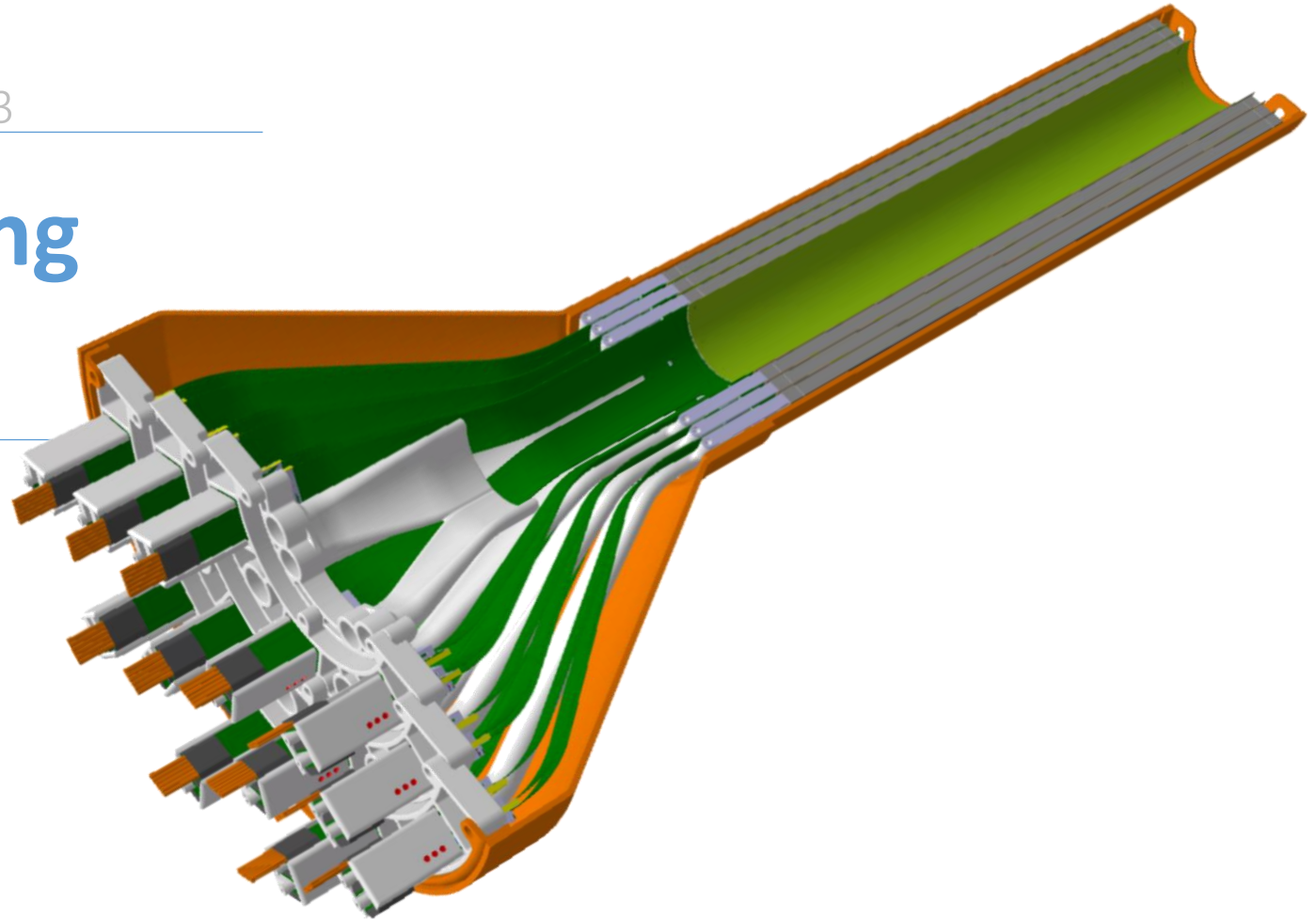
ITS3

Tuesday 17<sup>th</sup> January 2023

# WP5 bi-weekly meeting

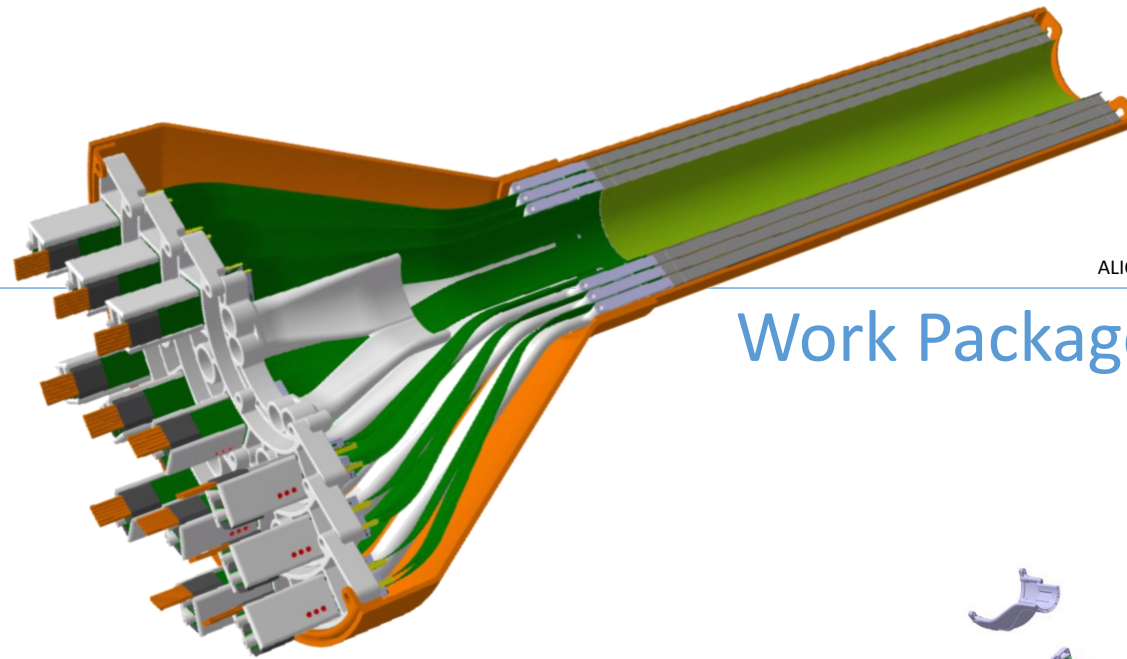
**M.Angeletti**

on behalf of WP5



# Outline

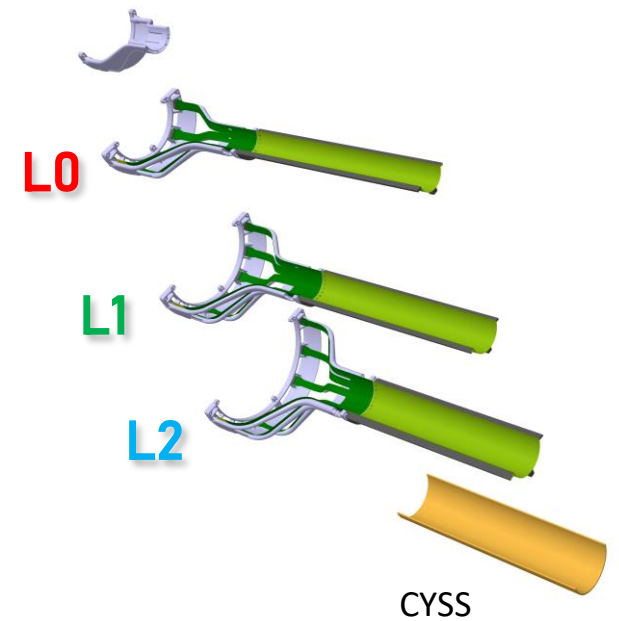
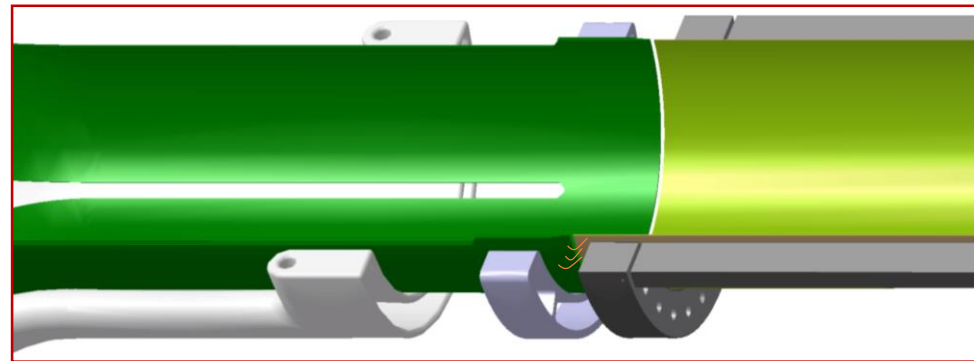
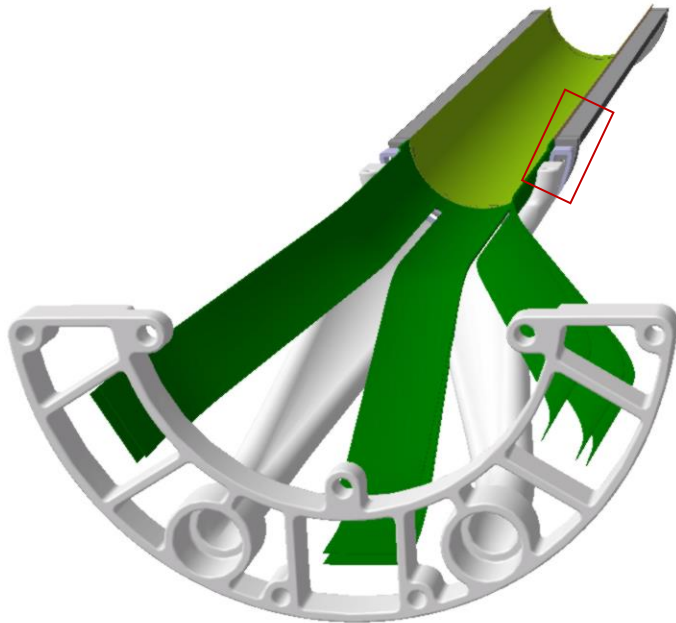
- Alternative h-ring design
- Next Engineer/Breadboard models
- Alternatives (R.Barthel)



ALICE ITS3 WP5

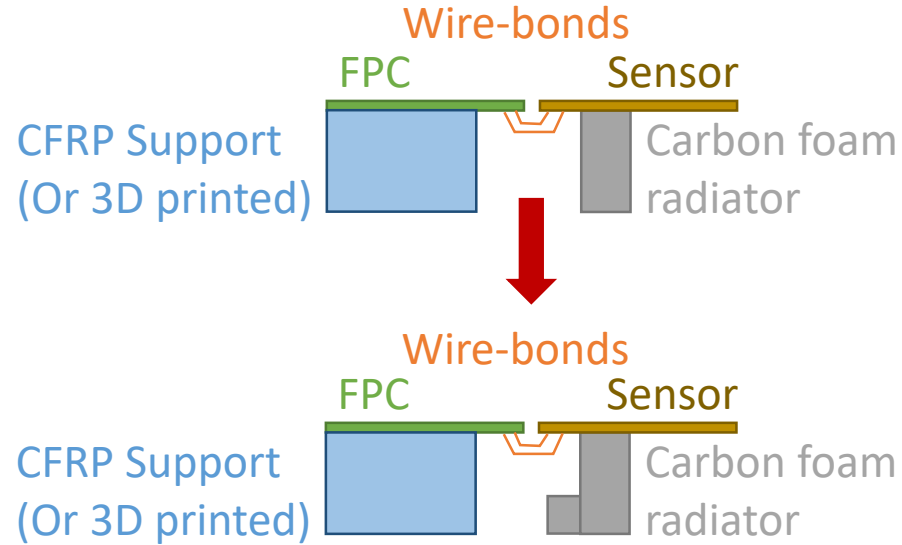


## Work Package 5

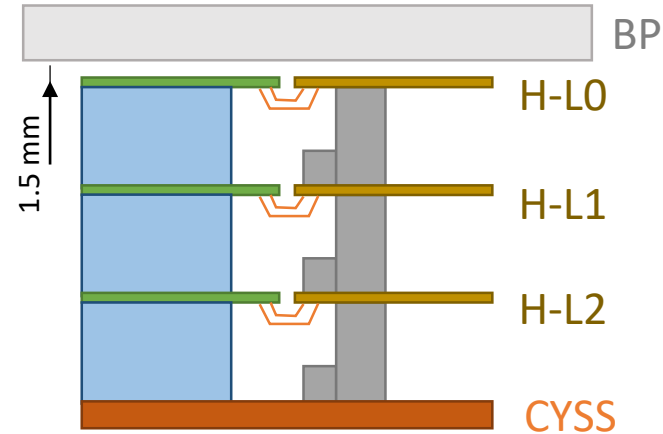


- Under consideration: H-ring with L-cross-section

## FPC-sensor interface (H-layer)



## H-detector



### Advantages

- Increase thermal efficiency (H-L1, H-L2)

### Disadvantages

- Manufacturing complexity
- Assembly complexity

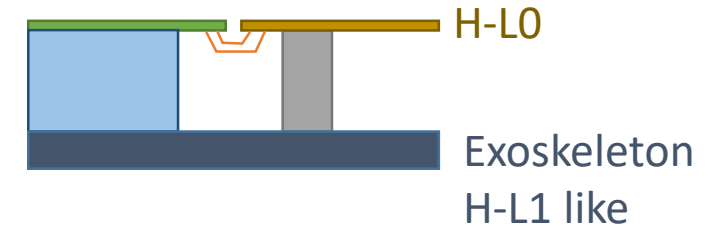
NO INCREASE of thermal efficiency H-L0



- Under consideration

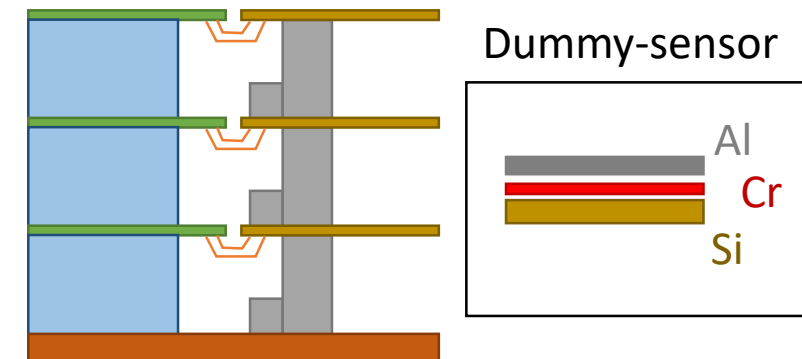
## Model1:

- Objective: **real sensor integration** (bending, wire-bonds)
- Only one layer (H-L0)
- Ingredients:
  - **Sensor**: Central piece MLR1 (H-L0 size) – (availability? @Magnus)
  - **FPC + wire-bonds**: FPC in production, mid February (@Antoine)



## Model2 :

- Objective: **Assembly of 3 (dummy) sensors wire-bonded to FPCs**
- 3 layers
- Ingredients:
  - **Sensor**: Dummy silicon – (coating availability?@Miranda/Thomas)
  - **FPC + wire-bonds**: H-L1 H-L2 FPC to be designed (@Antoine)

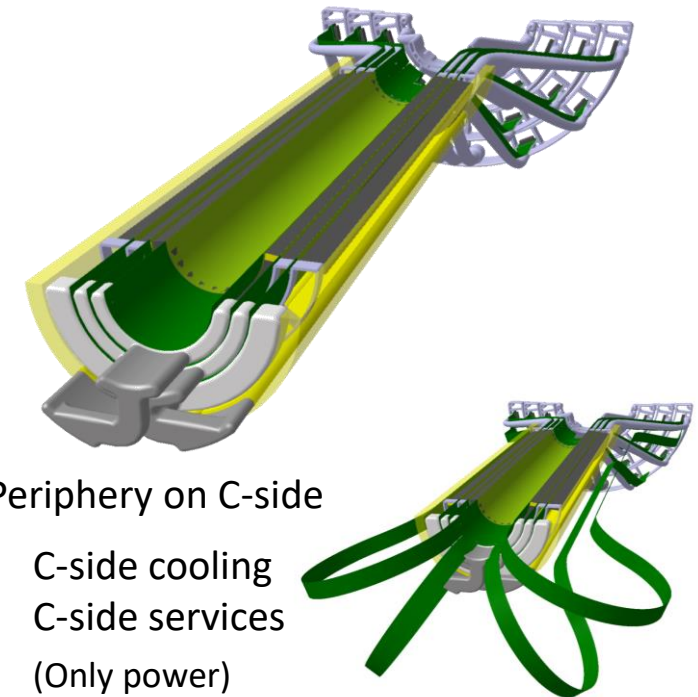




- Under consideration

**Model3 :**

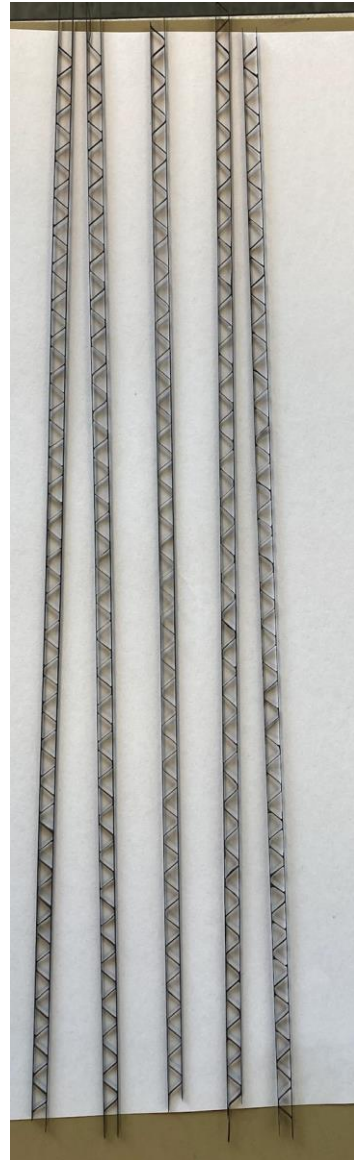
- **Objective: Assembly of 3 (dummy) sensors wire-bonded to FPCs (both A- and C-side)**
- 3 layers
- **Ingredients:**
  - **Sensor:** Dummy silicon
  - **FPC + wire-bonds:** C-Side FPC design to be defined (inputs from @Antoine and @Gianluca)





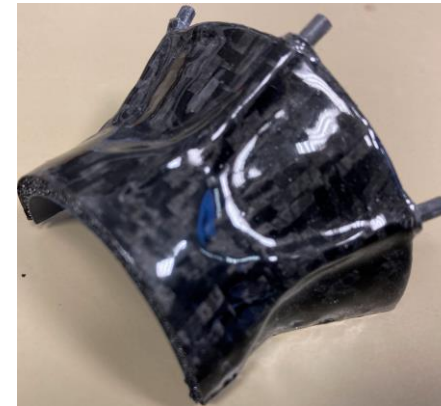
To be discussed

## Carbon fiber longerons and rings

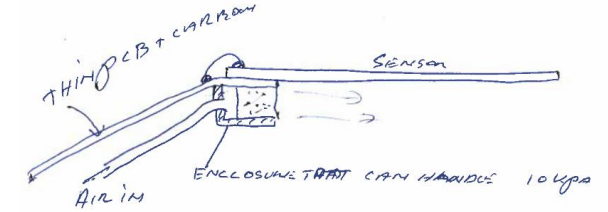


- Possible test?
  - 3point bending test...
  - Compression test...
- Possible integration on a BM\EMs ?
  - Tools for the assembly at Utrecht?
  - Barthel availability to come at CERN? Or Dummy silicon shipment to Utrecht?
  - Convex/concave mandrel?
  - Self-supporting layers?

## Single piece cooling radiator



- Possible integration on a BM\EMs ?



Self-supporting layer configuration?  
Concave mandrel?

