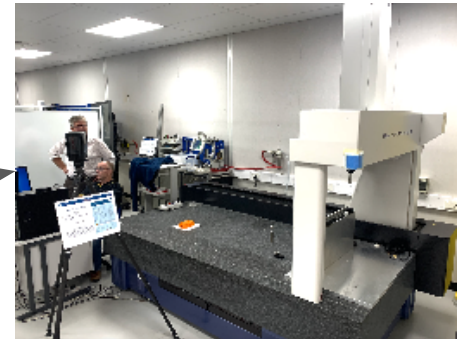


TRT: status of UK project

- Daresbury clean room fully refurbished to host ALICIA machine and TRT assembly
- **ALICIA** machine **transported** successfully from Liverpool to Daresbury and **installed** at the clean room by IBS company (very costly...)
- New tool **plate for HIC** (hybrid integrated circuit) placement **delivered** by specialised swiss company (5um flatness tolerance, very costly....)
- **ALICIA** machine originally configured for ALICE outer barrel modules is now **reconfigured** by IBS for **inner-barrel modules (9 sensors in a row)**, expected completion Dec 2023
- **CMM machine** (exact same as in Turin) is being refurbished for the R3B TRT Stage 1 & 2 purposes and all required tooling expected to be delivered mid Nov 2023



Stage 2

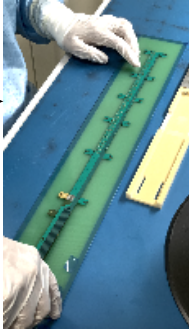


Stage 1 & 2

TRT TDR submitted in August 2023 (referring to Stage 2 TRT device)

What the UK project aims to deliver:

- Production of 60 TRT HIC detector modules (9-sensor linear modules), (i.e. sensors on FPCs, wire bonded and tested)
- Procurement of all required electronics for these 60 linear modules (including adaptors, feedthroughs, cables and power supplies for these detector modules). Exact readout module to be agreed within WG,
- Production of detailed drawings of the mechanical design TRT array including support structure, stress & thermal analysis reports and carbon fibre plates
- contribute to the TRT simulation and analysis code in R3BROOT framework

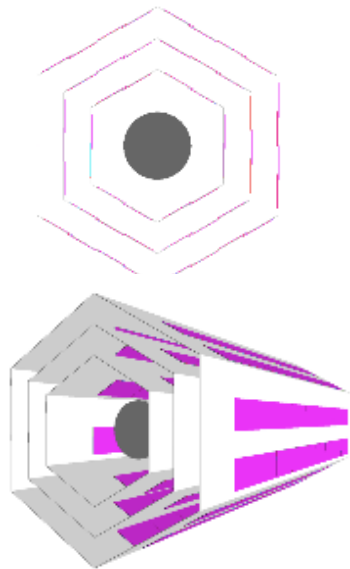


Important things that the UK project does not include:

- Does not include the actual construction of the support structure and carbon fibre plates (candidate institutes to take on task: Vigo/Liverpool)
- Does not include full DAQ readout and slow control beyond what is needed for the tests (candidate institutes to take on task: GSI/ ??)

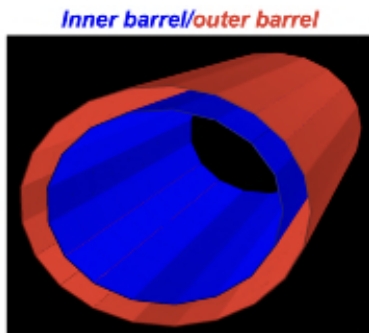
The adoption of the 9-sensor long linear module (HICs) is already **fixed**
The optimum arrangement of HICs on carbon fibre plates and on array is still open

2 layers → 42 linear HIC modules
(3 layers → 54 linear HIC modules)



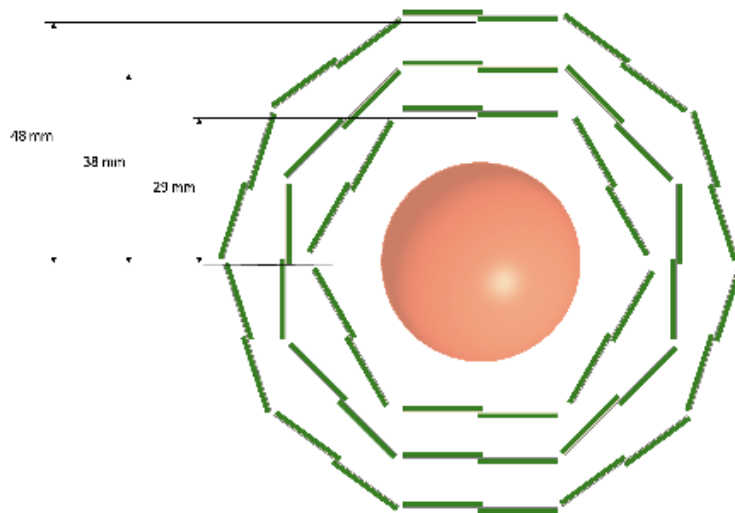
Hexagon configuration
(proposed in TDR)

2 layers → 38 linear HIC modules



Initial idea:
José Luis Rodríguez Sánchez

3 layers → 48 linear HIC modules



Preliminary idea: D. Seddon (Liverpool)