

Cross-Community Committee activity report

Carlo G. Bruno
University of Edinburgh

Cross-community committee panel members

(since November 2022)

- Carlo Bruno (chair)
- Alison Laird
- Ken Livingston
- Dan Doherty
- Kieran Flanagan
- Rodi Herzberg
- Marc Labiche

Electronic & software support 2024

- **FAUST** – coordination of the WP3 (E-DAQ) and development of e-DAQ software
- **g-RIBF** – coordination of the WP3 (E-DAQ) – support DAQ systems at York UWS and NPL. The FASTER electronics from LPC Caen has been setup at DL for testing.
- **MiniBall** – Software debugging and support for the new E-DAQ based on FEBEX readout board during the MINIBALL experimental campaign
- **ISOL-SRS (ISS/CARME)** – support for experiments at CERN and GSI. Some DAQ improvements completed for ISS.
- **AIDA** – support for experiments and production of the new AIDA FEE card mezzanine to interface to Beam diagnostics and facilitate information transfer into the timestamped data stream of DESPEC (NUSTAR) at FAIR.

Electronic & software support 2024

- **New Timepix3 ASIC readout cards (linked to EIC R&D WP2)** – ASIC and flange PCBs have been designed, manufacture and commissioned. VHDL register block is completed. The newly designed FMC cards have been produced and are now ready for commissioning.
DAQ work to access functionalities of the chip and read back register in progress.
- **Ion Trap** – Development of a “4.5 kV” switch board for ion trap applications completed and delivered to Edinburgh.
- **AGATA** phase 2 electronics – Implementation of the pre-processing optimisation is on-going. (This work was delayed by the AGATA Collaboration until a final decision for the choice of the electronics was made).
- **SIGMA**: Implement of the SIGMA detector into the DAQ system at MARA, in JYFL is on-going.

Electronic & software support 2024

Generic support and development:

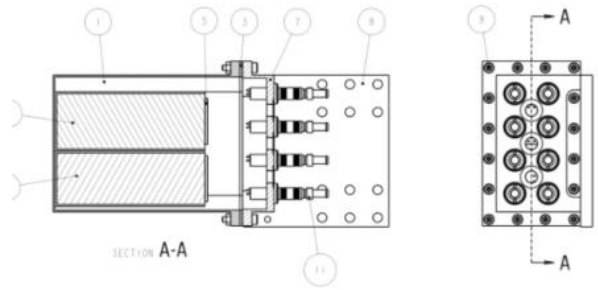
- **MIDAS**: still supported for existing systems
- **“PyDAQ” (is the new MIDAS)**: it is being developed at DL to support the new CAEN digitisers **V2740** as well as older ones (**V1724**, **V1725** and **V1730**)

Carl has recently contacted several people from many institutes to present his PyDAQ development and collect future requirement.

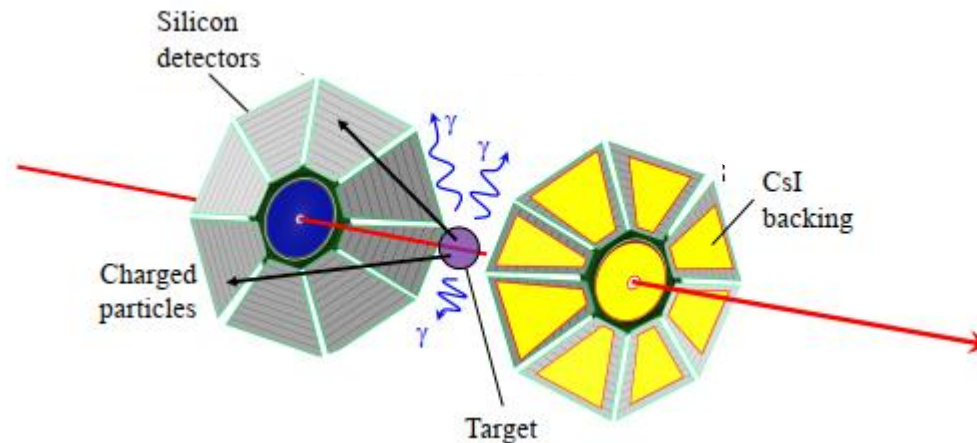
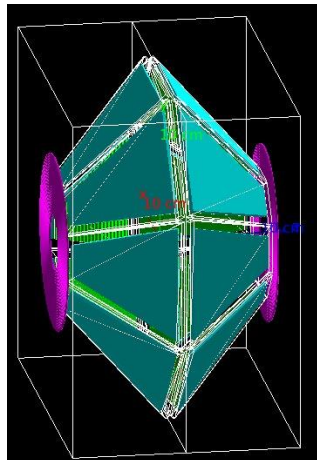
Meeting date is not yet fixed, but any of you interested can contact Carl at:
carl.unsworth@stfc.ac.uk

Mechanical & design support 2024

- **g-RIBF (WP4):** design of the housing of a 2-crystal (CeBr_3) module and a support angle bracket to assemble the prototype module in DALI2+ frame for the June 2024 exp



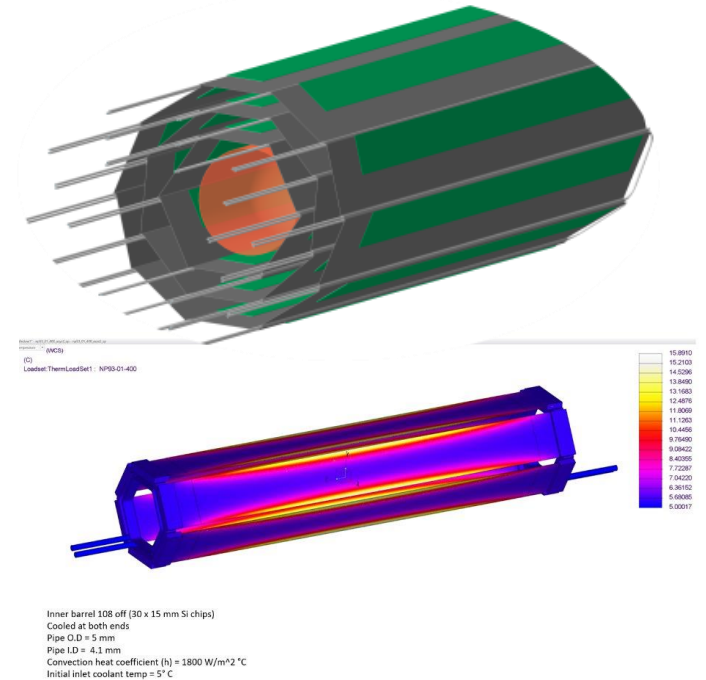
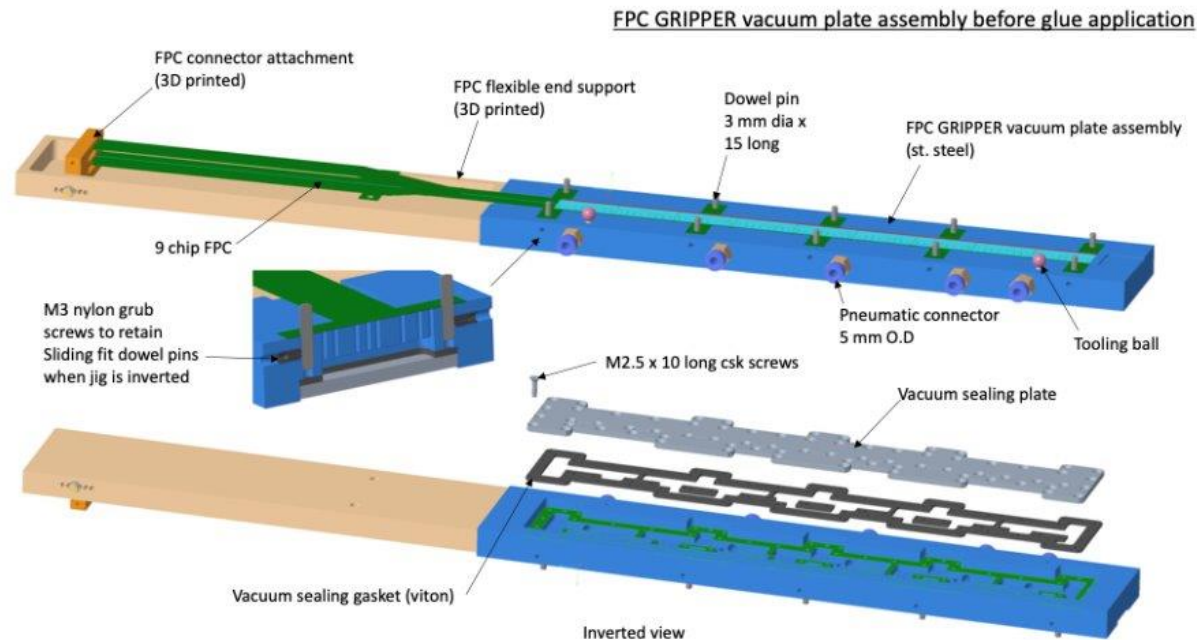
- **FAUST:** conceptual design on-going (fed by simulation WP)



Mechanical & design support 2024

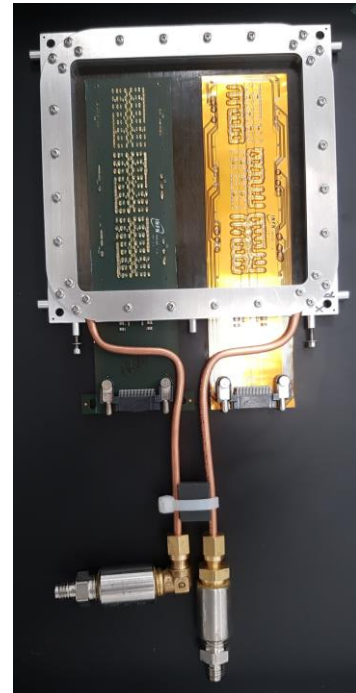
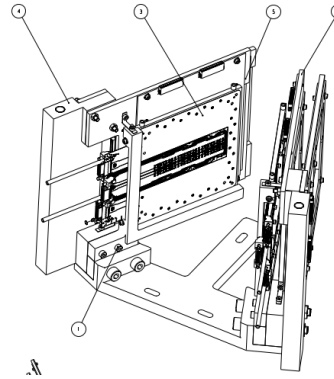
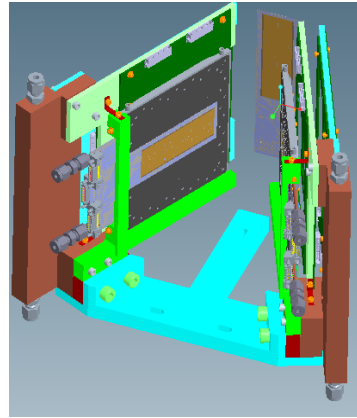
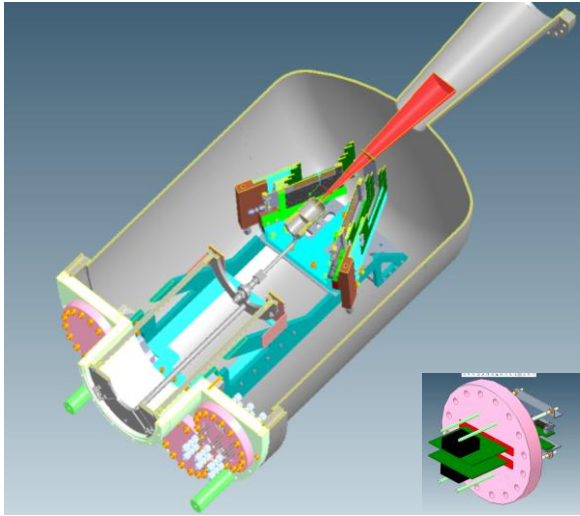
- **R3B-TRT:**

- Modification of some of the ALICE upgrade jig designs (FPC gripper, glue mask jig, HIC transport plate, wire-bonding vacuum jig, glue peeler, ...)
- Conceptual design of the array and thermal stress analysis on going

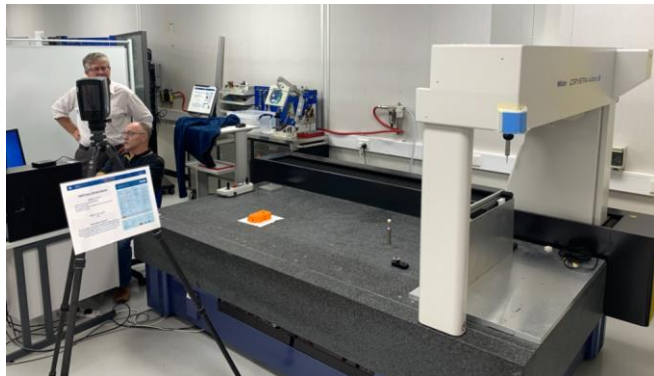


Mechanical & design support 2024

- **R3B experiments in Feb 2024** : design of a new flange, two ALPIDE-based detector stations and cooling pipe completed, and all successfully assembled at GSI

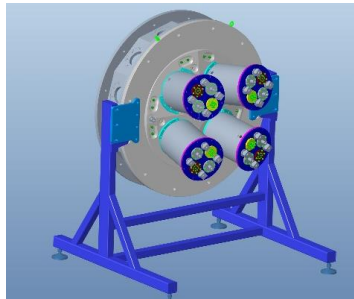
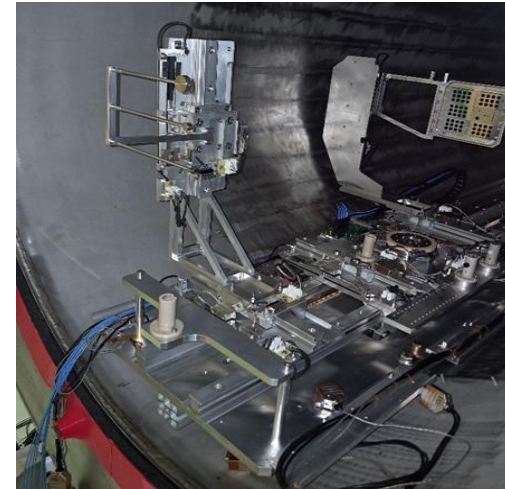


Production of further R3B/AMBER ALPIDE stations at DL is on going:



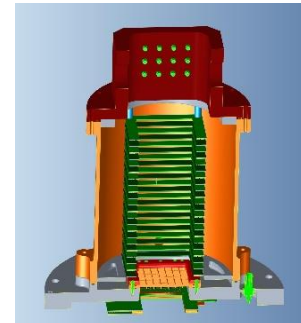
Mechanical & design support 2024

- **ISS :** New motorised target system and motorised beam blocker assembled at CERN after an assembly test at DL.



Assembly of support frame for ISS fission detector completed.
Ready for vacuum testing

- **MARA JYFL :** Assembly of Ionisation chamber completed and ready for vacuum test.



Mechanical & design support 2024

- AGATA – design and production of a source holder for the self-calibration technique measurement.



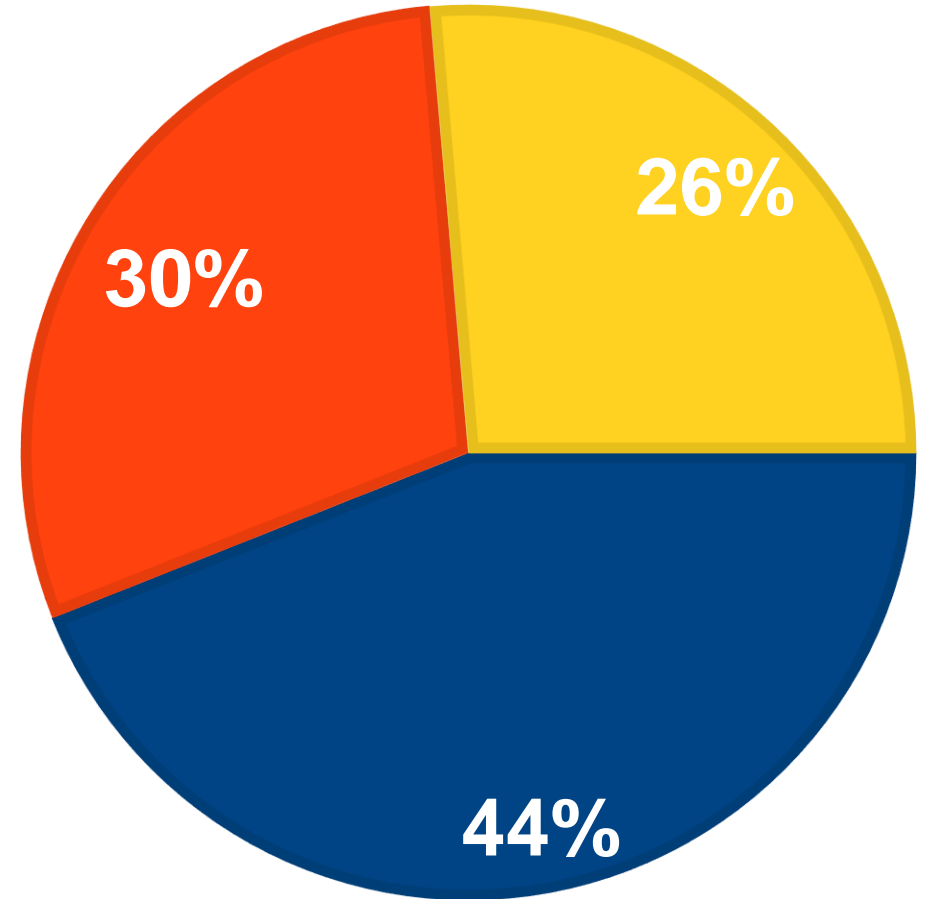
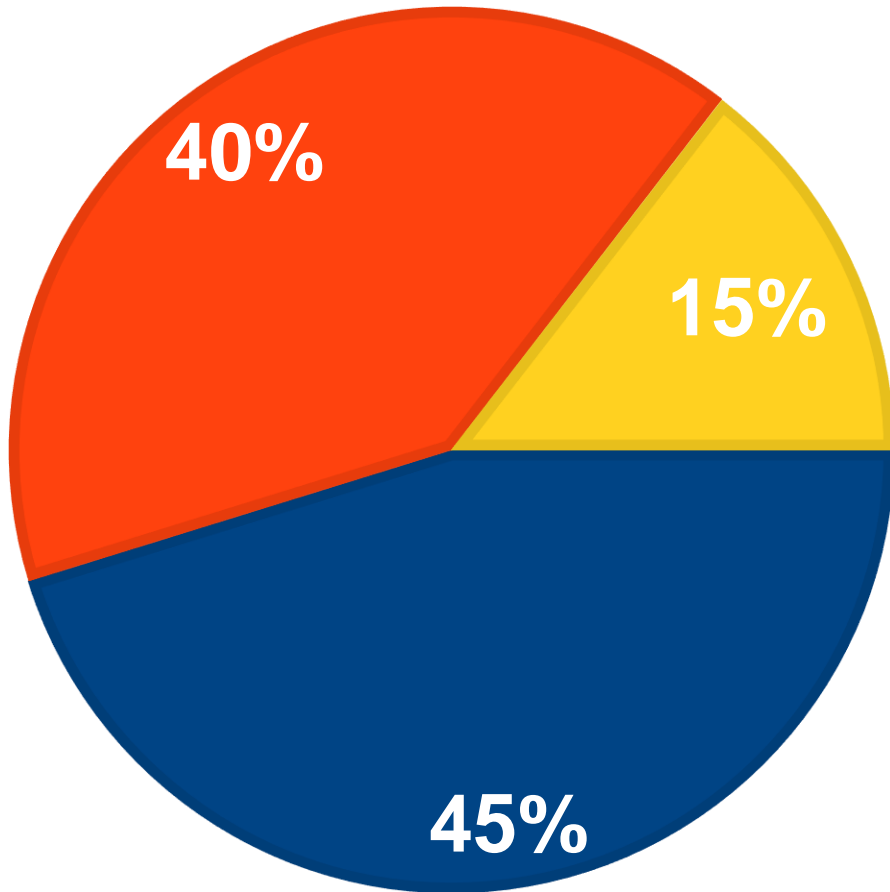
Project type split

2020

2023

■ CG themes ■ CC projects ■ New projects

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FTE allocation – April 2023

	Requested			
	Mec	Ele	Sw.	Tot
New Projects	2.11	0.66	1.36	4.13
New R&D Project	0.20	0.20	0.20	0.60
Grant Preparation	0.05	0.05	0.05	0.15
Major Projects and Simulation	1.57	1.27	1.80	4.64
Top CG Themes	0.85	1.12	1.00	2.97
High CG Themes	0.25	0.57	0.44	1.26
Med. CG Themes	0.46	0.61	1.06	2.13
Low CG Themes	0.39	0.05	0.13	0.57

Granted				
Mec	Ele	Sw.	Tot	Req / Grant
0.86	0.41	0.22	1.49	36%
0.25	0.25	0.20	0.70	117%
0.05	0.05	0.05	0.15	100%
1.41	1.14	1.30	3.86	83%
0.85	1.12	0.55	2.52	85%
0.23	0.46	0.35	1.04	82%
0.35	0.37	0.37	1.08	51%
0.00	0.00	0.00	0.00	0%

~100% excluding LEGEND

~100% excluding a new research avenue that was not funded by NPGP

Current cross-community posts

Target maker and senior technician (1 FTE)

Paul Morrall (at DL)

Software (3 FTEs)

Dan Judson (at Liverpool)

Carl Unsworth (at DL)

+ 1 vacancy - Recruitment delayed by the current recruitment freeze

Electronics (3.8 FTEs)

Jim Thornhill (0.5FTE) (Liverpool)

Dave Wells (Liverpool) is retired since June 2024 – being replaced?

Moschos Kogimtzis, *Matthew Russel (Since Sep24)* and Ian Lazarus (0.3FTE) (DL)

Mechanics (4 FTEs)

Richard Smith and Miriam Colling at DL

Dave Seddon at Liverpool

David Chorlton at Manchester.

Total of 11.8 FTEs/year until September 2027
