



Cubism - Braque's Bottle and Fishes, Paris c.1910-12

Field Structure Procurement Manufacturing and QAQC Plan

Weekly engineering call
September 24th 2021
James Sinclair, SLAC

Field Structures Procurement Manufacturing and QAQC Plan



- Will be located here, pending upload:

<https://edms.cern.ch/ui/#!master/navigator/project?P:100861762:100861768:subDocs>

- Documents currently very preliminary placeholder

Field Structures Procurement Manufacturing and QAQC Plan

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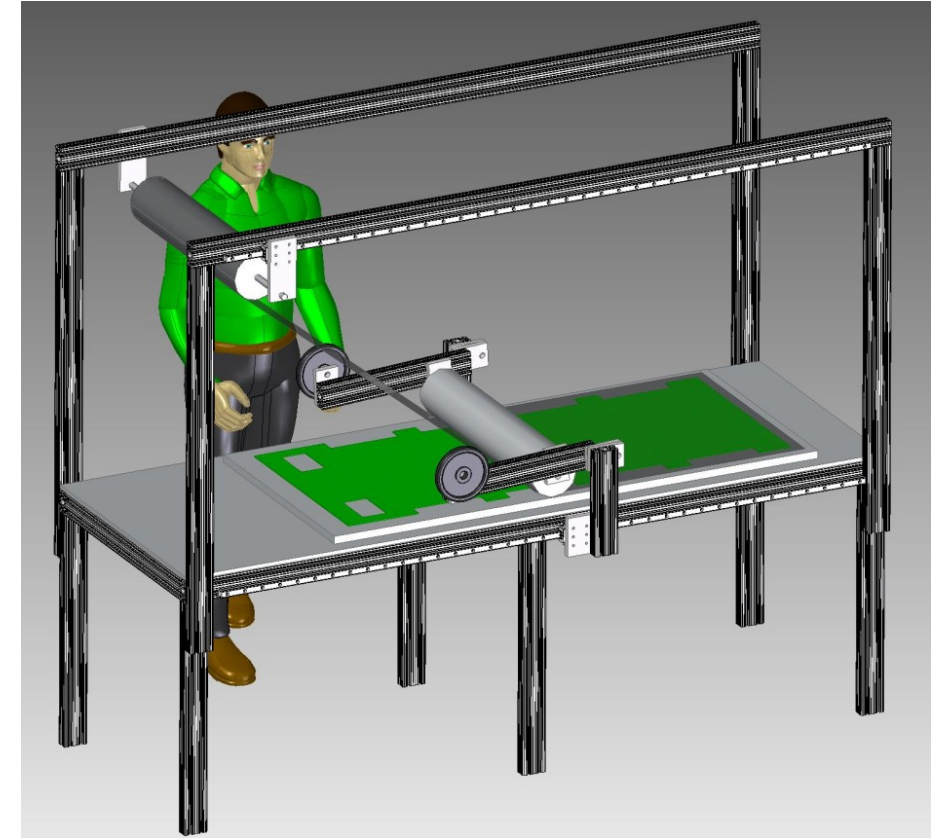
Field Structure Procurement

- Bill of materials has been generated from the CAD for all components not technology dependent.
- Designs must be finalized by subsystem interfaces to:
 - Define exact part counts
 - Identify vendors for manufactured parts and commercially available components

Item #	Part Description	Quantity	Unit	Notes	Material	Comment	Status	Location
Detector Assembly								
1	Flange Assembly	1	Flange					
2	Flange gasket	1	Gasket					
3	Flange mounting block (may be same part as 4)	1	Block					
4	Flange plate (may be same part as 3)	1	Plate					
5	Flange gasket	1	Gasket					
6	Flange mounting block	1	Block					
7	Flange plate	1	Plate					
8	Flange gasket	1	Gasket					
9	Flange mounting block	1	Block					
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221	Flange gasket	1	Gasket					
222	Flange mounting block	1	Block					

Field Structure Manufacturing

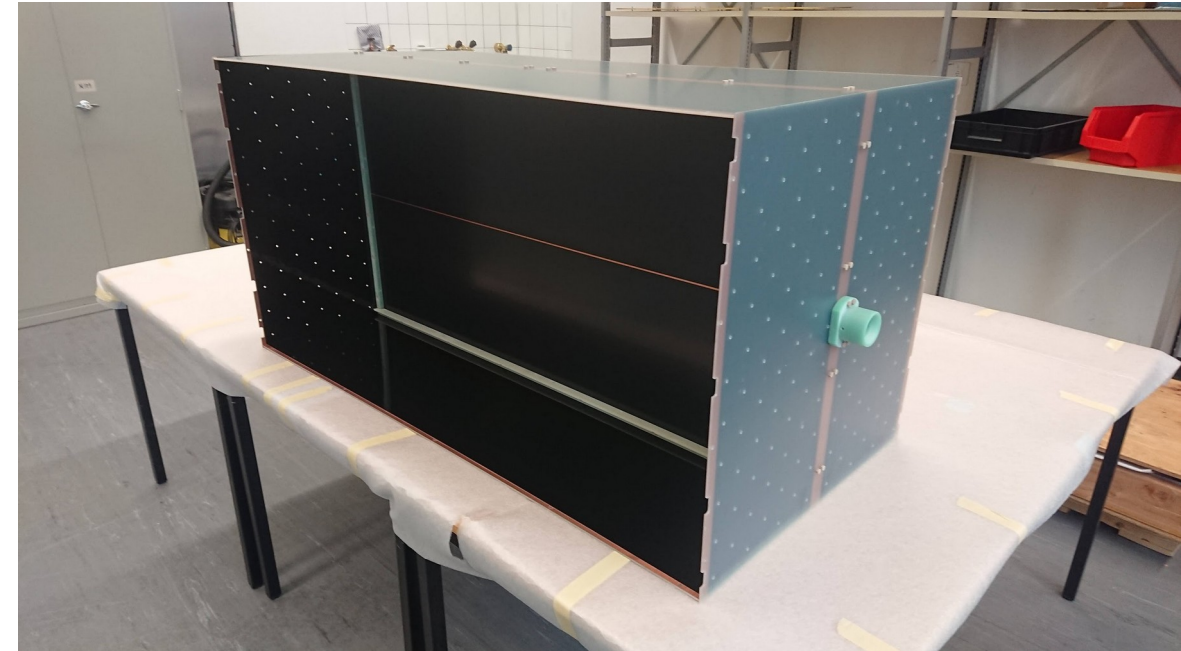
- The manufacturing procedure of the baseline (DR8 lamination) is maturing. Other options (carbon loaded epoxy, PCB field cage) require optimizing through testing.
- Down select will determine and be determined by (nasty feedback):
 - Manufacturing processes
 - Materials/vendors
 - Inspection requirements



Field Structure QA/QC Plan

Totally dependent on technology down select!

- QA Baseline technology can build on experience from Mod0 and the 2x2 program. Other technologies will require SingleCubes and possibly 2x2.
- QA will need finalizing for FSD.
- QC will set the procurement specification. May need to go beyond industry standards (e.g. anode support plane).
- Components will need dimensional and measurement testing.
- First article testing will allow us to exercise the QC plan



Next Steps/Remaining Issues

Documents are currently place holders.

Interfaces need to be finalized ASAP to begin procurement of components unaffected by technology choice.

For the DR8 baseline, manufacturing and QAQC can use the experience from existing TPCs. Other options require investigation.

As the technologies develop and approach a down select, the corresponding documentation will be expanded.