

MM construction organization

Some thoughts

General considerations

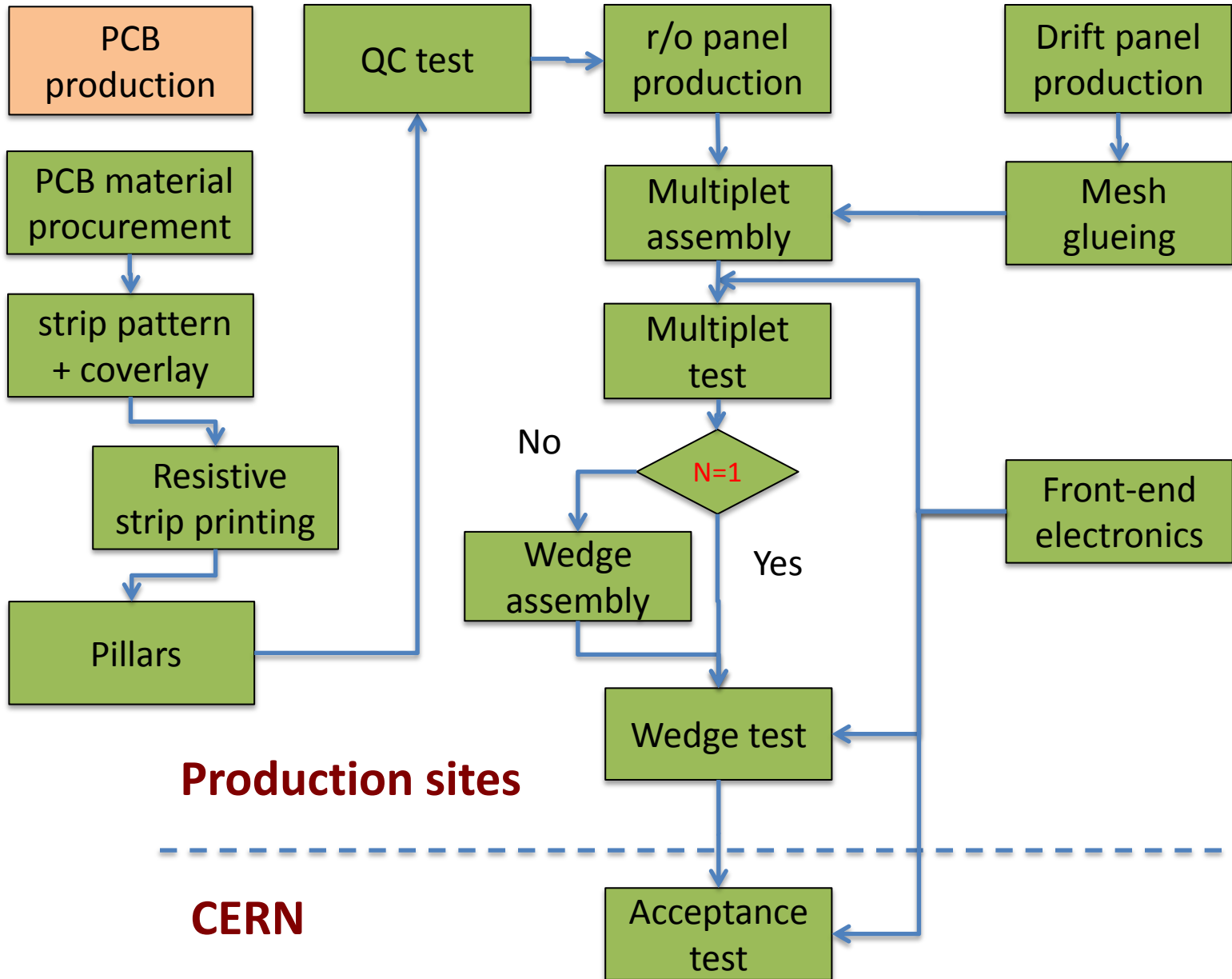
- Detector construction and commissioning
 - electronics, readout, and software not covered
- Detailed sharing of construction tasks after decision on layout & assembly in July 2013
- Final sharing of responsibilities & costs in MoU (fall 2013)
- MoU will define deliverables

Detector construction model*

- Splitting of construction into deliverables of same type in one institute, rather than building full detectors in each institute
 - Readout PCBs centrally procured by CERN PCB workshop (organization and follow up of production in industry)
 - Other material procurement: tbd
 - All (or fraction of) drift panels for the large (small) sectors in one place
 - All (or fraction of) r/o panels for large (small) sectors in one place (possibly split into eta and stereo panels)
 - Assembly and tests of quadruplets of same type in one place (only places where a clean room is required), number of places tbd
 - Equipment with electronics & final test and assembly at CERN (BB5?)
- Advantage:
 - Optimization of infrastructure and specialists know-how (however, logistics a bit more involved?)

*) as outlined in TDR

CERN PCB workshop + industry



Production sites

CERN

Number of objects

For the case of full wedges (in brackets for 3 modules/wedge)

Item	L-η	L-stereo	S-η	S-stereo
PCBs	512	512	512	512
Drift panels	96 (288)		96 (288)	
Readout panels	32 (96)	32 (96)	32 (96)	32 (96)
Assembly	16 (48)		16 (48)	
Spacer structure	16		16	

Interests of institutes I (?)

Design, construction & procurement

Activity	Lead	Institutes	Industry	Remarks
PCB production	CERN	INFN, CEA, Kobe, ...	Eltos, Elvia, JP	Incl. QA/QC
Panel material procurement	CERN (?)			
Panel production		INFN, CEA, Munich, ...		Incl. QA/QC
Quadruplet assembly		INFN, CEA, Munich, ...		Includes tests
Spacer structure		?		
QA/QC systems		CERN, MePhi, ...		
Alignment system	Brandeis	CEA, ...		
T-, B-sensor system	?			
On chamber electr. boards	US	???		
HV, LV, cooling system	?	?, Michigan, Freiburg		

Interests of institutes II (?)

Assembly, test & installation @ CERN

Activity	Lead	Institutes	Remarks
Electronics mounting@CERN	US ?	Arizona, BNL, BC, ...	
Detector test@CERN	CERN (?)	INFN, CEA, Munich, ...	
Sector assembly	CERN (?)	INFN, CEA, Munich, ...	
Sector tests		INFN, CEA, Munich, ...	
Installation of alignment	Brandeis	?	
Installation on SW		CERN, ...	
Final commissioning		all	
QC/book keeping & DB	?		

Interests of institutes III

In addition to the construction tasks sharing we need a

- MM Project Leader
 - overviews the MM project and keeps the links with the NSW and the Muon Project Leaders
- MM Technical Coordinator
 - overviews all construction issues and keeps the links with the NSW Technical Coordinator and the sTGC TC
 - is in charge of documentation (drawings, DB, ...)
- MM Resource Coordinator