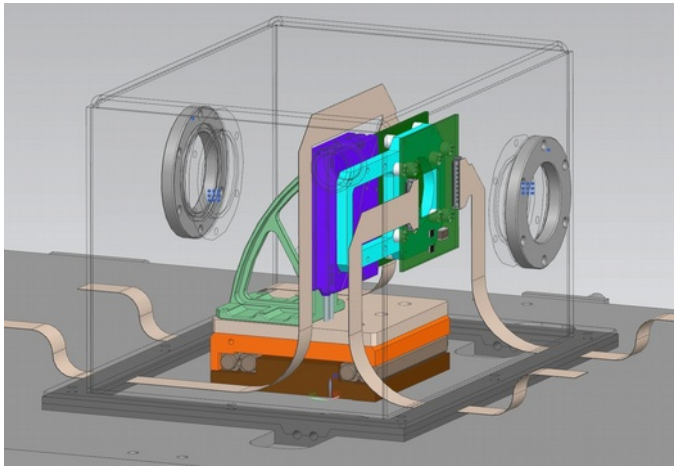


GBP meeting

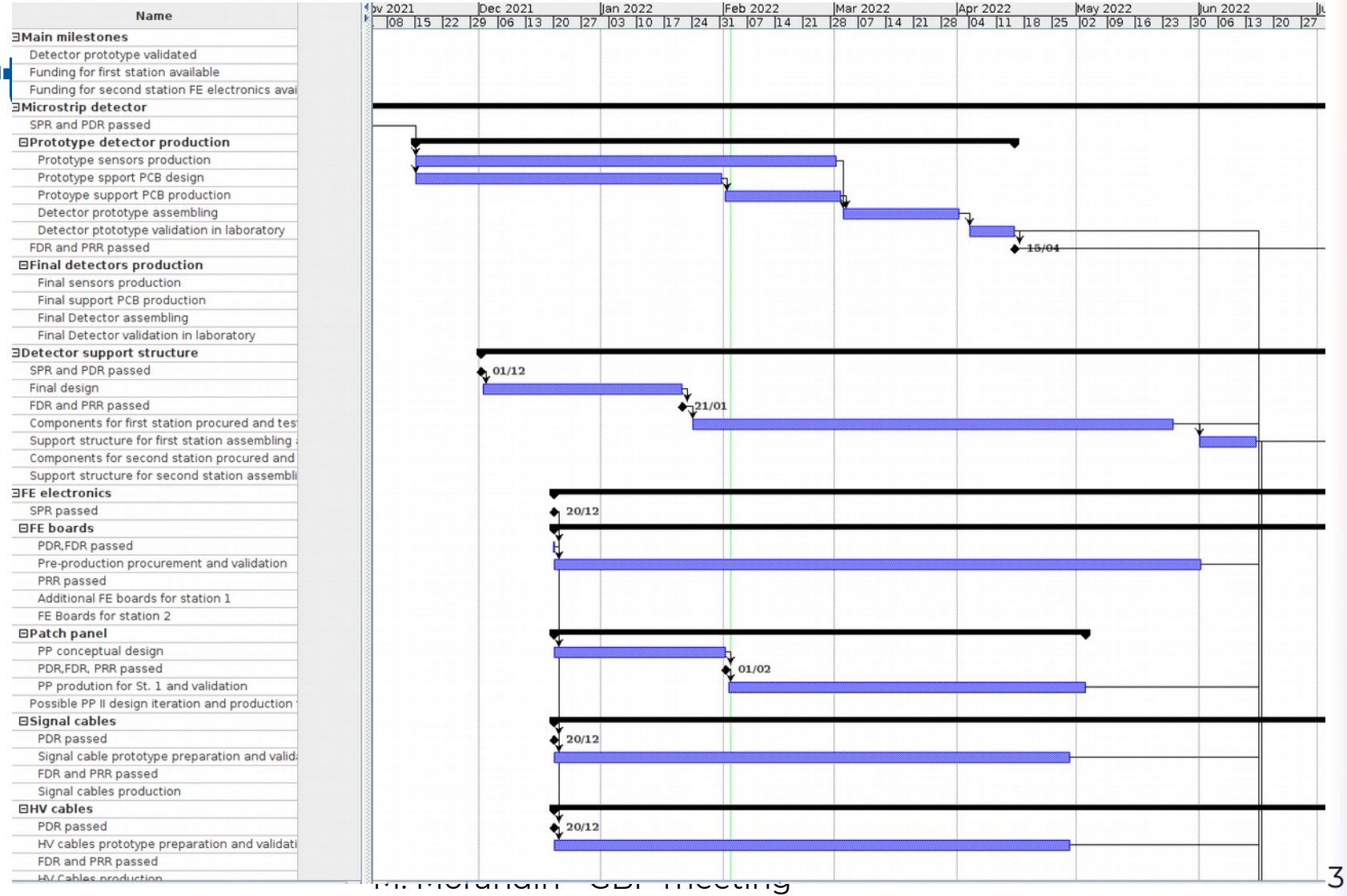
M. Morandin for the GBP team
INFN- PD

2 Fev. 2022

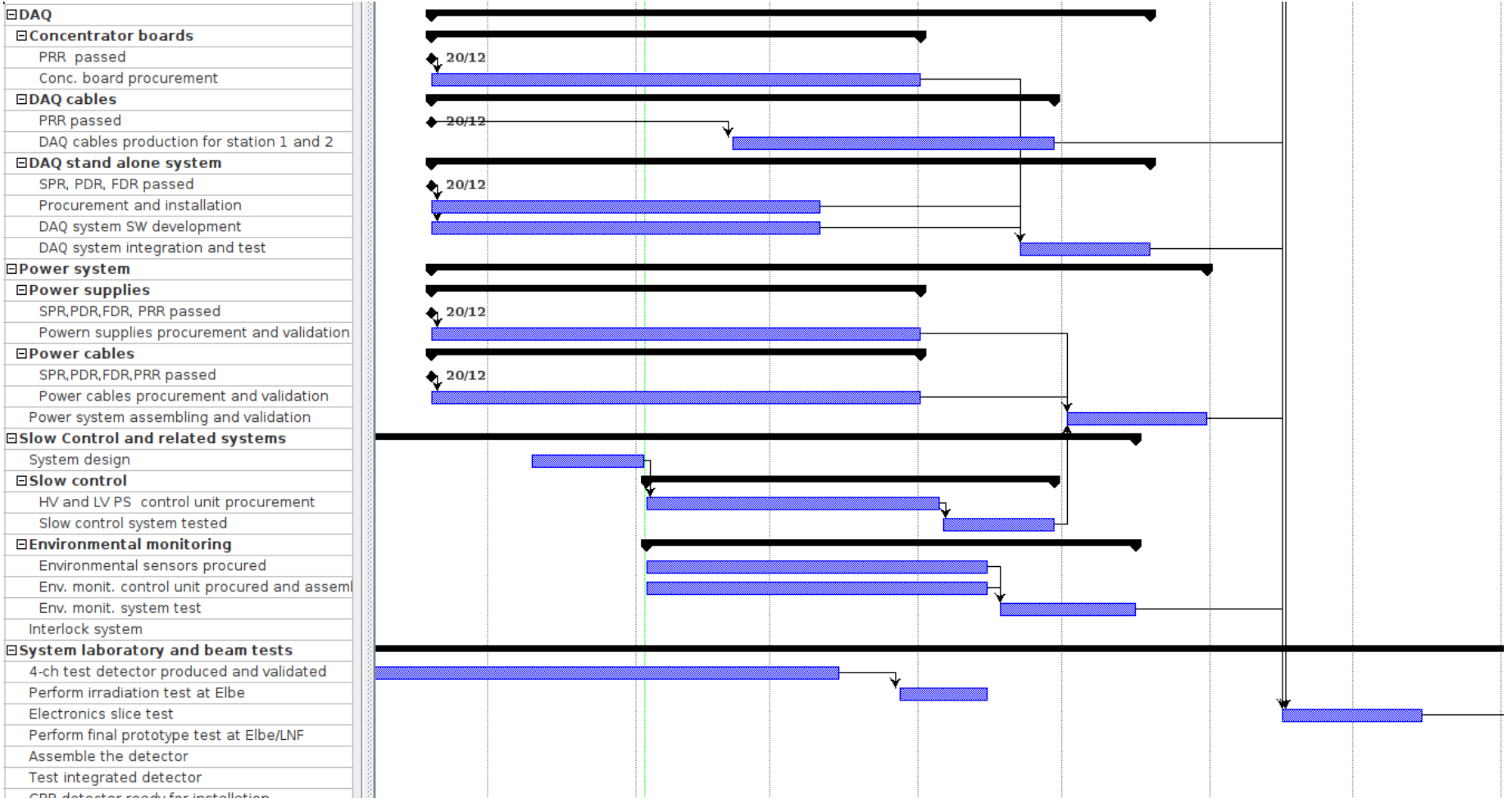
The GBP Schedule

- created and maintained with **Libreproject**
  - open source tool available on all platforms (Linux, Windows, MacOS)
  - https://www.projectlibre.com/
- stored as a GBP_Schedule_Vx.y file in Confluence
  - https://confluence.desy.de/display/LUXE/Project+organization

I part


Name
Main milestones
Detector prototype validated
Funding for first station available
Funding for second station FE electronics avai
Microstrip detector
SPR and PDR passed
Prototype detector production
Prototype sensors production
Prototype spport PCB design
Protoype support PCB production
Detector prototype assembling
Detector ptototype validation in laboratory
FDR and PRR passed
Final detectors production
Final sensors production
Final support PCB production
Final Detector assembling
Final Detector validation in laboratory
Detector support structure
SPR and PDR passed
Final design
FDR and PRR passed
Components for first station procured and tes
Support structure for first station assembling
Components for second station procured and
Support structure for second station assembli
FE electronics
SPR passed
FE boards
PDR,FDR passed
Pre-production procurement and validation
PRR passed
Additional FE boards for station 1
FE Boards for station 2
Patch panel
PP conceptual design
PDR,FDR, PRR passed
PP prodution for St. 1 and validation
Possible PP II design iteration and production
Signal cables
PDR passed
Signal cable prototype preparation and valid
FDR and PRR passed
Signal cables production
HV cables
PDR passed
HV cables prototype preparation and validati
FDR and PRR passed
HV Cables production
ov 2021
Dec 2021
Jan 2022
Feb 2022
Mar 2022
Apr 2022
May 2022
Jun 2022
08 15 22 29 06 13 20 27 03 10 17 24 31 07 14 21 28 07 14 21 28 04 11 18 25 02 09 16 23 30 06 13 20 27
15/04
01/12
21/01
20/12
01/02
20/12
20/12

II part


DAQ
Concentrator boards
PRR passed
Conc. board procurement
DAQ cables
PRR passed
DAQ cables production for station 1 and 2
DAQ stand alone system
SPR, PDR, FDR passed
Procurement and installation
DAQ system SW development
DAQ system integration and test
Power system
Power supplies
SPR,PDR,FDR, PRR passed
Powern supplies procurement and validation
Power cables
SPR,PDR,FDR,PRR passed
Power cables procurement and validation
Power system assembling and validation
Slow Control and related systems
System design
Slow control
HV and LV PS control unit procurement
Slow control system tested
Environmental monitoring
Environmental sensors procured
Env. monit. control unit procured and assem
Env. monit. system test
Interlock system
System laboratory and beam tests
4-ch test detector produced and validated
Perform irradiation test at Elbe
Electronics slice test
Perform final prototype test at Elbe/LNF
Assemble the detector
Test integrated detector
20/12
20/12
20/12
20/12
20/12

Main milestones

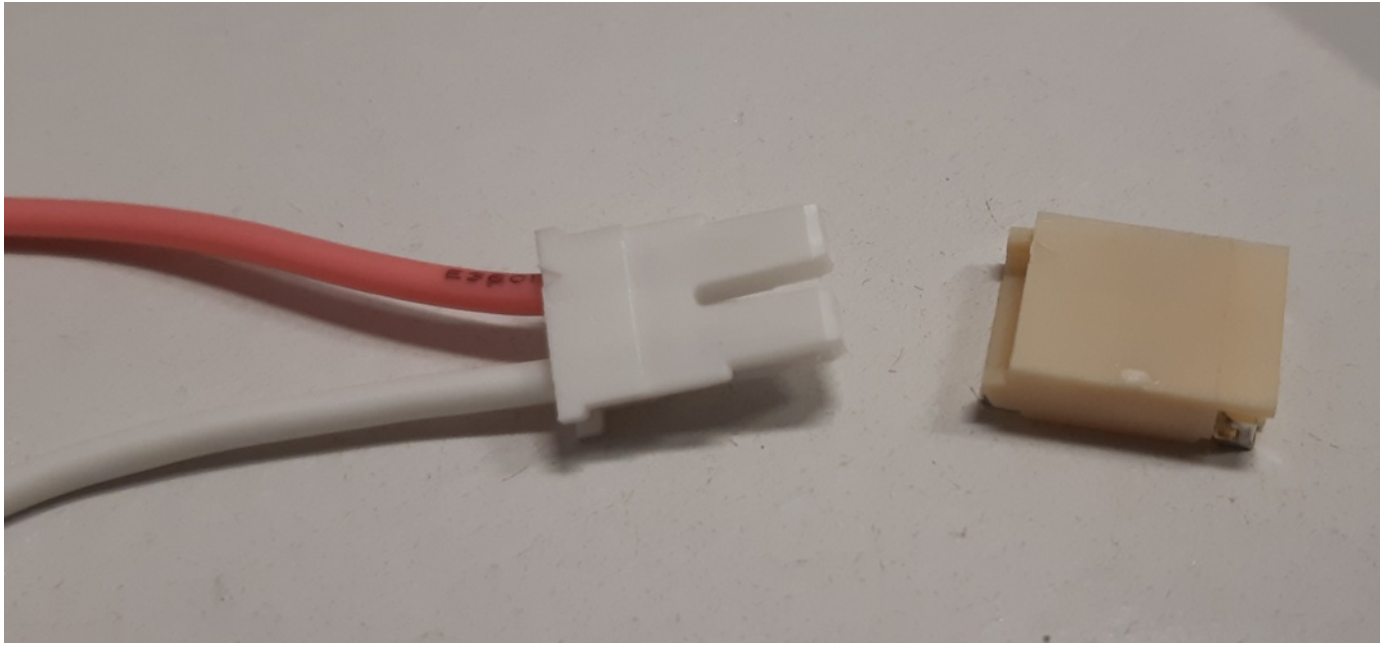
- March 15: 4-channel detector ready
- April 26: Elbe test
- June 15: full prototype system ready
- October 15: final test at Elbe or LNF

Status 4-channel PCB

- Just resubmitted the order for production
  - see details in Michele's presentation
- unfortunately final offer was much higher than anticipated and we wad to re-start the purchasing procedure from scratch
- in addition delivery time is 2 weeks instead of one
- all components have been collected
- if everything goes OK, shipment to Tomsk should be done on Feb. 16-17

HV connectors

- Will be tested soon



Concern about noise

N Gamma / bunch		1.0E+07				
CCE		10.00%				
			I station		II station	
			upstream	downstream	upstream	downstream
Peak deposit	GeV		0.09	0.21	0.33	0.45
e-h pairs generated			3.3E+06	7.8E+06	1.2E+07	1.7E+07
e collected			3.3E+05	7.8E+05	1.2E+06	1.7E+06
charge collected	pC		0.05	0.12	0.20	0.27
noise	fC		10	10	10	10
peak-to-noise ratio			5.33	12.44	19.56	26.67