



Urgent GEM Activities @ INFN sez. Bari

CMS BA Group Meeting
Apr 30 2020

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- In preparation for the documentation asked by the director to retake gradually the activities at INFN Ba

BARI, Apr 30 2020



Urgent activities

- Definition of Urgent activities as activities that would suffer if postponed to September
- Activities do not necessarily have to start May 4th but can wait until Mid-May (18/05) or early June
- Activities:
 - *Qualification of Packaged VFAT3 chips*
 - *Construction and Test of 3 ME0 Prototypes*
 - *Other activities can be postponed to September or are performed in telelavoro*
- Following slides as backbone for presentation
- Nostro Input per INFN GdL:
<https://docs.google.com/document/d/1fNfPhuzlDtX61YyKQqUH6uEs3AskcFXqtsz-4rC5H4Q>

Test VFAT3

- *responsabilità INFN Ba*
- *devono essere testati con un'attrezzatura progettata e realizzata del servizio elettronico*
- *soltanto l'inizio di una catena di test e verifiche dell'elettronica di GE21 al CERN, fatto*
- *Delay comprometterebbe le high-level Milestone:*
 - *GE21.RD.FE.5: On-chamber and off-chamber prototype electronics integration and performance studies completed (21.Aug.2020)*
- *E metterà a rischio l'installazione di GE21*
- *durante gli Year-End-Technical-Stop di Run-3*

ME0 Construction & Test

- *responsabilità INFN,*
- *I 3 prototipi una volta assemblati e certificati, devono essere spediti al CERN entro inizio agosto.*
- *Tali moduli risultano indispensabili per il workflow previsto per le attività dell'upgrade i fase 2:*
 - *i test di integrazione meccanica nell'apposito demonstrator*
 - *i test di integrazione elettronica di lettura e del DAQ*
- *Comprometterebbe high-level milestone:*
 - *ME0.RD.DET.4: Chamber (stack) prototype mechanical prototype testing and validation complete: 30.Set.2020*
 - *ME0.RD.BE.3: Integration of the on-chamber and off-chamber electronics and performance assessment complete: 8.Jan.2021*

ME0 Construction & Test

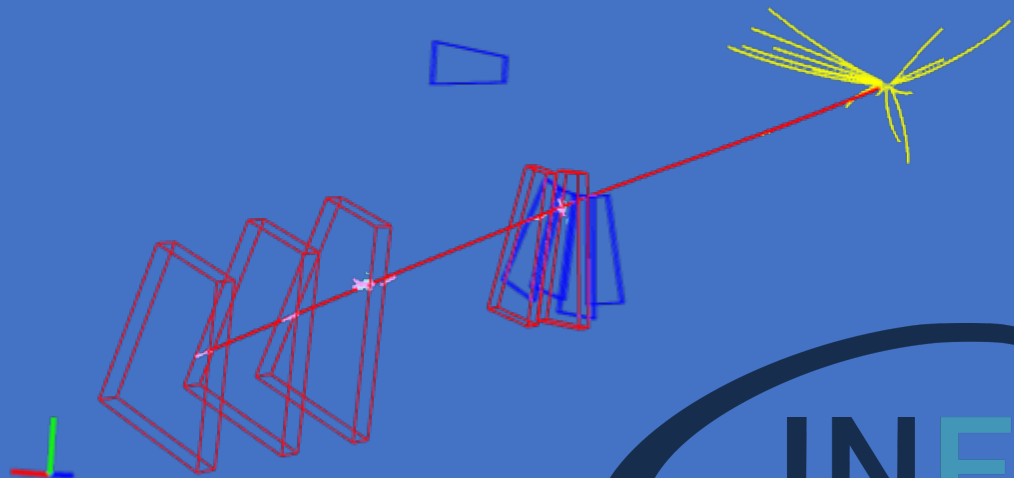
- Construction:
 - Pre-Assembly: 1p in office (1/2 day / module)
 - Intervention necessary in Officina (*drill holes in Drift PCB*)
 - Intervention in Servizio Elettronico (R81) (*solder SMD*)
 - Assembly: 2p in cleanroom (1/2 day / module)
- Test
 - in sequence for a single module: QC3-4-5
 - different modules can be in parallel in different stands:
eg M3 @ QC3, M2 @ QC4; M1 @ QC5
 - QC3-4 done by the same person in GEM Labo S1
 - Expert likely not necessary but cannot be excluded a priori
 - QC5 done by another person in GEM Labo S8
- Most rooms are Large: $\sim 30\text{m}^2$

VFAT3 Test

- Development & Usage of VFAT3 Test Stand
 - VFAT3 boards – MOSAIC Board – Oscilloscope – PC
 - Alimentazione LV
 - Cannot be done at home
 - Expert intervention might need 2 persons to debug
- Development of SW
 - Unfortunately SW can only be tested on setup
 - SW development remotely highly inefficient



Backup



CERN, Jan 10 2019

