

DRD1-WP1

2024 summary activity

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Task, deliverable, milestone

The WP1 is defined by **8 tasks**. From the proposal up to now, an **update** of the task activities occurred to include new feedback from institutes during the **WP1 workshops**.

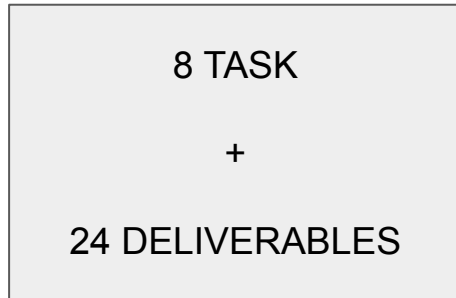
Each task has 3 **internal deliverables** used to facilitate collaboration between institutes and identify potential common projects. All these specific deliverables (~24) are merged in general deliverables to be included in the Annexes

Two **general deliverables** and five milestones are included in the annexes to merge the different task activities.

Scientific organization of the WP1

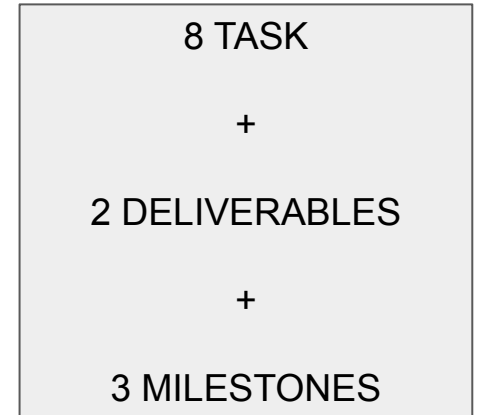
WP1 - internal

Institutes



WP1 - general/annexes

SCB



WP1
leaders



WP1 workshops

The scope of the WP1 Workshop was to:

- Track group activities
- Monitor the progress of milestones and deliverables
- Facilitate collaboration between institutes and identify potential common projects
- Prepare a report for presentation at an upcoming DRD1 collaboration meeting

1° workshop in March, 7 : <https://indico.cern.ch/event/1373252/>

- > 35 contributions
- > updated tasks activities and internal deliverables

2° workshop in November 14 : <https://indico.cern.ch/event/1459135/>

- > 18 contributions
- > 4 new institutes joined tasks

Activity summary

Following the two workshops, the efforts and plans of the Institutes contributing to the WP1 is reported in a document “Activity Summary”.

The document is intended as a “**dynamic**” **reference** that will be continuously updated to track group activities and milestones. Ultimately, it aims to provide an overview of the status of the work towards the defined deliverables.

Additionally, **this review is necessary to better shape the collaboration**, offering insight into the active institutes, their collaborative efforts within the WP tasks, and their stated deliverables. This will enable to assess the overall health of the community, and to clearly associate an activity to Institutes (who does what).

For **each Institute** or Cluster:

- Short description of the **activity** and R&D plans
- Internal **deliverables**
- Possible collaborative effort for **WGs**

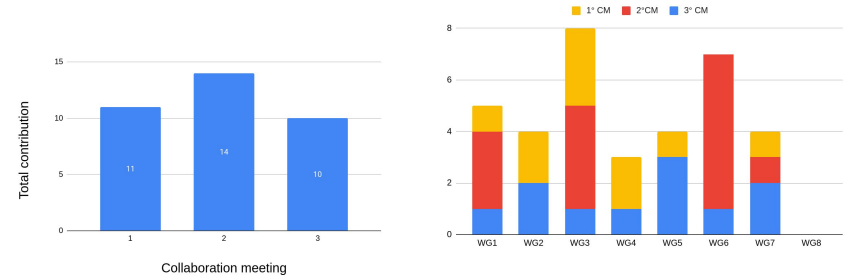
WP1 and WGs during the collaboration meetings

1° DRD1 Collaboration Meeting

WG1: High rate capable RPCs : technical challenges
WG2: Applications of RPCs for muon systems
WG2: IDEA/FCC Muon system with μ RWELL
WG3: Eco-gas studies
WG3: Gas systems for gaseous detectors
WG3: Resistive electrodes
WG4: Simulation of RPC detectors with updated R134 cross sections and future prospects
WG4: Simulation of Resistive Detectors
WG5: Scalable Readout System
WG7: Long-term and aging studies: the example of CMS Muon system

2° DRD1 Collaboration Meeting

WG1: First results of the cylindrical μ RGroove prototype for STCF inner tracker
WG1: Progress on fine granularity resistive Micromegas and preliminary results of the capacitive sharing technique
WG1: Comparative study of resistive MPGDs with VMM3a/SRS readout
WG3: ASIC developments for the AMBER MM experiment
WG3: RPC physics and performance vs. low discrimination threshold
WG3: SALSA: a new versatile readout chip for MPGD
WG3: uRoc Concentrator for VMM Front End's (not included in WP1 but it fits very well)
WG6: Ongoing R&Ds for EIC detector
WG6: DLC deposition status at CERN , and uRgroove production
WG6: μ RWell for LHCb upgrade
WG6: Manufacturing of High Rates Resistive Micromegas
WG7: μ RGroove results from April Test Beam



3° DRD1 Collaboration Meeting

WG1: Efficiency and time resolution of a thin gap Resistive Cylindrical Chamber
WG2: Test beam first preliminary results on the GEM-uRWell prototypes for ePIC endcap tracking
WG2: Large area micromegas detector development for AMBER@CERN
WG3: Ageing studies for CSC detectors and ageing methodology
WG4: Optimization approach for optimal eco-friendly gases for RPCs
WG5: SRSe frontend Clock, Trigger and Power distribution
WG5: Update on VMM3a/SRS activities at FRIB (not included in WP1 but it fits very well)
WG5: Status of latest developments on SRS hardware
WG6: New RPC facility
WG7: Beam test results of the c- μ RGroove
WG7: Corryvreckan integration modules for MPGDs

Interactions with WP-FAs

The latest updates about the existing resources (material+FTE) or the additional ones was performed in January 2024.

The signature of the MoU is crucial to defines the resources (existing and additional), to increase the engagement of the institutes and to shape the WP1 for the next stage of DRD1.

The WP1 is ready for the endorsement in early 2025 (asap).