WG1 : Technologies

- Large variety of technologies to cover future needs, with cost-awareness
- Perimeter : MPGD, RPCs, Wires, TPCs, new amplification techniques

Aim of WG1 : to facilitate exchanges on various technological R&Ds and application projects. Same as in RD51, but extended to other technologies than MPGDs. Also includes former RD51/WG2 items : detector physics, characterization, operation and performance. Follow-up projects years after year to keep the experience and assess how they evolve with time.

Section 4.1 of the DRD1 draft (open to comments)

- State-of-the art of various technologies
- Challenges specific to each technology
- A list of tasks (reflected in Work Packages of DRD1/WG2

WG1

Improvements towards large areas, higher rates or lower background, higher stability, better eco-compatibility, precise and fast timing

- New challenges (with examples)
  - long straws > precise positioning of the wire
  - High-rate RPCs > low-resistivity materials
  - Robust and stable MPGDs > new materials
- New ideas, new structures
- General meetings
  - Presentation of new ideas, goals and challenges, and realizations
  - Follow-up of projects, from concept to several years operation
- Participation in Common Projects and Work Packages
- Strong overlap with all other Working Groups:
  - Electronics (architecture, spark protection, matter budget, consumption, cooling…)
  - Gas and materials (resistive materials, low material budget,…
  - Production aspects
  - Physics and simulation
  - Detector characterization
  - Dissemination

WG1

- Tasks (as reflected in WP tables)
  - Portable detectors (sealed detectors, HV on battery)
  - New generation Gaspix
  - Mutiplexed detector
  - Fast and precise timing