



# PS/SPS Physics Coordination

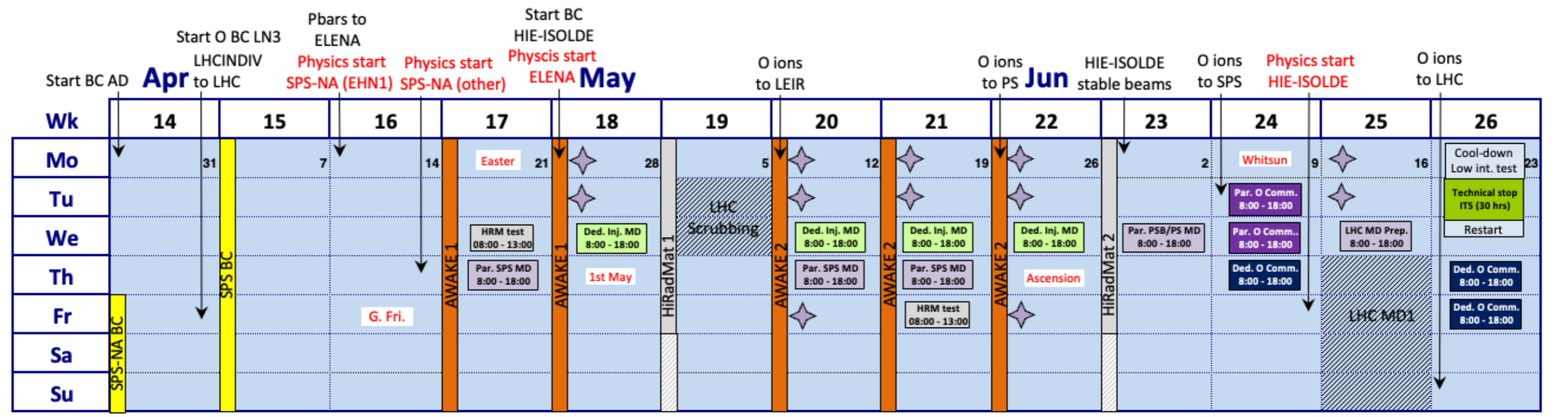
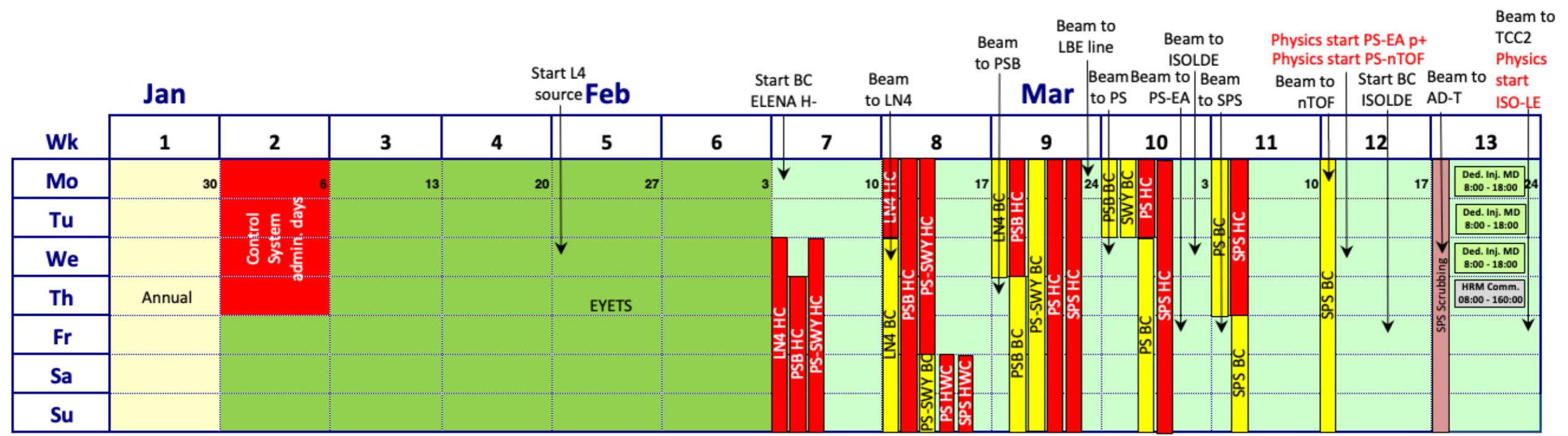
M.Jäkel  
(Deputy Physics Coordinator)

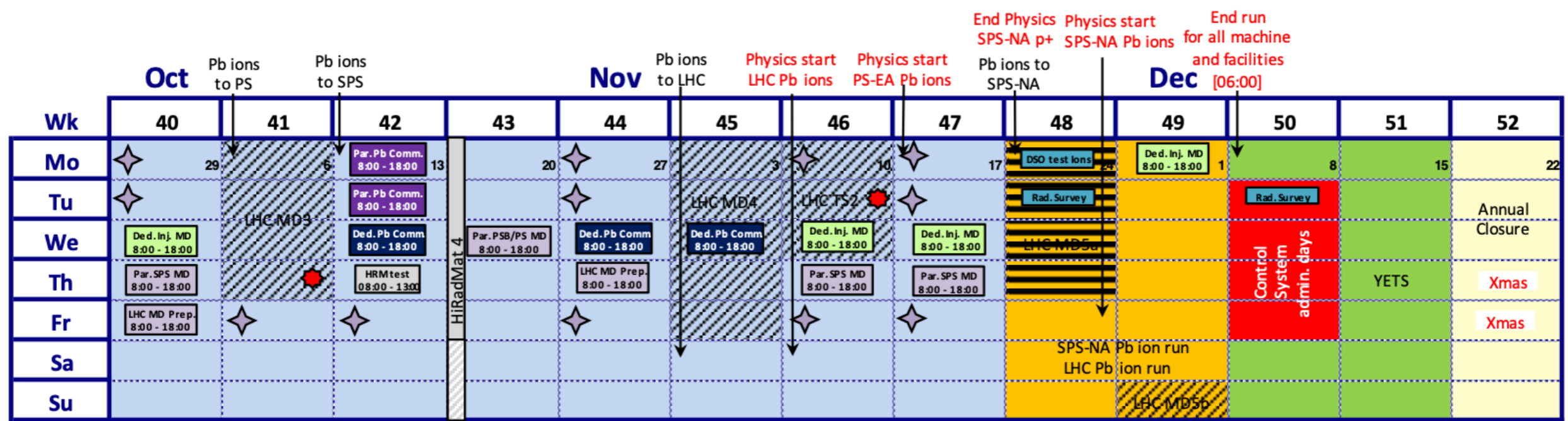
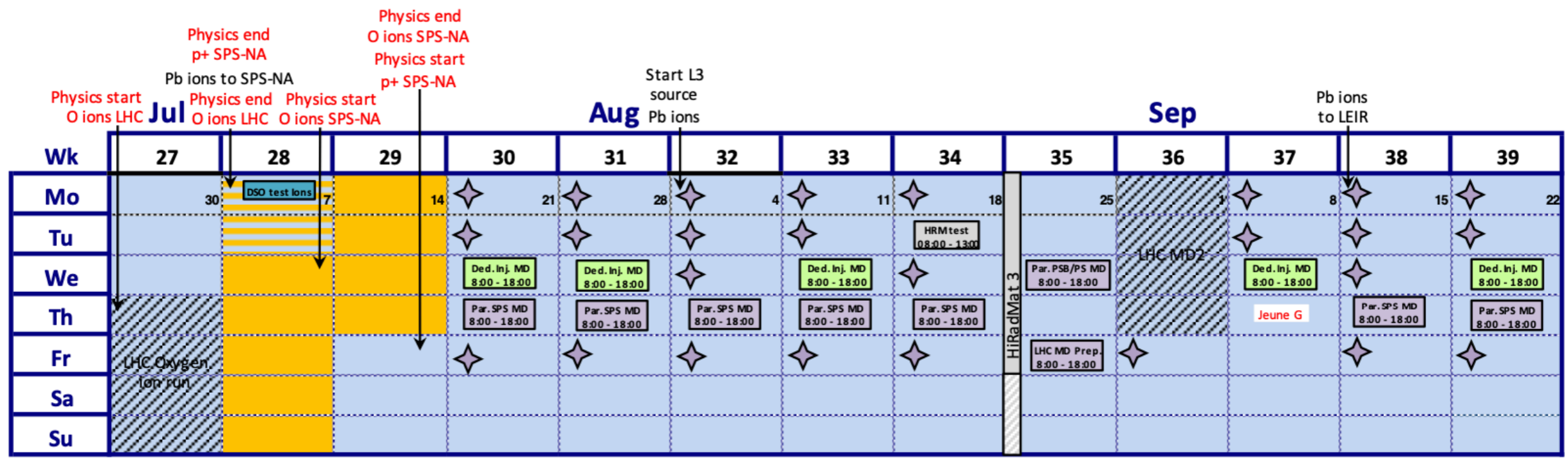


EP-DT  
Detector Technologies

- ▶ **Call for Beam Requests** closed :
  - Beam request from GIF++ received. 3 x 2 weeks as in the last years
  - In agreement with DRD1 request, so most likely the usual parallel operation
  - 17 request for H4 in total, longest for 70 days for NA64e
  - Zones/times not allocated yet, but we have currently 2 weeks for CMS ECAL for beam delivery to PPE164. No request from NP04.
  - First draft expected “soon”, H2/H4 is the first to be scheduled.
- ▶ **Injector schedule** for next year “finalised” (v0.9) :
  - see next slides, to be approved tomorrow in the RB
  - **SPS-NA EHN1 Physics Start = 14.April 2025**
  - **SPS-NA Proton run ends 24 November 2025**
  - 9(+2) days of O ions run July
  - **2 weeks of Pb ion run at the end (including setup) / in parallel with LHC**
  - End of 2025 run for all facilities : 8. Dez.2025, 06:00
- ▶ **Injector schedule** 2026 first drafts available :
  - Very short YETS, Injectors will start  $\approx$  4 weeks earlier in 2026
  - LHC will stop 29 June, SPS proton run ends 30 July 06h00
  - 4 weeks of LHC Pb run in June, parallel to SPS protons. Filling every  $\approx$  6h for 1h
  - Followed by 4 weeks of p and 4 weeks of Pb ion run - dedicated, without LHC fillings
  - Final end : 30 August 06h00 -> LS3

### Injector Schedule Version 0.9, Rende Steerenberg





- Proton & Antiproton physics
- Pb ions physics
- Parallel Injectors MD block (08:00 - 18:00)
- Dedicated Injectors MD Block (08:00 - 18:00)
- YETS & Injector chain Technical Stop
- SPS ions Hardware commissioning
- Annual closure
- Hardware commissioning / Sys. admin days
- Beam commissioning
- Dedicated SPS ions beam commissioning
- Scrubbing
- AWAKE Run (08:00 - 24:00)
- HiRadMat Run & reserve (08:00 - 24:00)
- Special interventions/stops
- Parallel SPS ions beam commissioning
- Dedicated SPS ions beam commissioning
- LHC MD block proton period
- LHC MD blocks ion period
- CERN Official Holidays
- SPS short cycle (6-7 bp) parallel MD (08:00-20:00)
- Linac 3 source refill

► **Operation throughout LS3 :**

- GIF<sup>++</sup> is requesting to be fully operational during the Long Shutdown 3 in standalone irradiation modus (within reasonable limits). Significant perturbations due to NA Cons expected.
- Approval still pending. Influence of extension of Run 3 under investigation for all requests.
- No changes for GIF<sup>++</sup>. Request is still valid and unchanged

**FACILITY: GIF<sup>++</sup> @ EHN1**

**GOALS & JUSTIFICATION:**

- Continuation of ageing studies for the Muon gas detectors of the LHC experiments  
- this is essential in judging the performance and lifetime of the muon chambers in the HL-LHC phase
- Further advances in the development of environmentally friendly gas mixtures to be use in Muon gas detectors  
- again an essential part of the aim to reduce the global environmental footprint of CERN and future facilities
- Further development of gas detectors for future experiments

**SCOPE:**

- We need to run the facility in stand-alone mode, identically to LS2 or several YETS

**SCHEDULING:**

- The full duration of LS3 (within reasonable limits)
- If needed to stop, a longer stop is preferred to short stops, as we need ≈ 2 days for recovering (flushing chambers etc.)

**SERVICES REQUIRED:** Normal operation condition, including access & alarm systems. Support from transport and radiation protection. Gas supply, including handling of bottles.

<b>EN/CV</b>	Minimal rack cooling, compressed air and HVAC bunker	<b>EN/AA</b>	Access control system / Gas detection system / Fire detection system operational
<b>EN/EL</b>	Power to main GIF <sup>++</sup> switchboard and control room	<b>EN/HE</b>	Handling and transport of detector chambers opening floor tiles, handling gas bottles/banks
<b>HSE/RP</b>	Check of material leaving GIF <sup>++</sup> (To be discussed) Periodic check of the sources Operation of RAMSES detectors inside bunker	<b>BE/EA</b>	Primary gas supply, scaffolding for annual maintenance
<b>IT</b>	stable network connection		

**OTHER RELEVANT INFORMATION:**

- The GIF<sup>++</sup> has been designed to run in standalone mode (operating with the Cs-Irradiator) during all times when no muon beam is available since 2014. We normally only stop during the Christmas shutdown and the annual maintenance.