

# ALICE GAS SYSTEMS

2024 Activities

03 February 2025

# TOPICS

- \* Piquet Interventions
- \* M&O interventions
- \* One specific intervention
- \* On going activities

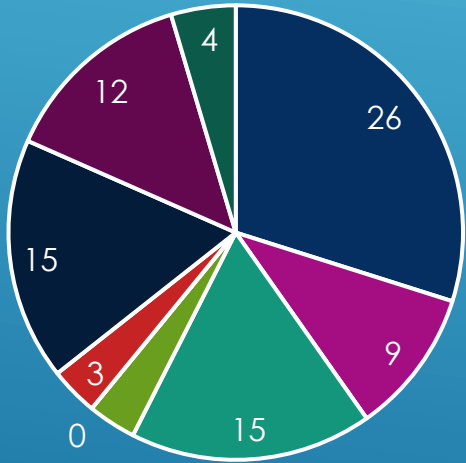
The screenshot displays the GCS LHC Alice v9.12.3 control interface. The top bar shows the system status as 'NO USER' and the time as '2:03:18 PM 04-Mar-2024'. The main interface is divided into several sections:

- Alice Gas Systems:** A grid of panels for various detectors, each showing a status indicator (Run, Stop, Purge) and a DSS (Data System Status) diamond. The panels include:
  - TPC (9):** Run, DSS: Green diamond. Last upgrade: 2022.04.07 09:15:01.
  - TRD (2):** Run, DSS: Green diamond. Last upgrade: 2019.09.16 10:34:56.
  - TOF (0):** Run, DSS: Green diamond. Last upgrade: 2019.07.16 08:15:52.
  - HMP (2):** Stop, DSS: Green diamond. Last upgrade: 2023.02.28 09:16:52.
  - CPV (3):** Run, DSS: Green diamond. Last upgrade: 2019.03.13 12:33:15.
  - MID (5) (uIdentifier):** Run, DSS: Green diamond. Last upgrade: 2022.12.12 09:45:00.
  - MCH (7) (uTracker):** Run, DSS: Green diamond. Last upgrade: 2023.12.05 09:33:02.
- MTR (access to old panels):** A 3D schematic of the detector components, including the L3 Magnet, Time Projection Chamber, Particle Identification Detector, High-Momentum Particle Identification Detector, Absorber, Dipole Magnet, Muon Chambers, Inner Tracking, and Photon Spectrometer.
- PGS (3):** Primary, Run, DSS: Green diamond. Last upgrade: 2024.01.18 10:00:59.
- AUX:** Email DSS enabled, Cat: AUX\_unProcessAlarm is enabled.
- Analysis Chains:** Three panels for Analysis Chain 1, 2, and 3, each showing a status indicator (Stop, Purge) and a DSS diamond.

# PIQUET INTERVENTIONS

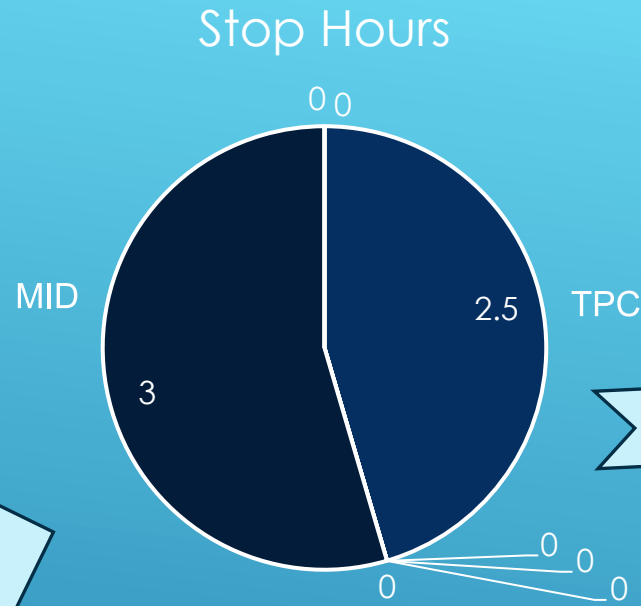
- 87 piquet interventions in 2023

interventions



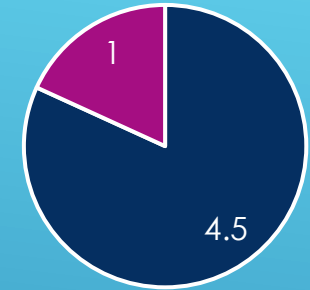
- TPC
- HMPID
- MID
- TRD
- CPV
- PGS
- TOF
- MCH
- Analysis / All

ED/DT/FS – Gas Group



- 5.5h00 of stop

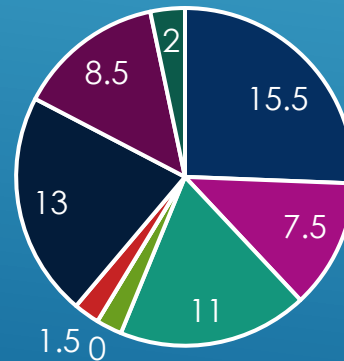
Stop hours



82% / 18%

- Gas system failure
- External reasons

Work hours



- 60.5 of direct work

Louis-Philippe De Menezes

# PIQUET INTERVENTIONS

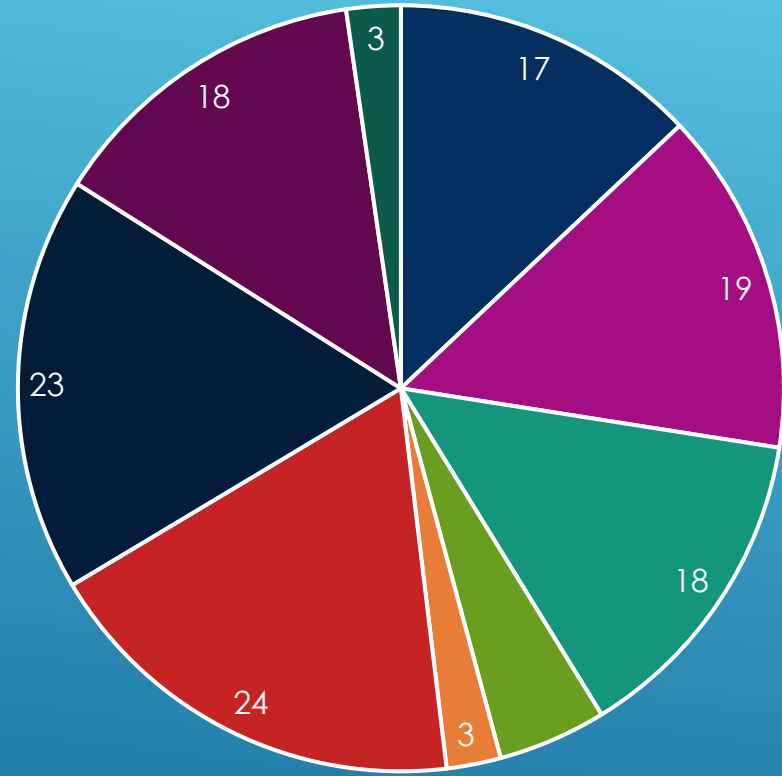
- **Example of intervention on MID**

The system stopped due to the fact that the pressure sensor had a strange behavior and suddenly went to the minimum of the scale (-15 mbars). We swopped the regulation from this chamber sensor to the output distribution sensor. It was running like this before the installation of the chamber sensor.



# M&O INTERVENTIONS

- 130 M&O interventions



TPC TRD TOF HMPID CPV MCH MID All PGS

ED/DT/FS – Gas Group

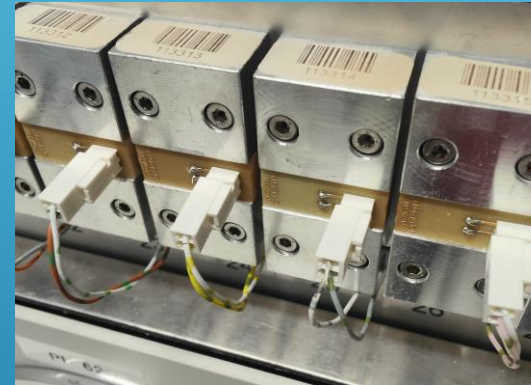
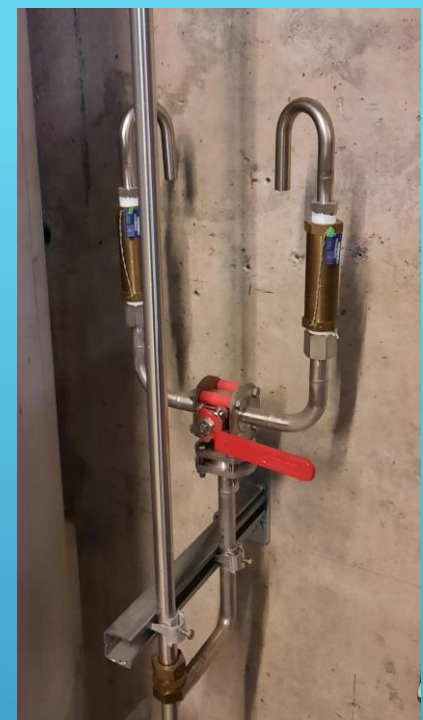
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# M&O INTERVENTIONS

- **Example of activities**

- Safety valves checks
- Analyzers checks calibration / cells changes or calibration
- Pump membranes changes
- Filters change / cleaning
- Power supply change MCH
- Periodic checks
- Festo changes

Safety valves checks



FESTO Modules replacement



ED/DT/FS – Gas Group



TOF Exhaust filter



# SPECIFIC INTERVENTION

- Example of intervention on TPC

Construction and installation of a new small filtration low delta P filter ( 0.02 microns and 20mbars)



# ACTIVITIES 2025 ( ON GOING)

- TRD Leak search
- TPC pump dumper





THANK YOU

