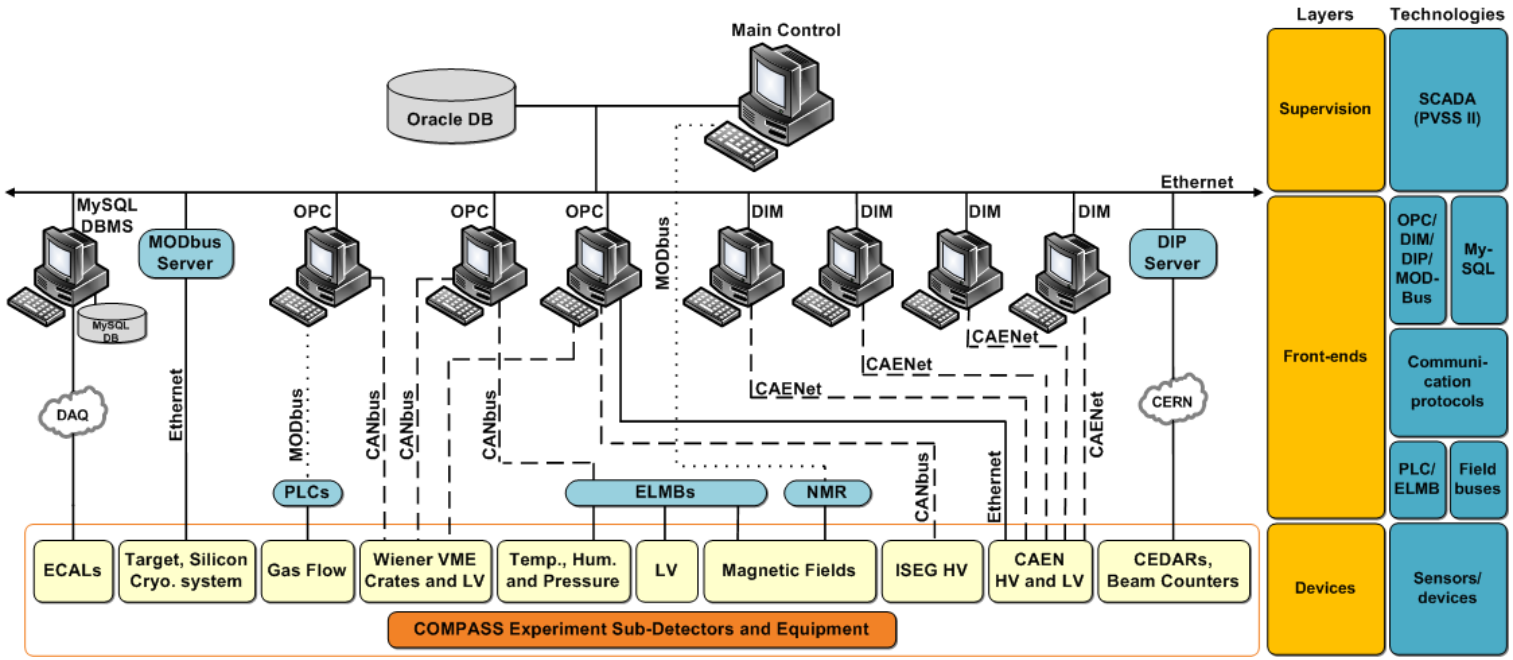
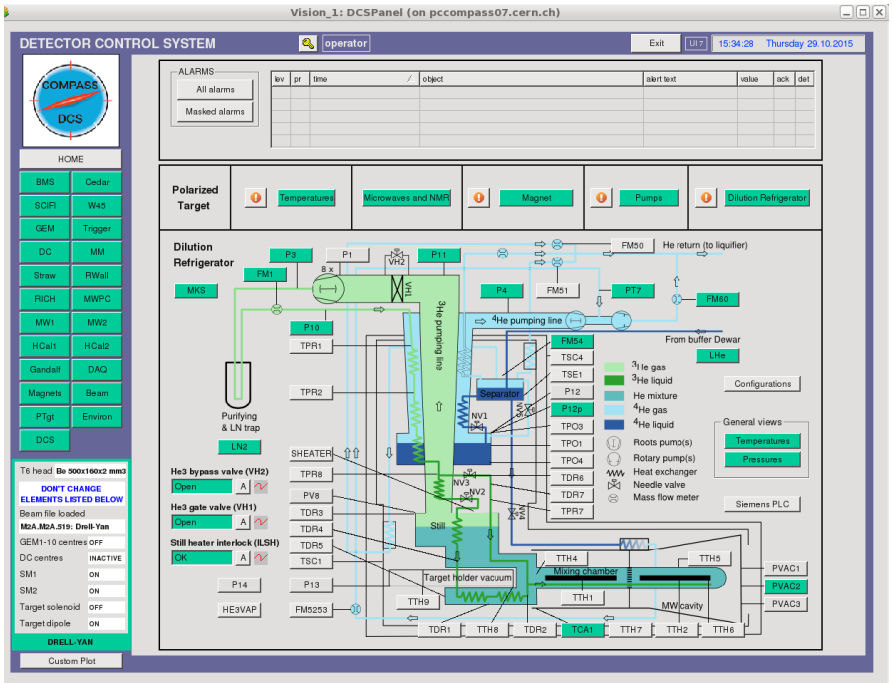
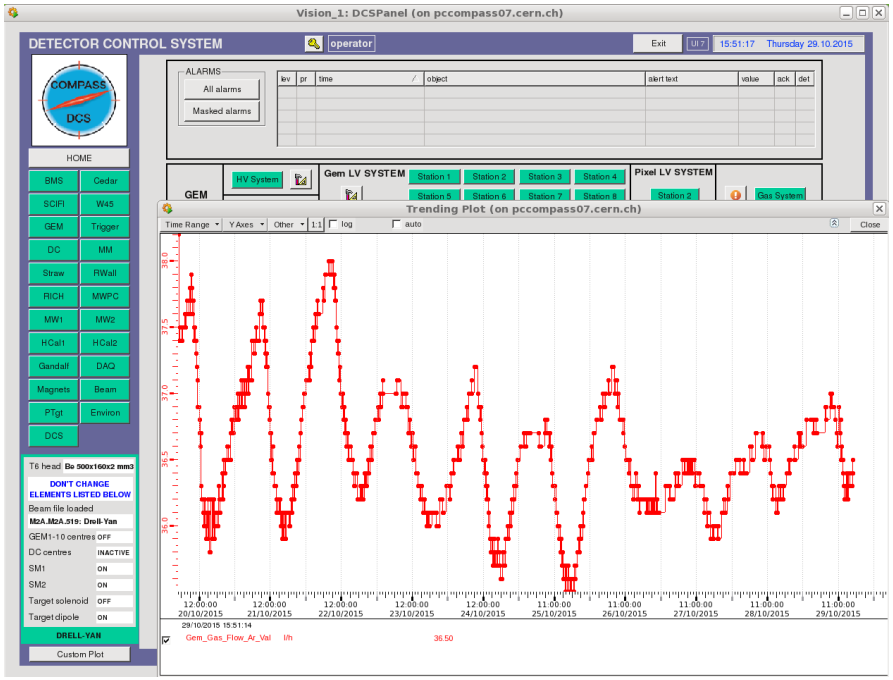
The Detector Control System of COMPASS at CERN



- The Detector Control System (DCS) is the set of hardware and software that **monitors** and **controls** equipment of all the COMPASS experiment and its environment.
- Uses **PVSS/SIMATIC WinCC-OA as SCADA** (supervisory control and data acquisition), which provides a graphical development environment, a programming language (Control), objects and libraries, and is device oriented
- It is an **exclusive responsibility of the LIP-Lisbon group** participating in the experiment since 2003.

The COMPASS DCS user interface





- A great **variety of equipment**, with different interfaces, have to be dealt with in the DCS
- The experiment is quite **flexible**, which constitutes an additional challenge
- $\sim$ **20 000 datapoints** (the basic structures of PVSS/SIMATIC WinCC-OA)
- **Reading cycles** from 1.5 s to 2 min
- $\sim$ 17 000 parameters with **alert handling**
- $\sim$ 19 000 parameter values **archived**, with regular cycles from 40 s to 30 min, or if changes larger than pre-defined values