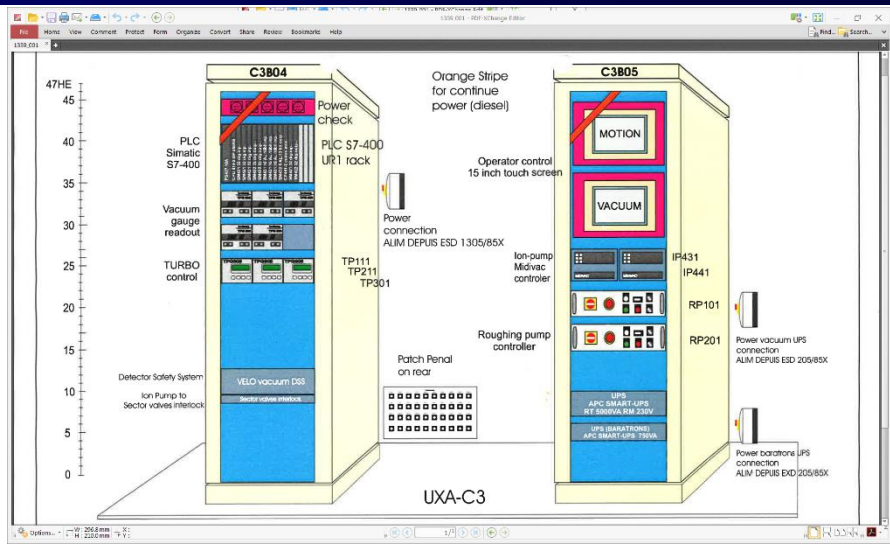
Vacuum Control System for VELO

Vacuum Control, Hardware Racks

**Due to new layout of the C3 platform,
need to displace 2 (VELO) +1 (GIS) hardware racks.**

**This represents ~100 controls cables and
4 power connections.**



- **<u>Step 1</u>: Disconnect all cables external to racks**

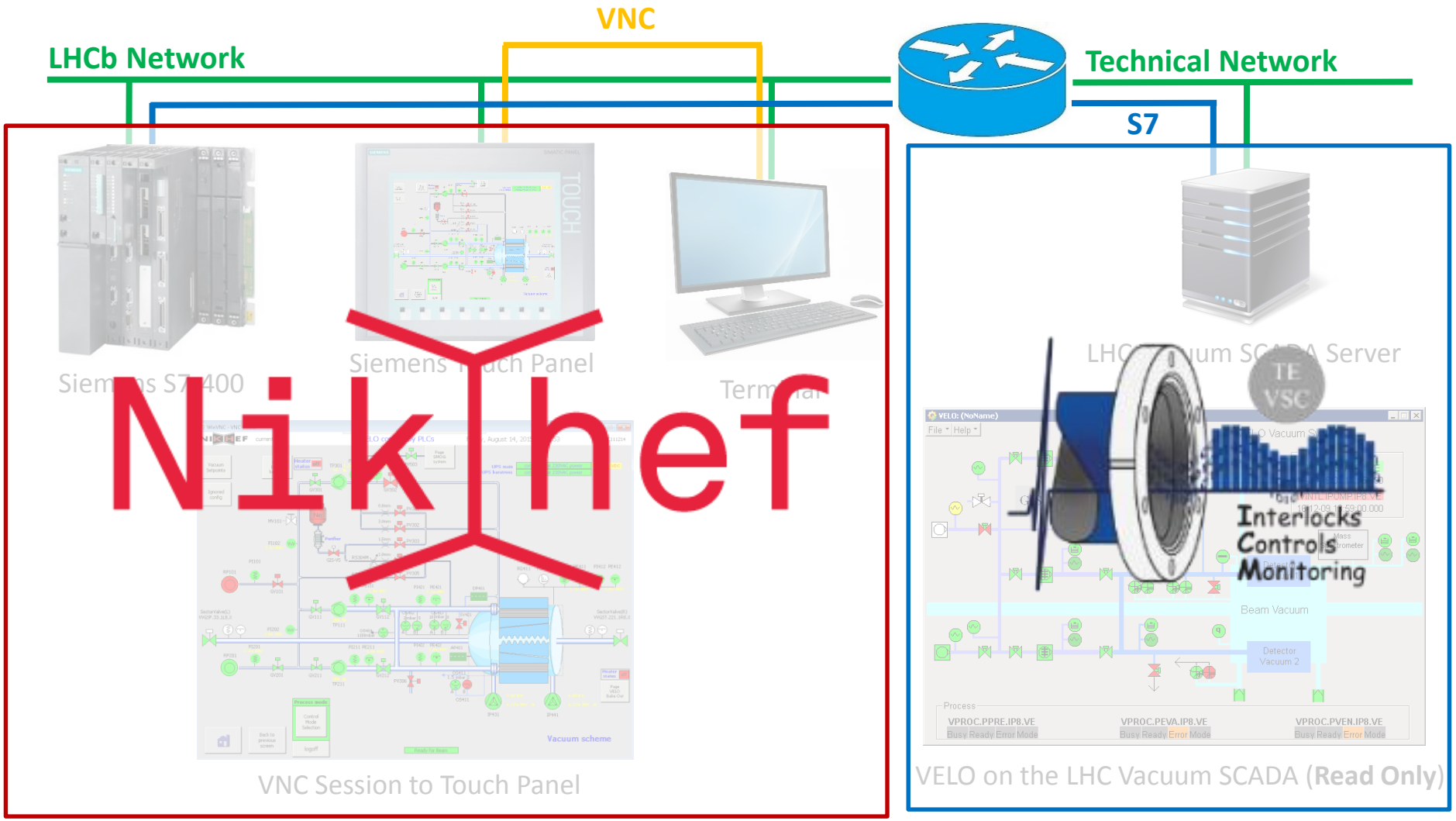
- **<u>Step 2</u>: Displace racks**
- **(Who takes care of displacement/new layout of C3 platform?)**

- **<u>Step 3</u>: Re-connect all cables external to racks**
- **Re-arrange cable trays/cable prolongations**
- **(Who takes care of the power connections for the racks?)**

- **<u>Step 4</u>: Commissioning**

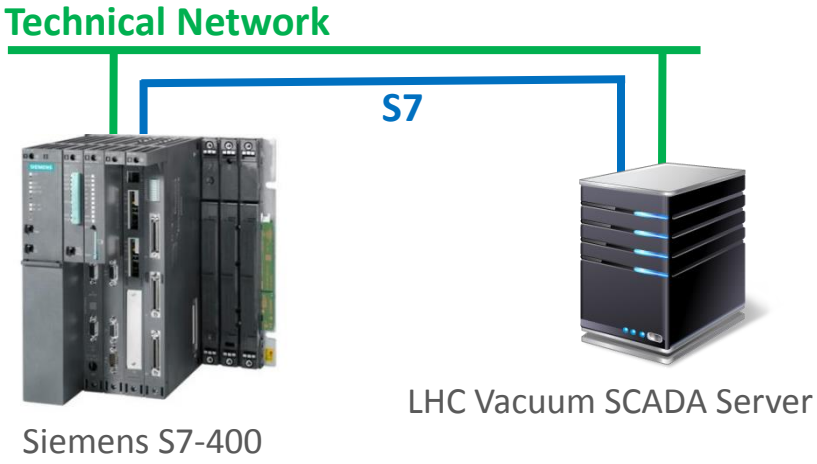
Vacuum Control System for VELO

Current Status



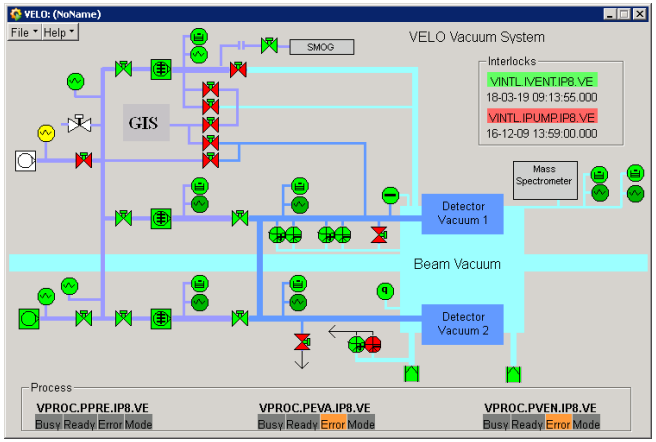
Vacuum Control System for VELO

After LS2



Siemens S7-400

LHC Vacuum SCADA Server



VELO Control on the LHC Vacum SCADA

- Control of the VELO Vacuum System will be fully integrated in the LHC SCADA or in a dedicated SCADA application – To Be Decided
- PLC and SCADA software will be completely rewritten by VSC-ICM using our in-house Vacuum Framework
- Controls hardware (PLC, pump controllers, etc) may or may not remain the same – To Be Decided
- Everything will be moved to the Technical Network
- The VELO Vacuum Control System will be entirely under TE-VSC responsibility

Vacuum Control System for VELO

What VSC-ICM needs:

- Detailed technical specification of the VELO Vacuum System including:
  - System structure and all installed equipment
  - Pumping methods, processes and modes (pumpdown, venting, balancing, etc)
  - Desired functionalities for the new SCADA
- The right conditions to safely perform control system tests and the time to do them:
  - Tests with blank flange and isolated volumes, with no possibility of damaging the RF foil – x month
  - Tests with the old RF foil installed – x month
  - Tests with the new RF foil and the final assembly in place – x month