

PyPLC, A VERSATILE PLC-TO-PC PYTHON INTERFACE

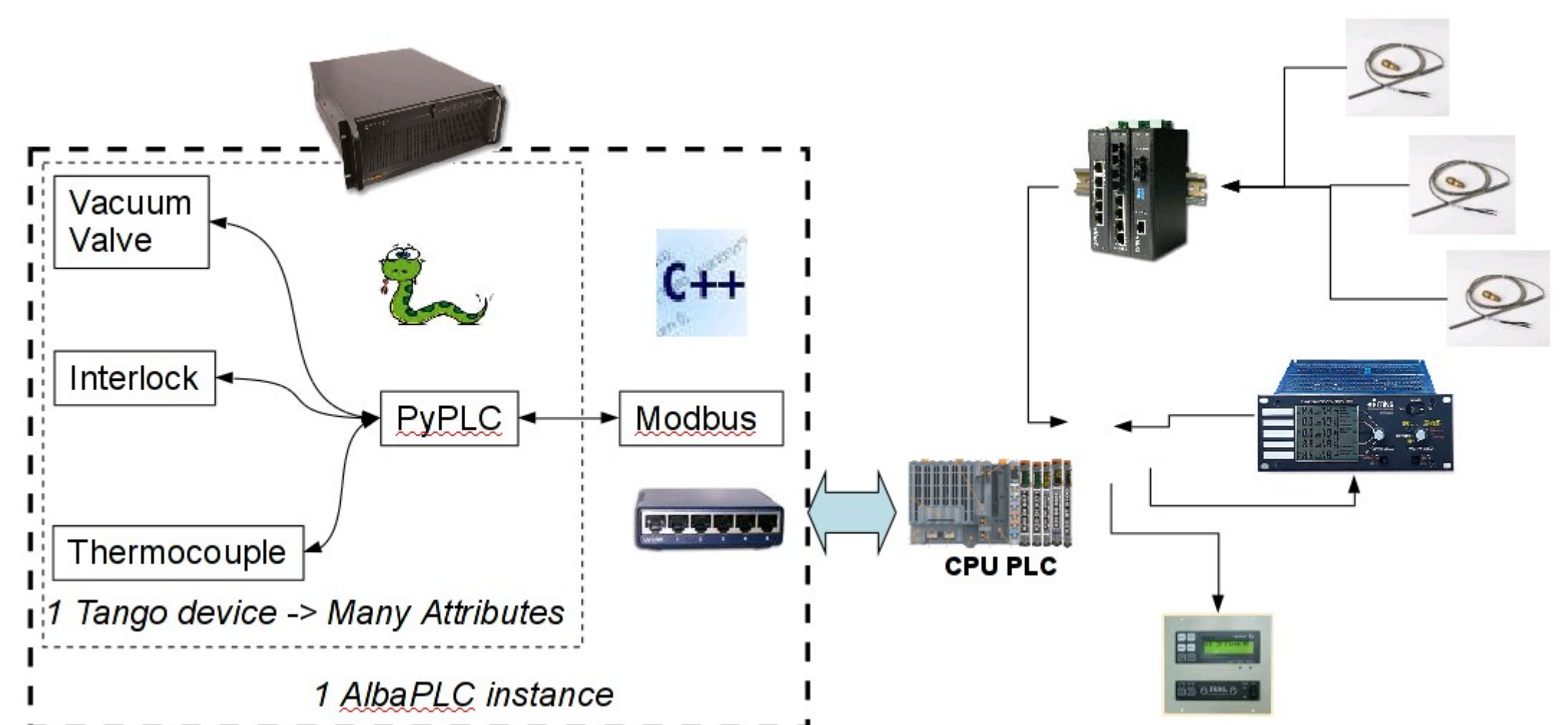
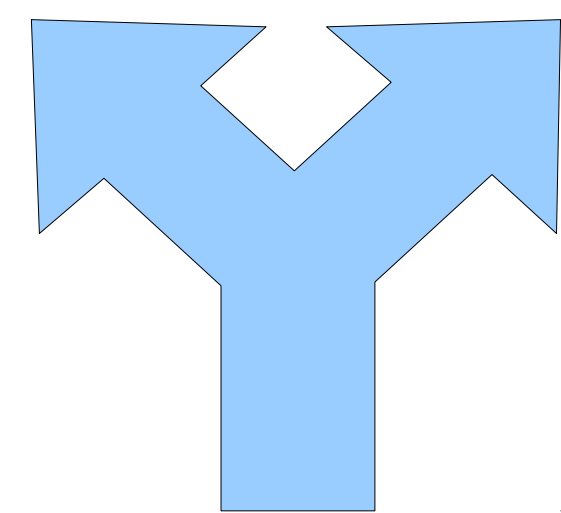
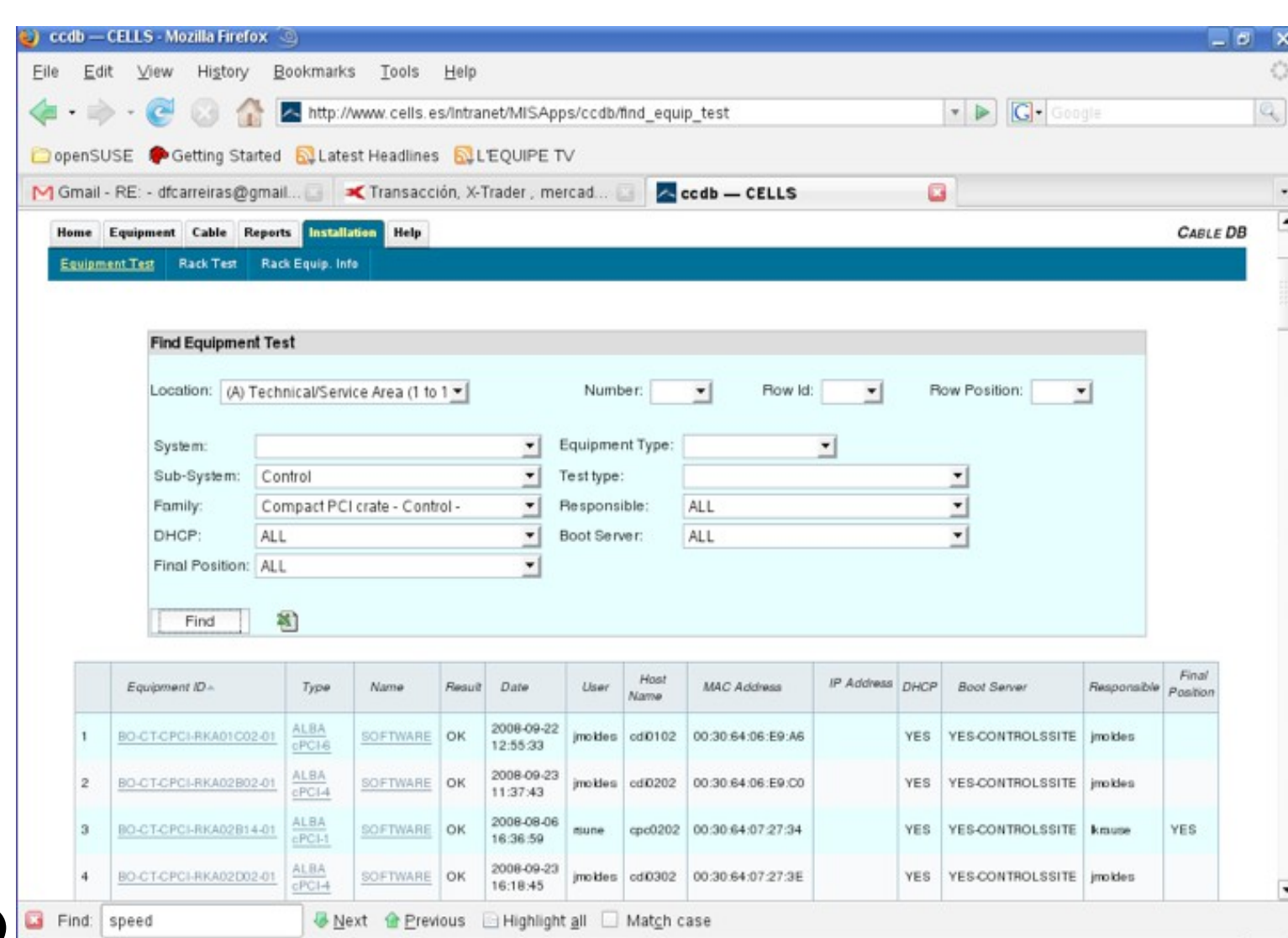
S. Rubio-Manrique,
A. Rubio
D. Fernandez-Carreiras
C. Pascual
G. Cuni



ALBA is a 3GeV Synchrotron Light facility in Barcelona (EU) with 7 operative beamlines and 2 more in construction. Programmable Logic Controllers from several vendors (B&R, Pilz, ...) are used for acquisition, protection and motion within our Tango Control System.

PyPLC Tango Device provides a common interface to all PLC's at ALBA using the Modbus protocol. This developer-friendly interface allowed dynamic and effort-less integration of new PLC signals into our Archiving, Alarm System and Beamlines SCADA (Sardana).

Our cabling database provides an updated repository with all the equipment connected to PLC's at ALBA.



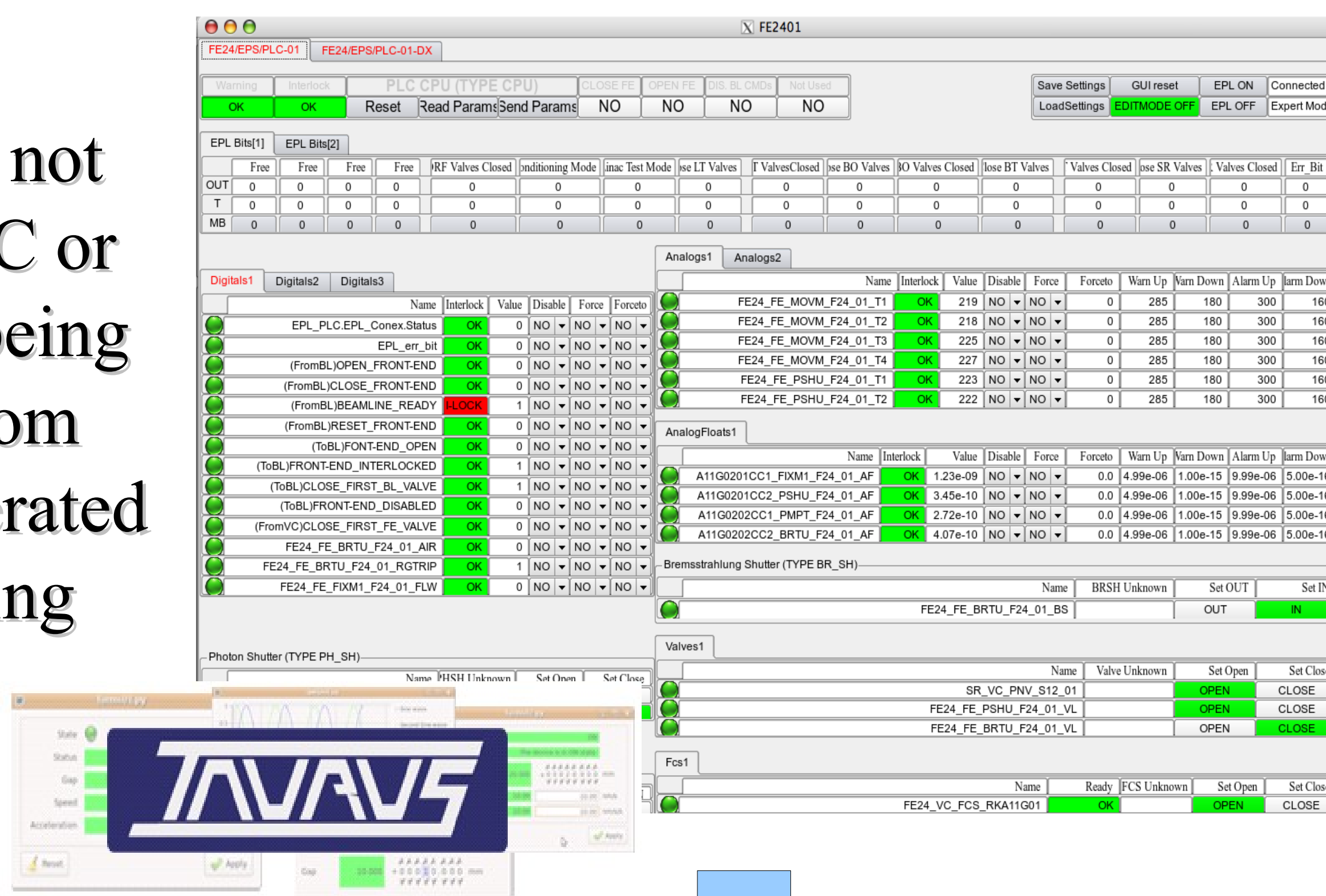
PyPLC enhances the Modbus Tango Device providing smart mapping of the PLC memory. It allows to optimize ethernet/ serial communications and setup selective address refresh when needed.



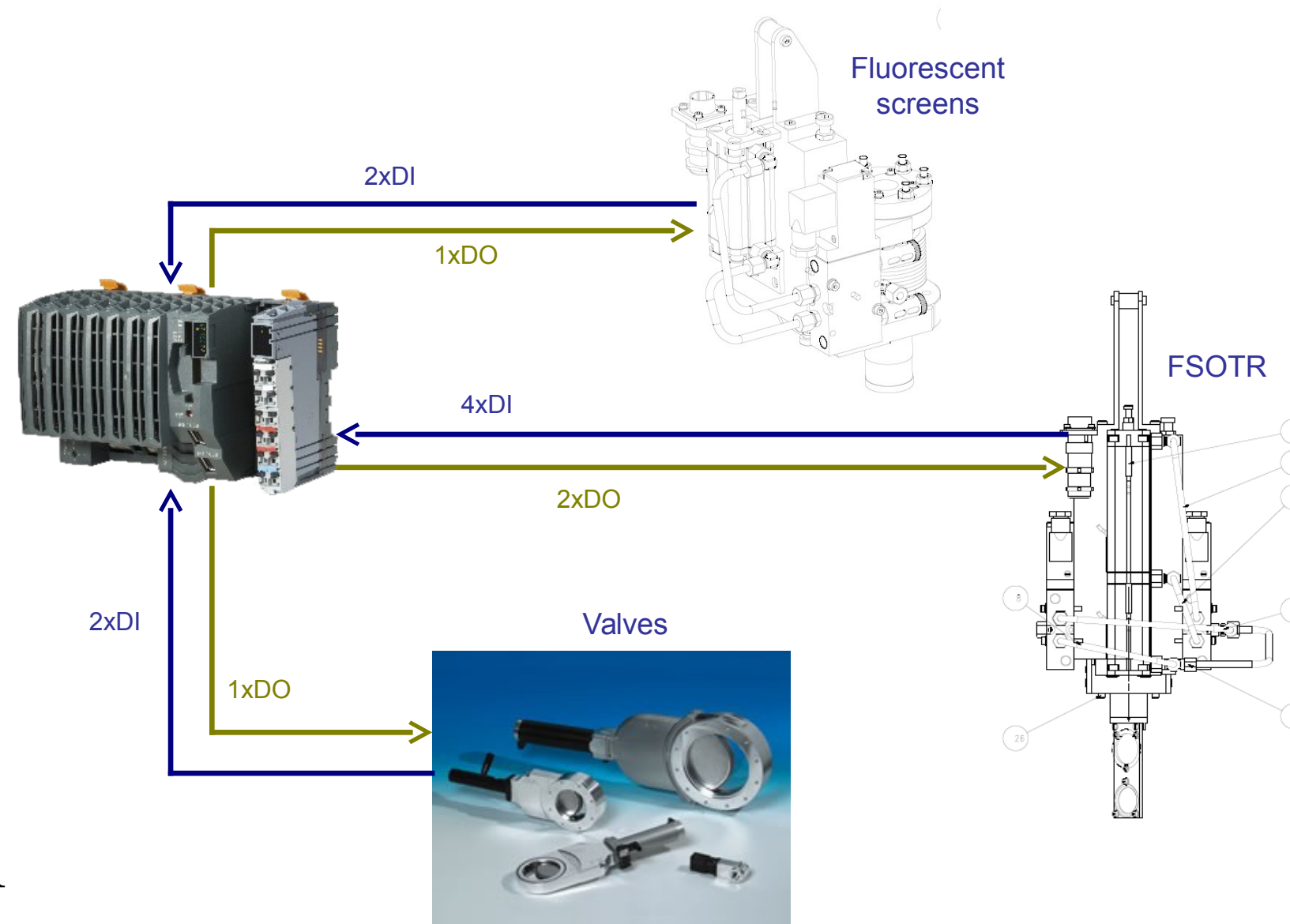
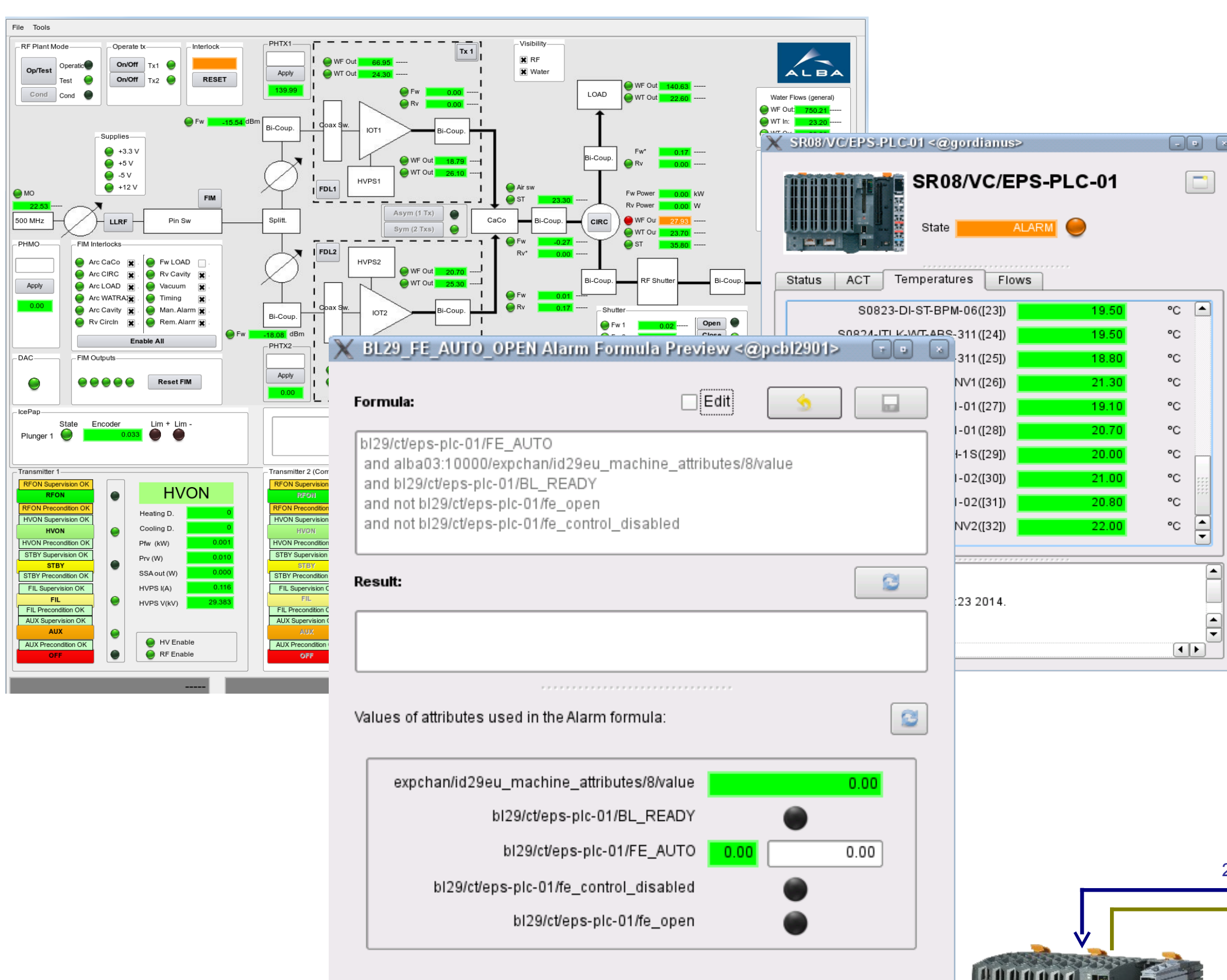
www.tango-controls.org

Using PyTango and Fandango libraries, additional attributes are added/modified at runtime from simple Python formulas stored in the Tango database.

Changes in the PLC's do not require changes in PyPLC or Taurus UI source code, being automatically updated from attribute definitions generated at the time of programming the PLC.



Tango Attributes from PyPLC become available on any UI and allow higher-level interactions, using our Alarm System (PANIC) or Sardana Macro Executor.



PyPLC provided a dynamic interface to our PLC engineers that allowed them to easily create new attributes and customize its behaviour. It reduced the time needed to upgrade PLC systems in Beamlines and extended its functionality.

References

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