**Motivation**

ELI-ALPS is one of the three pillars of the European Extreme Light Infrastructure project. As a research facility, the infrastructure will contain a large number of experimental devices and equipment which have to be managed and controlled by a robust and flexible system. The Control System of ELI-ALPS will be based on TANGO.

**Requirements**

**Scientific Systems**
- Laser Sources will be delivered as black-box turn-key systems with the Gateway
- Secondary Sources: The requirements, the technical design, the hardware shopping list are provided by expert institutes
- Beam Transport: The requirements, the technical design, the hardware shopping list are provided by in-house experts
- The control systems and the integration of these will be delivered by dedicated project(s)

**Central Control System**
- Basic central services: archiving, alarms, logging, overview GUIs
- Integration platform orchestrates the collaboration of the systems through the gateways. The gateways are accessible only from the central system; the systems can communicate through a proxy. Systems can be pre-allocated.

**Data Acquisition**
- Software framework acquiring, data processing, and augmenting experimental data with metadata from all of the experiments and secondary sources
- Use the common facility level timing for both triggering and timestamping
- An experiment consists a series of batches, each batch will have a unique ID

**Prototypes**

Two types of PoC prototypes were developed: vertical prototype works with real hardware on a small setup, while horizontal prototype works with simplified hardware simulation of all laser and secondary sources (~700 simulated devices).

**Vertical prototype**

A really simplified optical system has been assembled (on the left). In the software logic layer there were two loops for stabilizing the manually pre-aligned beam. The GUI (on the right) displays these loops and also gives action buttons to the users.

**Simulation framework**

The horizontal prototype was not enough generic and reusable directly for development and testing, therefore a simulation framework PoC prototype is elaborated. The framework is demonstrated with a simplified scenario.

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