MCO strategy to maintain high reliability of electronic control systems

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SOLEIL control system is running for 10 years on the accelerators and beamlines. It has been designed with an object-oriented architecture for both software and hardware. Electronics connected to the Tango framework are mainly based on industrial off-the-shelf devices: Siemens PLC, cPCI industrial computer, and Galil or Delta Tau motion controller. The MCO strategy based on a continuous upgrade of the systems allows us to maintain the control system with agility and flexibility.

**ELECTRONIC CONTROL SYSTEM OPERATION**

**PRODUCT LIFE CYCLE and MCO STRATEGY**

**MAINTENANCE STRATEGY based on:**
- **FUNCTIONAL STANDARDIZATION**
- **MARKET MONITORING**
- **OBsolescence MONITORING**
- **IMPROVEMENT**

**ONGOING IMPROVEMENTS**

**DAQ devices**

**Motion control devices**

**PLC devices**

**Update of the architecture with:**
- upgrade of historical standard controller
- and high performance controller

**DAILY OPERATION using CMMS:**
- Electronic devices integrated in CMMS database
- Corrective and preventive maintenance tracked
- ON-CALL tasks registered

**MID & LONG TERM obsolescence :**
- Issues analysis extracted from CMMS
- Following provider & manufacturer obsolescence announcement
- Setting up project to organize the MCO of the electronic to replace and upgrade.

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