

# ITk pixel system test

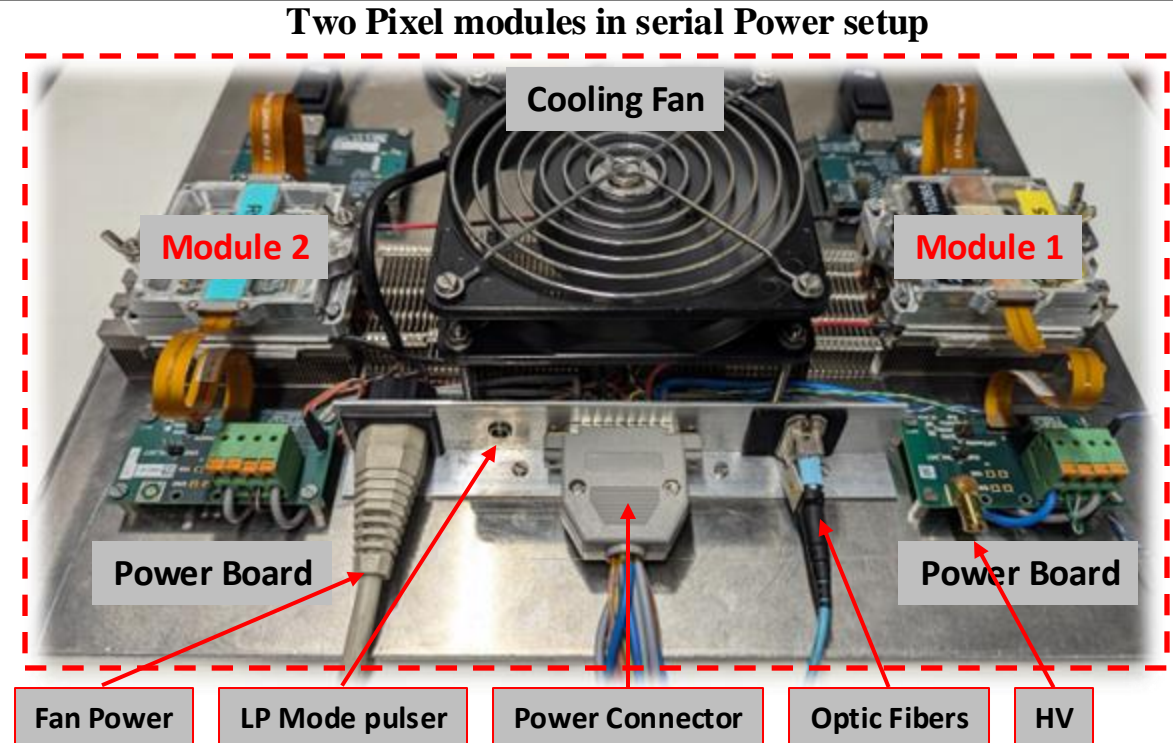
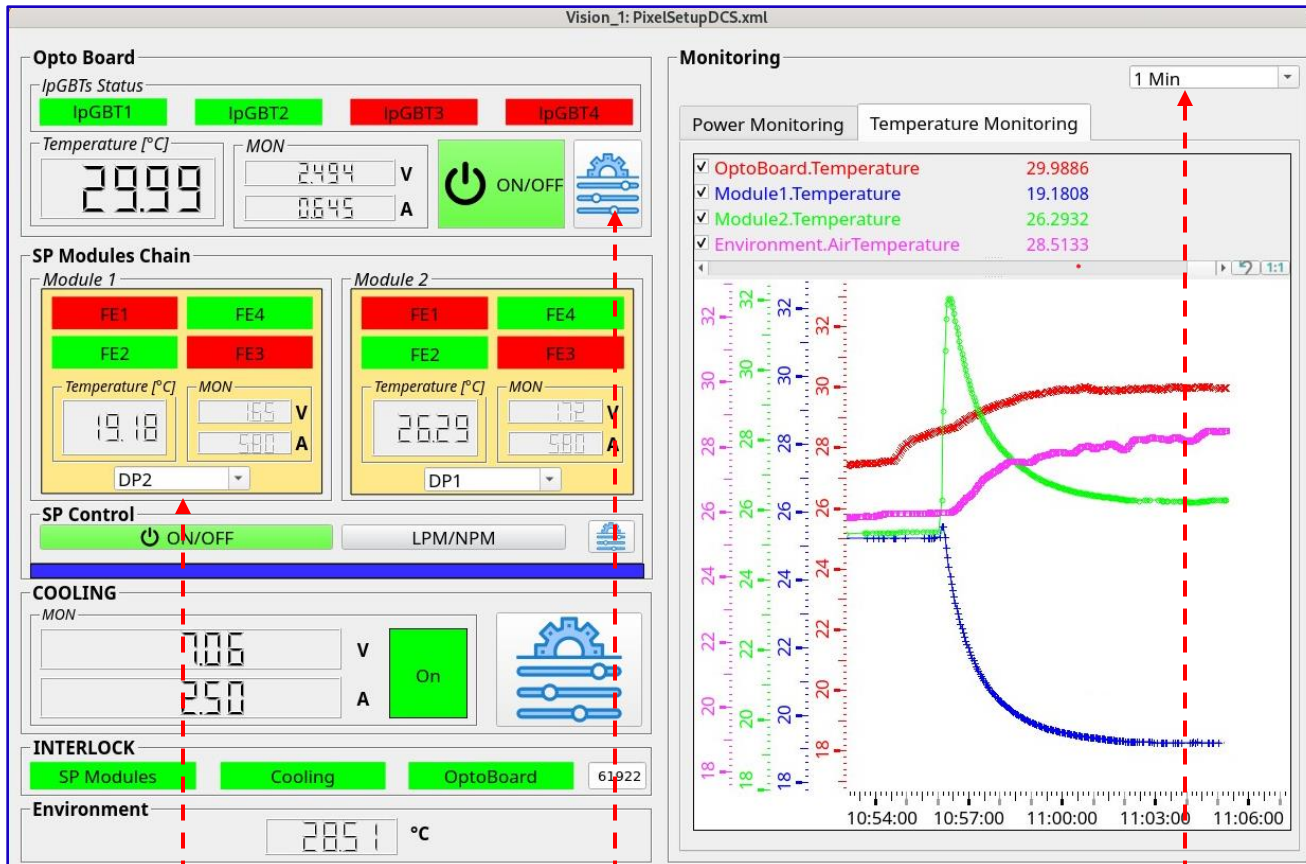
Zaza Chubinidze on behalf of the ITk Outer EndCap group at LNF



## ➤ Target:

DCS development for two pixel modules setup with serial powering

# Development DCS Panel of pixel module setup



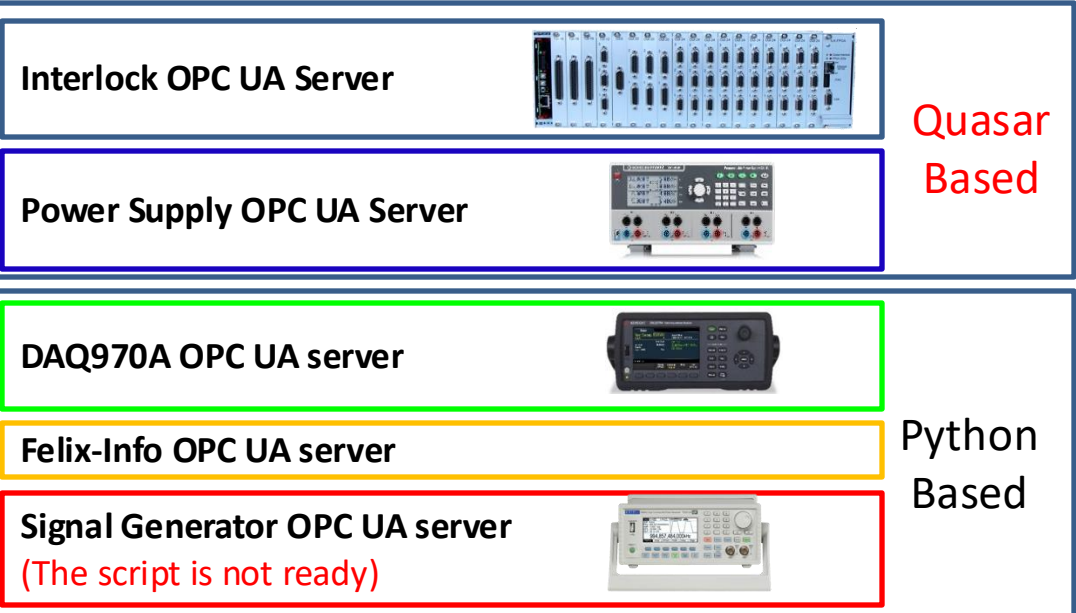
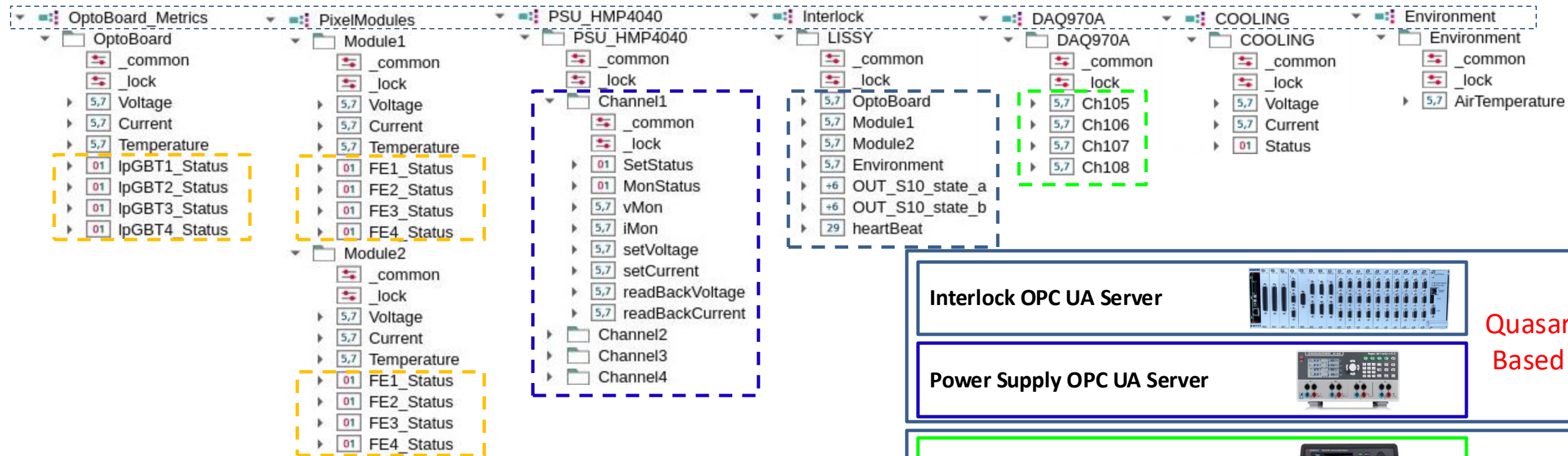
- Two Pixel Modules are connected in Serial Power (Modules with Digital and Sensor)
- The setup is compact and flexible to move and disconnect all services
- The setup is connected to Interlock system.
- The two modules in serial power data taking has been demonstrated.
- The Low-Power mode has been integrated and tested in Serial Power mode.
- DCS system has been developed for pixel module setup.
- Most DCS functionality has been integrated.

This block shows additional software interface elements:

- DP Selection Menu:** A dropdown menu showing options DP1 through DP6, with DP2 selected.
- OptoBoard Settings Dialog:** A dialog box titled "SettingsDialog.xml" showing "OptoBoard Settings". It includes fields for "Actual SET" (2.60 V) and "Update" (2.60 V), and another field for "Actual SET" (1.20 A) and "Update" (1.20 A). A "SET" button is present.
- Refresh Rate Menu:** A dropdown menu showing refresh rate options: 1 Min, 1 Min, 5 Min, 15 Min, 30 Min, and 60 Min.

# OPC UA servers architecture

## Data points



- Data points are generated from different OPC UA servers
- Project requires 5 OPC UA servers (Interlock, LV Power Supply, DAQ970A, Felix-Info, Signal Generator)
- All OPC UA has been implemented (Except Signal Generator)

- Write Signal Generator OPC UA server script.
- Finalize DCS project functionality.
- Write Documentation for DCS project.
- Pixel modules Thermal test demonstration in small climate chamber.
- Develop DCS for thermal test for HS.
- Scale up DCS system development for EC integration general system test.

Thank You For Your Attention!  
Any Questions?