

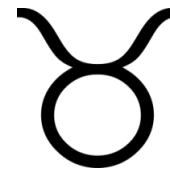
Modular scientific SCADA with Sardana and Taurus – latest developments

O. Vallcorba, J. Aguilar, R. Homs, E. Morales, M. Navarro (on-leave), J. Ramos, J. Moldes, F. Becheri, S. Rubio-Manrique, Z. Reszela (ALBA-CELLS, Spain) M. T. Núñez Pardo de Vera (DESY, Germany), B. Bertrand, J. Foresberg, V. Da Silva, M Lindberg (MAX IV, Sweden), M. Piekarski (SOLARIS, Poland), W. Kitka (S2 Innovation, Poland), A. Hoffstadt (ESO, Germany), T. Braun (byte physics, Germany), D. Schick, M. Schneider (MBI-Berlin, Germany).



Presented by:

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SOLARIS Synchrotron (POLAND)

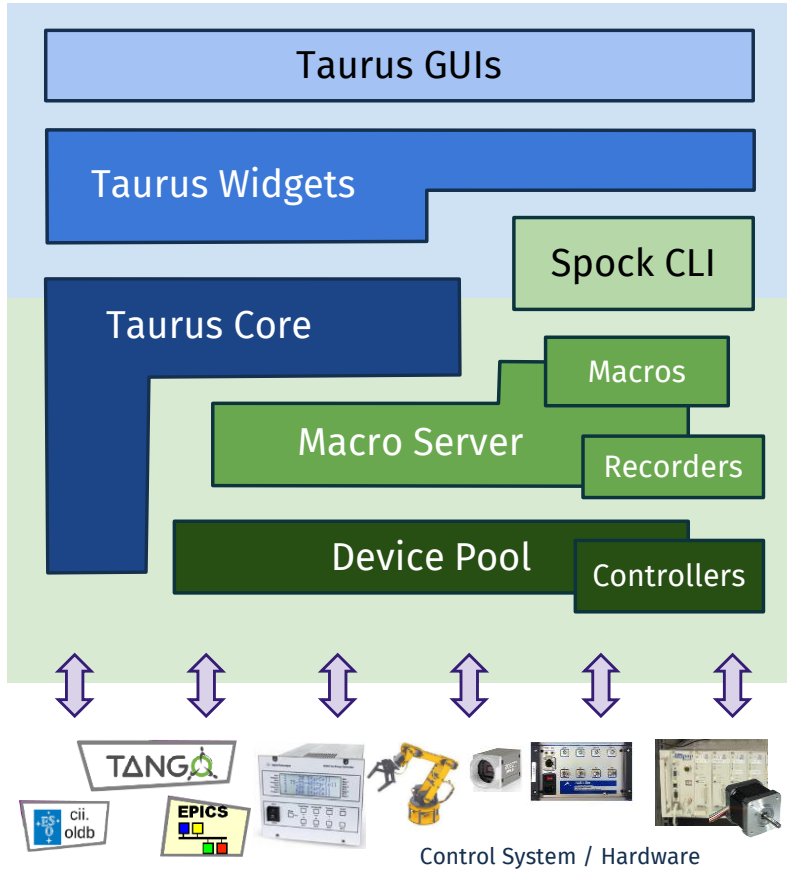


Mini-oral WEMG017 for poster WEPD026



September 20-26, 2025, Chicago, USA

Sardana and Taurus SCADA



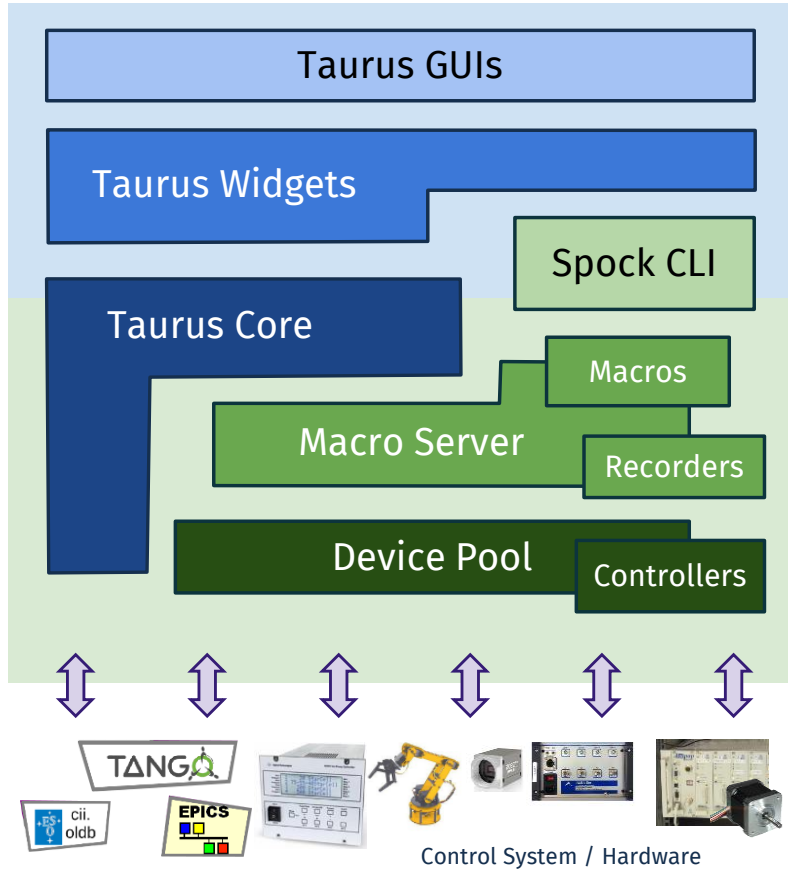
- *Python* based
- Community-driven
- Open-source
- Modular
- Multi-platform
- Widely used



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Sardana and Taurus SCADA



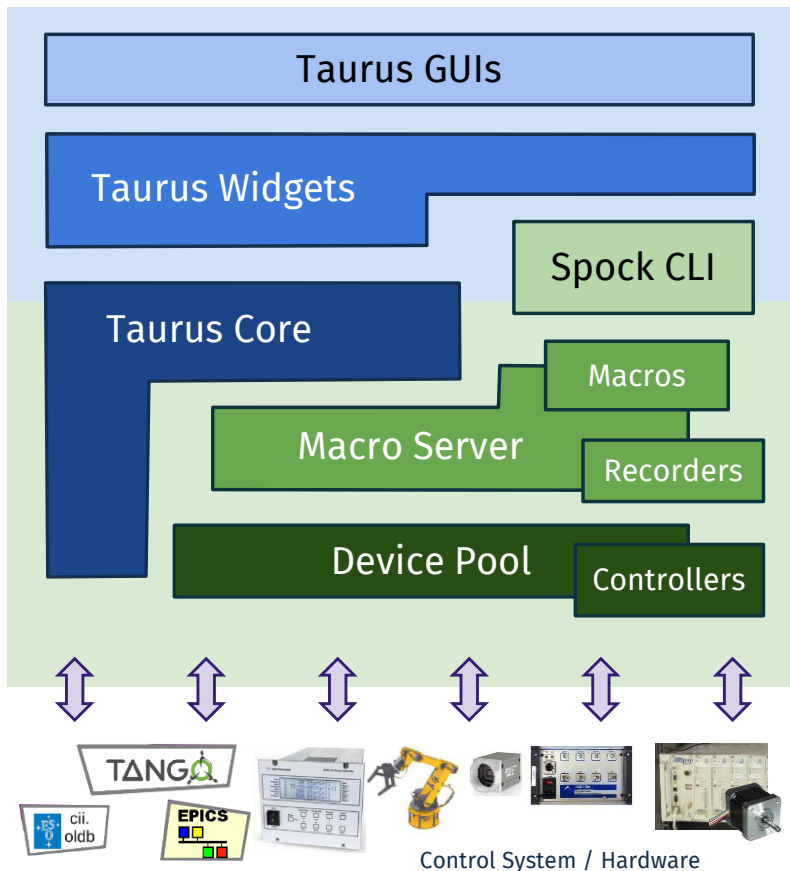
User Interfaces

- Taurus uses Qt to build GUIs
- Sardana adds extensions to Taurus and offers Spock, an IPython-based CLI

latest relevant developments...

- Taurus adds support for NumPy 2.0 and Qt6
- Taurus Performance Optimization
GUI Startup time ↓ ≈ 70 % (using Tango AsyncRead)

Sardana and Taurus SCADA



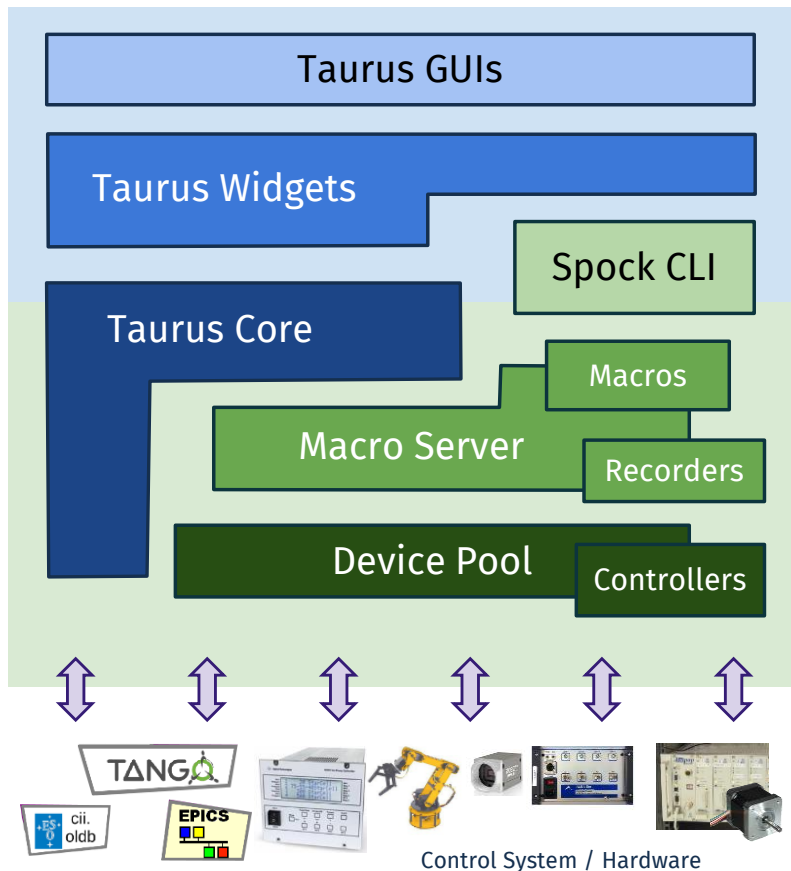
Experiment Orchestration

- **Sardana** includes a sequencing engine and high-level abstractions to coordinate devices.
- Complex procedures as *Macros* in MacroServer and generic interfaces for hardware in Device Pool

latest relevant developments...

- Multiple synchronization descriptions
- Shutter element
- Data publishing to RedisDB using *Blissdata*
- Mesh scanning improvements
- Configuration tool (graph view, multiple files)

Sardana and Taurus SCADA



Short term Roadmaps

Sardana:

- Redesign **Continuous Scan API**
- User-friendly **multiple synchronization API**
- **BlissData publishing** from Pool
- Config tool: include **MacroServer environment**
- **Shutter**: consolidate native support
- Push **Motor archiving** events. Poll when idle.
- Evaluate native **trajectory support**

Taurus:

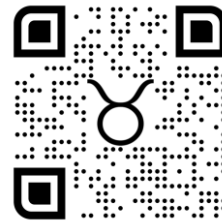
- Finalize TPO2 with async subscriptions
- Migrate *guiqwt* → *PlotPy*

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<https://sardana-controls.org>



<https://taurus-scada.org>