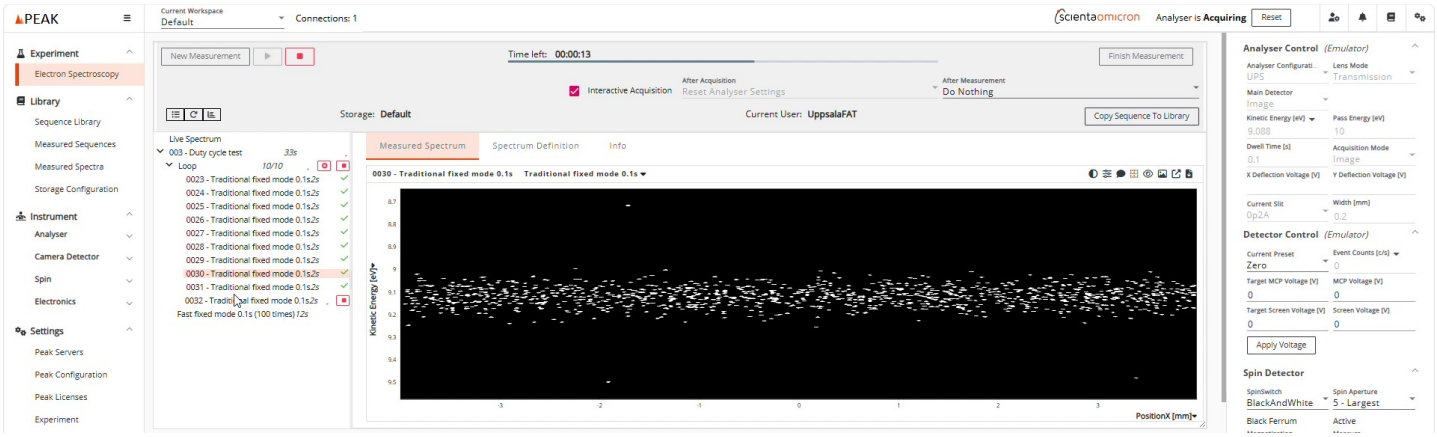
PEAK

scientaomicron

Upgrade from SES to PEAK

A browser-based workspace for live data, reusable sequences, and connected experiments.



Arrange views across browser tabs and multiple screens. Example interface with an emulated analyser.

More from every measurement

- **Live data**

  View 1D/2D spectra and slice multidimensional data as you acquire.

- **Open data**

  Export HDF5 and NeXus NXmpes data. Save spectra periodically during long runs.

- **Reusable sequences**

  Build measurements using loops and spectral regions from your sequence library. Add or reorder regions during acquisition.

- **Connected experiments**

  Link analyser control to beamlines, external equipment, and scripts via the PEAK API.

- **External triggering**

  Synchronise camera acquisition with external experiment signals.

- **Individual fast snapshot spectra**

  Use Iterations for fast fixed-mode snapshots with individual spectra and up to 98% duty cycle.*

*400 spectra, 50 ms acquisition time, at 200 fps: <21s total acquisition time.

AI-assisted workflows

Develop integrations with the optional PEAK SDK: a Python library, examples, API training and an offline emulated analyser. Develop and initially test AI workflows without occupying the instrument or sending AI-generated commands to real hardware. PEAK's API is the foundation; agent and tool integration require separate implementation and validation. The Python library is callable from LabVIEW through a Python wrapper.

Building blocks

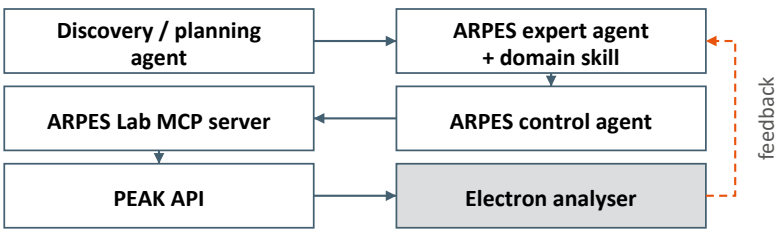
Agent: Interprets requests and calls tools.

Skill: Knowledge and procedures an agent uses.

MCP server: Exposes defined instrument tools.

API: Commands for acquisition and instrument control.

Illustrative ARPES workflow



Safeguards before AI control

You remain responsible and in control. AI is non-deterministic; incorrect commands risk damage or injury around high voltage, radiation and vacuum. Assess instrument-specific risks, test integrations and define operating limits before AI control. Retain safeguards, hardware interlocks and human oversight.

Request an upgrade assessment

Availability depends on PEAK version, options, and configuration. Ask local service about your upgrade.

events.scientaomicron.com/peak-upgrade