Contribution ID: **314** Contribution code: **THPD019** Type: **Poster Presentation**

Event-driven alarm management in the Karabo SCADA system

Thursday 25 September 2025 16:15 (1h 30m)

In this contribution a flexible software for situational awareness and alarm management within the Karabo supervisory control and data acquisition system (SCADA) is presented. Supervision of hardware and software components is an essential function of a SCADA system and includes alarm management as a key aspect. This means that a SCADA system should detect components running at abnormal conditions and trigger alarms to alert operators. The presented software allows operators to define alarm conditions and, in turn, tracks dependent device properties. The evaluation of alarm conditions is event-driven: an alarm condition is evaluated once an updated value of a dependent property is received. If an alarm condition is fulfilled, alarms can be issued in various formats like text messages, sounds, or visual indicators. The software is widely used at the European X-ray Free Electron Laser facility and decreases down-times of instruments and software modules by allowing staff to address problems immediately or even proactively.

Footnotes

Funding Agency

Author: SOHN, Florian (European X-Ray Free-Electron Laser)

Co-authors: GARCÍA-TABARÉS VALDIVIESO, Ana (European X-Ray Free-Electron Laser); GOERIES, Dennis (European X-Ray Free-Electron Laser); FLUCKE, Gero (European X-Ray Free-Electron Laser); KARPICS, Ivars (European X-Ray Free-Electron Laser); HAUF, Steffen (European X-Ray Free-Electron Laser)

Presenter: SOHN, Florian (European X-Ray Free-Electron Laser)

Session Classification: THPD Posters

Track Classification: MC07: Functional Safety and Protection Systems