DATA ANALYTICS REPORTING TOOL FOR CERN SCADA SYSTEMS

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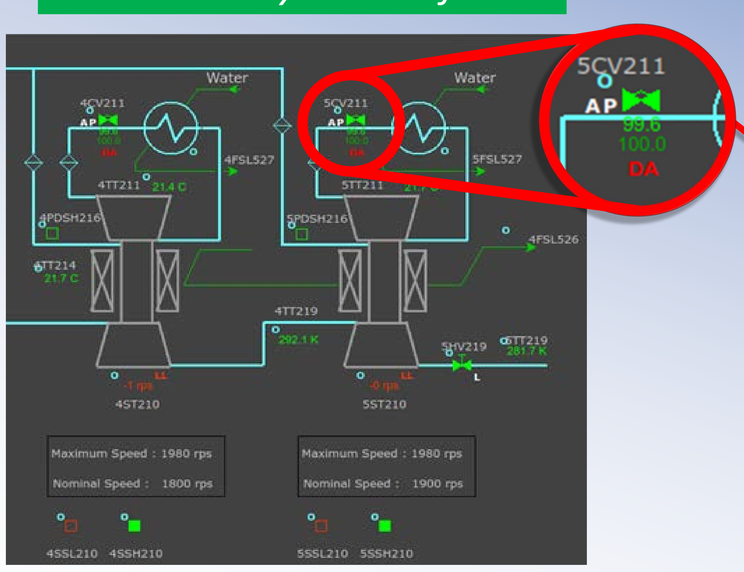
MOTIVATION

- DELIVER DATA ANALYTICS FEEDBACK
- ACCESS DIRECTLY FROM THE OPERATOR'S SCREEN
- ENHANCE PROCESS SUPERVISION

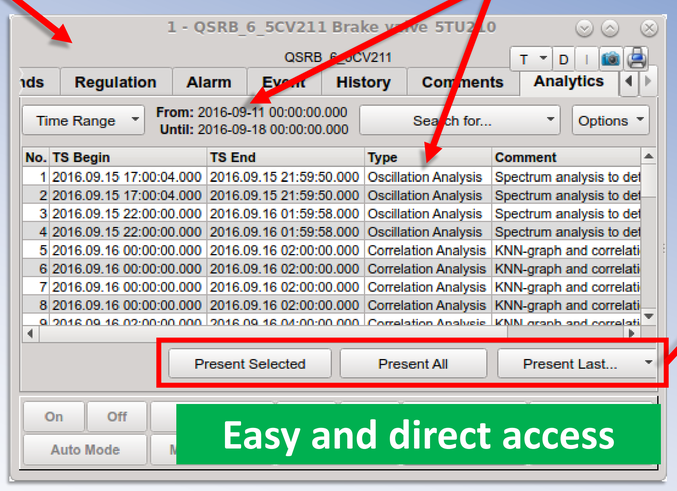
INTERACTION

Attract operators' attention
Data Analytics Notifier



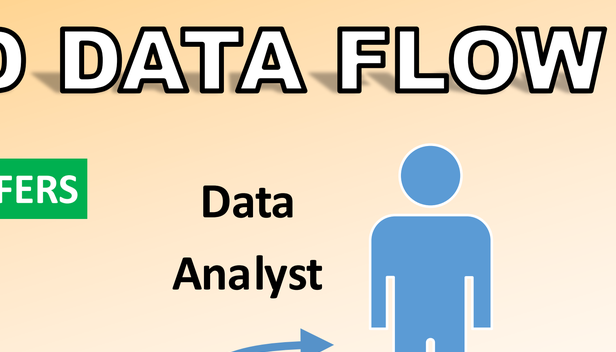
Compatible with JCOP and UNICOS
CERN frameworks for control systems

Modify search parameters
time range and analysis type



Easy and direct access

Results collected in one panel



ANALYTICS RESULTS

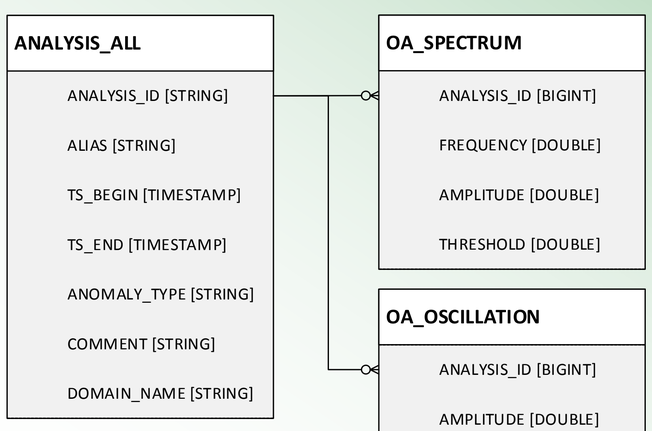
DETECTED ANOMALIES

ARCHITECTURE AND DATA FLOW

IMPLEMENTATION

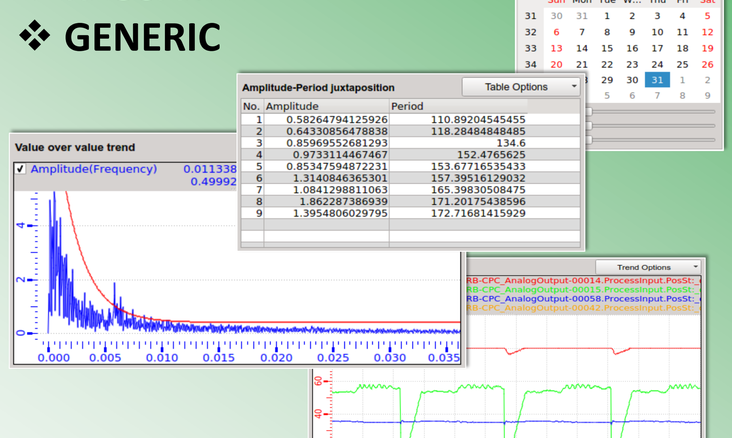
STORING AND ACCESSING DATA ANALYTICS

- DATABASE SCHEMA SIMPLE TO EXTEND
- SQL – EASILY ADAPTABLE TO OTHER DATABASE SYSTEMS



CREATING ANALYSES PANELS WITH TEMPLATES

- RAPID PROTOTYPING
- UNIFORM USER EXPERIENCE
- LESS CODE TO MAINTAIN
- REUSABLE
- GENERIC



CONCLUSIONS

- '*Close the loop*' between analysis of the archived data and the daily operation of the processes.
- Results of the data analysis can be leveraged by operators and process engineers directly from SCADA[1] systems.
- Multiple levels of information:
  - simple warning symbols,
  - display of analytics results for an individual analysis,
  - general overview for all devices.

[1] SCADA – Supervisory Control and Data Acquisition system

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The Data Analytics Reporting Tool was developed in the scope of the CERN openlab collaboration with Siemens, **http://openlab.cern/**
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