The effort and duration for verifying changes to engineering plans coming from external project partners is to be minimized.

The Management of changes engineering plans coming from external project partners using the “Engineering Object Editor” facilitates focusing quality assurance on concrete changes in order to find conflicts efficiently.

Goal

In plant engineering projects there are external project partners, like customers or consultants, who change engineering plans outside the project’s engineering environment, which requires time-consuming and error-prone integration of the changes into the project’s data basis. The software tools in plant engineering support the integration of external changes only insufficiently. Due to the long duration of the analysis and reintegration of external changes the project data basis may evolve in parallel, which further increases the effort and risks for data integration.

External project partners should be enabled to easily see their changes to ensure that only intentional changes are integrated into the project’s data basis. Conflicts between parallel external and internal changes to engineering plans should be recognized efficiently and should be linked to the relevant project members for user-friendly resolution.

Solution

The “Engineering Object Editor”, developed by logi.cals and CDLab CDL-Flex at the Technische Universität Wien, extends Excel tables with capabilities for visualizing changes user-friendly and for detecting and showing conflicts of external changes with changes in a project data basis that is connected by the Automation Service Bus®.

The Engineering Object Editor has been successfully evaluated at ANDRITZ HYDRO with concepts from real-world projects.

Technical Data:

- MS Excel
- .net
- Automation Service Bus®
- Service-oriented architecture
- Project-level common engineering concepts
- Change verification
- Plausibility checks

Kundennutzen

- Project management: Clear-traceability of changes to engineering plans coming from external project partners.
- Project participants: Efficient quality assurance when importing engineering data from external project partners into the common project data basis (person hours instead of person days).
- Engineering Effort reduction from 2 weeks to a few hours.