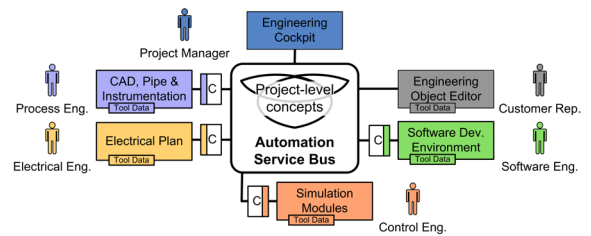


# Efficient Navigation between Engineering Objects (E-Navi)



The time to find the representation of an engineering object in another software tool is to be minimized. The automated resolution of links from Engineering Objects to software tools in the „Automation Service Bus“ makes the navigation as simple and quick as using direct reference links.

## Goal

For quality assurance during engineering and start-up of a plant domain experts have to navigate often between Engineering Objects, e.g., signals or components, in plans coming from various domains, in order to ensure plausibility and consistency of the representations. For example: “Show me in the electrical plan the location, where the signal which belongs to this variable, is used!”. The software tools used in the expert domains do not connect the Engineering Objects completely and efficiently; therefore, the experts have to look for these Engineering Objects with considerable manual effort.

The connections of all relevant Engineering Objects with their representations in the software tools which are used in the project, are to be complete, correct, and user friendly.

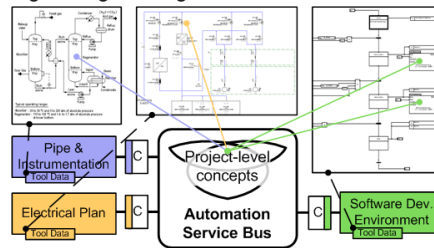
## Solution

logi.cals and the Christian Doppler research laboratory CDL-Flex at the Technische Universität Wien have developed the „Automation Service Bus“, an open technology to connect artefacts of several engineering domains and to call functions in standardized ways in heterogeneous software tools.

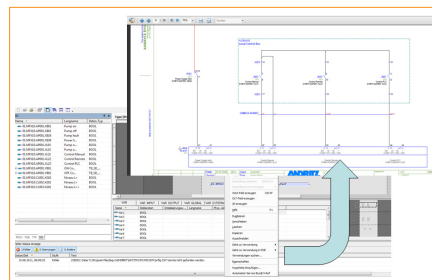
Therefore, the experts can continue to use their familiar software tools, which get extended with a navigation



Navigation zwischen Engineering Objekten in heterogenen Software-Werkzeugen im Anlagen Engineering



Navigation Engineering Artefakte



function similar to links on the internet. With the automated resolution of the mapping of common engineering concepts even for heterogeneous representations in software tools the navigation between software tools becomes as easy and fast as with direct links. In addition to software tools also open data formats can be navigated to, e.g. pdf or SVG files. The navigation between Engineering Objects has been successfully evaluated at ANDRITZ HYDRO with concepts from real-world projects.

## Technical Data:

- Automation Service Bus®
- APIs of the involved software tools
- Portable document format (pdf)
- Scalable vector graphics (SVG)
- Semantic integration of common concepts on project level

## Customer Benefit

- Project participants: Efficient navigation between plant plans in different software tools (2 seconds instead of 2 minutes).
- Start-up experts: Avoidance of defects during plant start up.
- Search effort reduction during commissioning from 2 minutes to seconds.

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