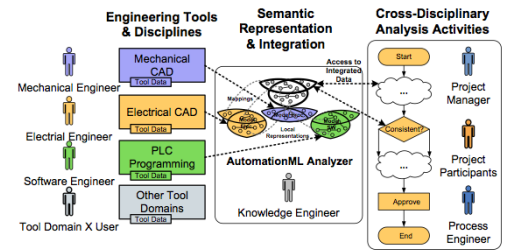


# AutomationML Analyzer: A Linked-Data Browser for Engineering Data



The cross-disciplinary analysis of *AutomationML* files that together represent a complex system is difficult. The *AutomationML Analyzer* enables efficient integration, browsing, querying, and analysis of *AutomationML* files.

## Goal

The engineering of complex production systems (e.g., power plants) uses diverse engineering tools. If these tools exchange data on engineering results point-to-point, cross-disciplinary data analysis is difficult to automate (e.g., consistency management, test automation).

*AutomationML* is an emerging standard, IEC 62714, for facilitating uniform data exchange between engineering tools.

However, even when tool networks use *AutomationML*, exchanged data may still not be available for querying via a unified interface, and cannot easily be linked across disciplines to support advanced applications that rely on querying project-level data. Ideally, project-level access to

engineering data should be possible both for navigation and querying.

## Implementation

The *AutomationML Analyzer* uses *Linked Data* technology to create an **interlinked engineering data space**. It automatically transforms *AutomationML* files into *Linked Data* formats, making implicit links across disciplines explicit. This leads to the **integration** of engineering data from different disciplines. Additionally, *AutomationML Analyzer* provides an **intuitive access gateway** to this project-level data through **browsing** and **querying** facilities.

In a representative standard example, the storage of *AutomationML* data was evaluated by cooperation partners from the *Otto-von-Guericke University Magdeburg*. The example shows how data from three engineering disciplines and from run time can be provided as a *Linked Data* structure that can be browsed and queried efficiently.

## Technical Specification

- *Linked Data* technologies (explicit links between data elements); easy to integrate with *Linked Data* on the Web.
- *Sesame* semantic store.
- SPARQL queries.
- Data analytics.

## Benefits for Customers

- Engineers can more intuitively browse engineering data from different disciplines by following links made explicit as **Linked Data**.
- Domain experts can automatically transform engineering models.



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