



Factory 4.0

IMPROVE MANUFACTURING WITH VIRTUAL ALL-ROUND SOLUTIONS

Facing increased global competition, the manufacturing industry needs to reduce system downtime and component breakdowns to ensure resource efficiency and profitability. Aiming to provide the industry with new solutions and help boost productivity, the European research project IMPROVE has developed new virtual tools combining simulation with forecasting algorithms.

The key achievements in the fields of simulation & optimization, condition monitoring, and alarm management can be implemented in new lines or as an upgrade to already existing production plants.

IMPROVE's solutions:

- Provide the first simulation-optimization round trip solution ready for application
- Supply manufacturers with innovative self-learning models for alarm management and condition monitoring
- Provide a decision support system (DSS) visualising results and assisting the operator in taking the right choices in the manufacturing process
- Benefits of our simulation & optimization tool:
 - Calculation of future investment
 - Reduce energy consumption and increase sustainability and efficiency





- Benefits of our condition monitoring solution:
 - Provide a visual feedback to machine operators and maintenance teams regarding the health status of critical components to plan a replacement only when really necessary
- Benefits of our alarm management solution:
 - Solution detects the “root cause” of an alarm flood and helps the operator solving it with a data-driven similarity learning, offline case-base construction, and case-based-reasoning (CBR)
- Develop knowledge acquisition methods to translate implicit knowledge into explicit models of the machines represented by so-called cause and effect graphs and include it into data mining for efficient feature selection

Target groups for our solution are packaging and automatic machine manufacturer as well as automation providers. Our tools are especially made for:

- Industry using different machine types (filling machines, FFS (form, fill, and seal) machines, cartoning machines, palletizing machines, labeling machines, wrapping machines, and cleaning & sterilizing machines)
- End-user industry (food & beverage, pharmaceuticals, chemicals, cosmetics, and others)

Interested in learning more about our tools?

Please do not hesitate to contact us for further information.

Contact

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