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Photo: Rainer Bez

## AUTOMATED DATA ACQUISITION AND PROCESSING FOR TRANSPARENT PRODUCTION

### Fraunhofer Institute for Manufacturing Engineering and Automation IPA

Nobelstrasse 12  
70569 Stuttgart | Germany

#### Ansprechpartner

**Brandon Sai**  
Phone +49 711 970-1918  
brandon.sai@ipa.fraunhofer.de

#### Florian Grabi

Phone +49 711 970-1925  
florian.grabi@ipa.fraunhofer.de

[www.ipa.fraunhofer.de/en/autonomous\\_production\\_optimization](http://www.ipa.fraunhofer.de/en/autonomous_production_optimization)

#### Current situation

To react quickly to changes in modern manufacturing systems and to use data-driven production optimization methods, in some cases high-resolution production data is called for.

Hurdles could be a lack of interfaces in old equipment, a heterogeneous control landscape with incomplete protocols, or even the absence of sensors.

#### Solution

The Autonomous Production Optimization Group at Fraunhofer IPA has long-standing experience in data acquisition, both from the PLC as well as from industrial sensors and cameras. The group has developed a workflow for fast and standardized data

acquisition and processing which has been implemented in numerous successful industrial projects.

We also help you convert the collected data into a usable format, as well as with the automated pre-processing and evaluation of the data quality.

#### Our approach

In a stand-alone project or in connection with an optimization order, besides helping you set up and commission a data acquisition system in your production facility we also help you pre-process your data. For this, we use PLC connector programs (commercial programs and also ones developed by us), various industrial sensors (e.g. rangefinders, pressure sensors, light barriers) and high-resolution cameras.

Possible outcomes of the set-up phase:

- Advisory concept defining which data should be collected or is useful
- Equipment of a production line or parts thereof with data acquisition hardware (temporary or permanent)
- Integration of the data acquisition program into your IT infrastructure with strict adherence to data protection regulations
- Data pre-processing, tailored to your needs
- Development of a concept for the automated or manual pre-processing of collected data
- Teaching your employees how to plan and execute data acquisition and processing
- Visualization of recorded production data in real time: detailed analysis of productivity losses in terms of performance, availability, and quality

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### Your advantage

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The collection and utilization of data enables you to directly identify optimization potential and thus implement modern data-driven optimization methods. Once your decision to implement data-driven methods is made, our proven approach delivers fast, low-effort and cost-effective results, whether for trial or permanent deployment.

The implemented technologies are scalable and provide a direct starting point for optimization measures

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### References

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Over the past few years, we have carried out highly successful projects, among others with the following companies:

- **Freudenberg Sealing Technologies GmbH & Co. KG**
- **SCHOTT Switzerland AG**
- **Haselmeier GmbH**
- **Adient Ltd.**

In addition, the IPA spin-off "plus10 GmbH" evolved as a result of our long-standing expertise in data acquisition and processing.

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### Cooperation formats

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The data-driven approach can give rise to several questions: What data is relevant? In what form must the data be acquired? And how do I identify optimization potential?

We answer these questions and more in a variety of formats:

- **Training programs**

Empowering your employees to use data-driven production optimization methods

- **Consulting**

Concept development, support in implementing data-driven production optimization for a specific use case defined by you

- **Pilot project/development project**

Implementation of a solution for your use case

We increase your overall equipment effectiveness (OEE).

Get in touch with us!