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LeanDA – plug&play data capture and process optimization

WIRELESS DATA CAPTURE AND AI-BASED PROCESS ANALYSIS TO UNCOVER OPTIMIZATION POTENTIAL

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www.ipa.fraunhofer.de/en/LeanDA

Detecting waste by hand and stopwatch: a thing of the past

Efficient production requires permanent process optimization with regard to changing conditions. Manual process analysis is costly and error-prone. However, in many companies it is still the main tool for process optimization to record key performance indicators and uncover waste. Often the circumstances only allow manual data acquisition: For example, if no sensors are present in manual assembly processes or if technical systems do not offer open interfaces to the machine control. In addition, the integration of automated data acquisition and evaluation systems into the existing IT infrastructure is associated with high investment costs and security risks.

LeanDA automates process optimization

LeanDA is a portable, all-in-one data capture and analysis tool that can be used flexibly for production processes. Through the combination of a modular sensor system and AI-based algorithms for process recognition, LeanDA automatically detects waste in production processes. The system consists of wireless sensor packages which can be fixed to tools, parts and workpiece carriers, for example, and an edge device for localized data processing. The sensors record movement, spatial orientation and temperature in addition to allowing them to be located via indoor tracking. Application-specific enhancements with additional sensor functions are available. LeanDA comes with its own IT infrastructure and mobile electricity supply

and as a result, it works independently of existing infrastructure. The system can be used to capture process data in a modular manner according to need. After a brief training phase of the system, the AI algorithms automatically recognize the processes that have been carried out and differentiate between waste and value-adding processes. Moreover, the data can be augmented using the intuitive assistance app with additional context information.

Service portfolio

LeanDA offers transparency regarding the value-added share of your production processes and supports you in using automation to capture data and detect optimization potential. In specific terms, LeanDA generates value added in the following areas:

– Automation of time recording and
  process analysis
– Calculation of the value-added share and
  the detection of waste in processes (such
  as manual assembly)
– Benchmark testing of technical systems
– Validation of the implemented process

step sequencing and detecting defective process sequences
– AI potential analysis of your systems based on real data with low implementation cost
– Track and trace applications in assembly and logistics processes

**Making the right decisions
based on data**

As a Plug&Play optimization set, LeanDA works independently of existing IT infrastructure and evaluates its data on site (edge-based). A "Privacy by Design" approach means that the privacy rights of production employees are directly guaranteed. Your data does not leave the factory: LeanDA works on site alone. Data is evaluated automatically, no additional expertise required. During its application you are able to choose which process steps the system should identify as waste. You can track the performance of your processes in real time via our KPI data dashboard and, while doing this, make performance comparisons, for example. The system is characterized by its high degree of flexibility, which allows it to be easily adapted to your processes and application scenario.

What's next?

Please get in touch: We are sure to find the right project format to cooperate with your business.

1 *Dashboard for real-time
process evaluation.*

You may also be interested in:

Digital transformation in assembly:
www.ipa.fraunhofer.de/en/assembly_digital

Process planning and assembly design:
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