Fraunhofer

IGCV

Fraunhofer Institute for Casting,
Composite and Processing
Technology IGCV

Digitalization in foundry technology

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We will gladly assist you in mastering the challenge of digitalization in the foundry industry.

The casting process is a complex manufacturing process that is influenced by a variety of factors. In addition to the obvious variables such as the temperature of a chill casting mold, it is also possible to influence parameters that are not immediately relevant such as the vibration of the system during casting.

With the Data-Value-Stream-Analysis developed at the Fraunhofer IGCV the relevant parameters can be identified with a combination of specific data analysis and a targeted process analysis of the on-site production.

In the next step the parameters can be monitored and combined with quality data in order to optimize the process beyond the previous possible limits. For topics such as artificial intelligence in production but also for modern data analysis for process optimization and control, require process data and quality data for component tracking methods. Today, these three issues are difficult to implement in the foundry industry due to the challenging conditions.

The Fraunhofer IGCV therefore develops together with partners:

- Sensor technology for foundry processes
- Methods for component tracking
- KI models for foundry use

Overview of the areas of digitalization in the field of production developed by Fraunhofer IGCV:
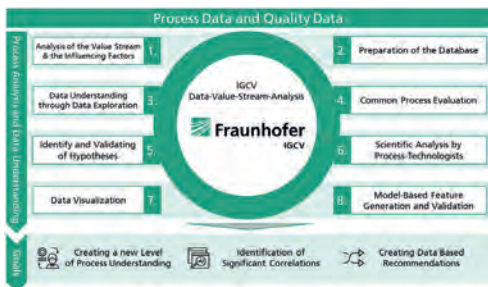
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