Project Overview

Research project "WASABI" - "Tools-integrated assistance system for production control in injection moulding of highly complex and demanding component specifications"

Figure 1: OptiCheck system for a breath monitoring tool
Source: Schneider Form GmbH

Figure 2: Regulation concept of the EDS of the University of Applied Sciences Schmalkalden
Source: University of Applied Sciences Schmalkalden

Figure 3: Half of an injection mould for a front bumper
Source: Schneider Form GmbH

Problem Statement:
- Permanent operating point monitoring
- In situ quality control
- Efficient process adaptations
- Loss of knowledge on start-stop production processes due to the elimination of co-workers
- Avoidance of rejects and downtimes

Keywords:
- Large tools
- Classifier
- Machine learning
- Assistance system

Project Sponsors / Third-Party Donor:
- Karlsruhe Institute of Technology (KIT)
- Federal Ministry of Education and Research (BMBF)

Grant Sum: 550,000.- €
Duration of Project: 06/2019-05/2021

Approach to Solution:
- Implementation of sensors in injection moulds
- Combination of OptiCheck and EDS sensor signals
- Hardware and software development for the application of machine learning methods
- Integration and improvement of classification algorithms

Target:
Realization of a digital assistance system for production optimization in plastic injection moulding.
Project Partners:

- University of Applied Sciences Schmalkalden, Faculty of Mechanical Engineering; Applied Plastics Technology,

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