

## Master Thesis

# Möglichkeiten der Digitalisierung zur Verbesserung des Produktionsprozesses von Betonfertigteilen

## Opportunities for Digitalization to Enhance the Production Process of PreCast Concrete Elements

### Background

- Digitalization is set to bring disruptive change in construction. At present only 5 % of the processes in construction adapts digitalization due to gaining popularity of building information modelling (BIM).
- Technologies such as internet of things, machine learning, big data management and machine vision can help to increase productivity, reduce industrial wastage and optimize production lines. However, they are still not adjusted and adapted for the industry.
- Goal of this master thesis is to conduct survey and qualitative and quantitative analysis to identify and rank potential entry models for digitalization in the production and design phase of precast concrete factories.

### Key Tasks

- Conduct literature review on emerging technologies for digitalization of production and design phase for precast concrete elements.
- Develop a questionnaire for semi-structured interviews in German.
- Conduct interview with key players in precast concrete industry in Germany.
- Transcribe interviews, analyse them using qualitative and quantitative techniques and present analysis.
- Give final recommendations on key bottlenecks and possible solutions for adaptation of digitalization in precast concrete factories.

**Note:** This thesis will be co-supervised by Mr. David Fehrenbach of PreML GmbH.

### Contact

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