



Research School for Operations  
Management and Logistics

**AI for sustainable manufacturing: Planning & Scheduling**

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This project is dealing with the topic of designing a production line, to produce a battery pack from individual battery modules. Key elements in the production line design are flexibility and sustainability. Within the topic of flexibility lie a considerable number of scheduling challenges, ranging from possible repair planning, to material logistics, to line balancing and order scheduling. The main goal of the PhD is to design solution structures to some scheduling problems, in particular line balancing and order scheduling. Here the focus lies more on short-term processes, with being able to make changes on the fly, if needed. A considerable aspect of the PhD will be the integration of the solution structures into a Digital Twin environment.