



Research School for Operations  
Management and Logistics

**Integrated Master Planning and Control**

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This PhD project is part of a larger initiative by the Brainport Industry Campus, namely “The Digital Factory of the Future”, which, through different workpackages, aims to create a blueprint for a digital factory, transitioned towards Industry 4.0. This PhD project is focused on the planning and scheduling aspect related to a digital factory and how an improved connection within these systems can help increase key performance indexes (KPIs) within a company. The main ambition of this project is to create a ‘proof-of-concept’ control and communication framework with accompanying guidelines, related to the planning and scheduling systems, helping companies within the High-Mix-Low-Volume industry to both better understand the benefits of Industry 4.0 and to smoothen the transition towards it. This will be achieved both through theoretical and practical examples, by creating a decentralized structure of agents on the shop floor that can respond to uncertain events in real time, and by showing how collected data throughout the company can be used to increase the efficiency of higher level planning systems.