



Research School for Operations
Management and Logistics

Towards the development of a smart and sharing industrial campus

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Brainport Industries Campus in Eindhoven, The Netherlands, is a joint venture by high-tech suppliers, called tenants, to co-exist under the same production roof, use common infrastructure and be serviced by a common set of resources. This setting promotes collaboration among tenants, reduces total cost of ownership of shared resources (AGVs, storage locations and clean rooms), and tackles operational uncertainties which plague companies operating under the conventional siloed way of working. Following the principles of smart industry (industry 4.0), the long-term goal is to have a lights-out factory floor which requires the control of operations at the shop floor with minimal human interference. This research project aims to quantify the benefits for companies working in this smart and sharing environment and develop models for making operational and strategic decisions. Through this research, algorithms and heuristics will be developed and application of AI technologies such as (Deep) Reinforcement Learning (DRL) will be used in sequential decision-making problems. The key highlight would be to observe the decision of a learning agent operating under a shared, multi-tenant environment to explore and shape new strategies. The scale of the problem will be operational (large-scale fleet management and shared resource allocation) and strategic (pricing strategies for tenants).