



Research School for Operations
Management and Logistics

System-focused inventory control of spare parts

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For the installed systems in the field, one has agreements to keep the downtime below certain limits. This is directly related to the (average) amount of time within which spare parts have to be delivered. These time constraints are formulated at the level of system types. Here, demands generally occur as a result of unpredictable failures (which one typically has in the case of ASML) or inspection-based maintenance with low probabilities for actual demands per inspected component (this is typical at Nedtrain). Under system-focused inventory control, one aims to choose the inventory levels of the spare parts in the central and local warehouses such that the time constraints are satisfied against the lowest possible costs. This results in multi-item inventory models, or a so-called system approach. We aim to develop an efficient and effective system approach for two-echelon networks with lateral and emergency shipments, for problems of real-life size.