

Condition Based Logistics: Calculation of Process Capacity

The application of Condition Based Maintenance with on-line monitoring requires agile logistics. A maintenance service provider must have the flexibility to cope with service on demand that is driven by the dynamic condition of individual assets. Then the problem arises whether it has the capacity to deal with this dynamic demand. Due to the high investments, environmental constraints and long lead time of infrastructure projects, a quantitative and versatile technique is needed to support decision making. Here we consider daily train maintenance services, and address the problem of the infrastructure service capacity as a function of the dynamic demand characteristics. We present a method and a set of tools for the computation of the process capacity of a service site that has to facilitate the execution of dynamic maintenance services. The system searches the Pareto optimal set of distribution parameters that describe work packages of shunting and maintenance service activities for which feasible plans are found within a limited amount of time.

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