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Reliability of Intra-Logistics Systems – Simulating Performance Availability

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Abstract : Logistics distributors face the issue of having to provide increasing service levels while being forced to reduce costs at the same time. Same-day delivery, quick order processing and rapidly growing ranges of articles are only some of the prevailing challenges. One key aspect of the performance of an intra-logistics system is how often and in which amplitude congestions and dysfunctions affect the processing operations. By gaining knowledge of the so called 'performance availability' of such a system during the planning stage, oversizing and wasting can be reduced whereas planning transparency is increased. State of the art for the determination of this KPI are simulation studies. However, their structure and therefore their results may vary unforeseeably. This article proposes a concept for the establishment of 'certified' and hence reliable and comparable simulation models.

Keywords : intra-logistics, performance availability, simulation, warehousing
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