PAIRS
Privacy-Aware, Intelligent and Resilient CrisiS Management

Hidden Problem Detector

Identification of hidden problems in supply chains

PROBLEM STATEMENT:

Component-based supply chains of products like sensors or engines are increasingly non-transparent beyond tier 1 suppliers → disruptions in early stages of supply chain remain undetected, propagate, and reinforce before popping up as critical situation at tier 1

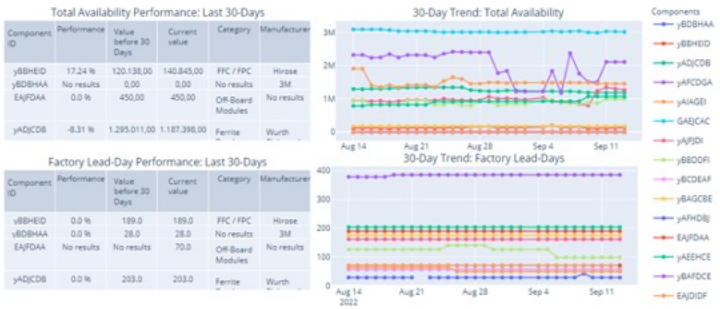
SOLUTION:

- Graph-theoretic analysis of component criticality for detecting hidden problems in component-based supply chains → multiple graph-theoretic centrality measures for determining component criticality
- Bill-of-Materials (BOM) data are automatically transformed into a knowledge graph, semantically enriched, and fed with historical and actual market data (e.g., prices)

RESULTS:

Service prototype for detecting hidden problems and shortage trends in component-based supply chains of sensor manufacturing (decision support for end users)

Enriched knowledge graph based on BOM data (xlsx -> JSON-LD)



Overview of market data regarding determined critical components, e.g., availability and lead time of components in the last 30 days (Octopart/Nexar)

Contact:

Deutsches Forschungszentrum für Künstliche Intelligenz (DFKI)

Dr.-Ing. Sabine Janzen
(sabine.janzen@dfki.de)

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ADVANEO
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