

Additional functional specification Bridge interface

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Description of improvements

The scope is set to repair-by-repair parts. The part forecast for these items is the product of the maintenance schedule on component level and the bill of material (BoM).

Furthermore, we want to include repairable items to the scope. We require additional data, such as stock data of defect parts and part return times. With this additional data the allocation algorithm -- i.e., the calculation that add the spare part stock availability to the maintenance schedule -- can be extended for repairable parts. The algorithm needs to take into account the part return times and the turn-around stock.

Lastly, for repairable items we want to include the option, aside from the emergency costs in case of part unavailability, to increase the turn-around stock.

Summary of functional specifications

- Ingest Bill of Material (BoM) data
- Process BoM and maintenance schedule to material demand forecast. Includes support for stochastic BoM.
- Allocation of available stock to maintenance actions via improved (recursive) algorithm based on FCFS priority rule.
- Ingest additional data for repairables (return time, repair throughput time, emergency cost)
- Support repairable items in stock development and allocation algorithm. That is, add turn-around stock and support for base stock levels instead of ROP.
- Generate option for repairables to increase turn-around stock aside to the available emergency options.