Forecasting and restocking of spare parts for the VMI service at Fokker Services

Preferred starting date: September / October 2017.
Location: Hoofddorp
Type of student: MSc student Industrial Engineering and Management / Econometrics
More information:

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Fokker Services

Fokker Services (FS) is part of Fokker Technologies, which develops and produces advanced components and systems for the aerospace industry, and supplies integrated maintenance services and products to aircraft owners and operators. FS has worldwide 1,000 employees at locations in the Netherlands, USA and Singapore and delivers logistic programs, engineering services and component repairs for different aircraft platforms. FS offers amongst others integrated services focused on increasing technical dispatch reliability (TDR) and passenger comfort while reducing direct operating cost (DOC). These integrated services consist of aircraft services solutions, logistic solutions and technical solutions. Engineering is the Business Unit who is responsible for taking care of the Type-Certificate of Fokker Aircraft and our staff consists of highly qualified Aviation & Aerospace Engineers. We offer Design Engineering & Engineering Fleet Support, Modifications, CAMO and consultancy services.

Assignment

Fokker Services (FS), as a type certificate holder of the Fokker aircraft, strives to support the Fokker fleet until 2030 and beyond. FS offers amongst other things VMI (Vendor managed Inventory) solutions for standard parts to its customers. As a part of this service, FS is responsible for forecasting and adequate (re-)stocking of the onsite located parts in order to make sure that work stoppage due to unavailability of such parts is minimized. To this purpose, FS would like to re-evaluate and optimize the existing stocking framework for VMI parts. The details of this assignment can be worked out by the MSc student in close collaboration with FS.

Background: The ProSeLoNext project

This graduation project is part Work Package 3 of a larger research project called ProSeLoNext. This work package deals with the operational control of resources (e.g. service parts) for maintenance of assets, where tactical decisions (e.g. inventory levels) are given. Based on the actual status of the supply chains, it is important that upcoming issues like understocking or overstocking are identified early, such that preventive actions can be taken. Other fields are (i) identification of delays in the physical distribution process having serious consequences, such that corrective actions can be invoked, (ii) reverse logistics, i.e. whether to return and repair failed parts that have been removed from the assets, and how to route them with which priority level. This is part of the service control tower concept, aiming to co-ordinate operational control actions in a global service supply chain. Partners in the work package are – next to Fokker Services – ASML, IBM, Thales Netherlands, and Vanderlande Industries.