Combining Simulation and Lean Design at the Montreal Airport to Implement an Early Bag Storage (EBS), to Optimize the Baggage Room Installed Capacity

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In the context of sustained growth of passenger traffic at the Montreal International Airport over the last 5 years, the planning and operations' departments have been evaluating with GSS different infrastructure improvements and operational policies to be able to support the baggage flow growth during peak times, specifically in the sorting and outfeed portions of the domestic & international baggage room. Considering that flight schedules are the result of commercial agreements, the airport and GSS introduced an innovative approach of demand peak shaving by targeting specific flights to be handled in a manual EBS for the summer 2019. The To-Be scenario was developed in a LEAN multidisciplinary context using a simulation platform built with AnyLogic. The simulation results show that this new approach will allow the airport to maintain customer service levels while limiting capital investments in the short-term. Furthermore, the team is currently testing the integration of a larger and fully automated EBS that will support the optimization effort over a broader timeframe (5 to 10 years).