

Operational Forecasting and Decision Support Tool

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OPERATIONAL CONTEXT



Air cargo operations' daily workflow requires jointly managing many variables such as flight flow, arrival times, estimated ground time, warehouse capacity, pallet/AWB processing priorities, and operational intensity. Accurate tracking of these variables is critical both for keeping operations on time and for using resources efficiently.

Operational teams monitor flight arrival status and cargo flow to determine warehouse (HUB/GHA) routing, processing priorities, and on-site action needs. Therefore, having flight-, pallet-, and AWB-level data visible on a single screen is an important decision-support area for detecting risky situations early and making more accurate operational decisions.



How Does The Operational Decision Process Work?

Operational decision-making processes mostly rely on static data and real-time judgments.

Currently, the process works as follows:

- Operations teams manually track up-to-date flight and shipment information across different systems.
- Flight arrival times, operational intensity, warehouse status, pallet/AWB details, and ground time information are assessed separately.
- Flights deemed risky or shipments requiring priority processing are identified by operations teams based on experience and real-time observations.
- Processing priorities at the pallet and AWB level are created manually; relevant shipments are directed to specific warehouse areas or teams based on field conditions.
- Potential delays, connection risks, congestion, or resource shortages are usually detected during operations.

How Might We Canvas

Who?

who are the stakeholders that get effected?

Turkish Cargo Hub Operations, Transfer/ Transit Operations, Planning and Capacity Management, Network and Flight Planning Teams

What?

what is the problem that needs to be solved?

Operational decision-making relies on static data and real-time assessments, and warehouse congestion, processing priorities, and operational risks cannot be managed in a predictable

Why?

why is this problem worth solving?

Late detection of risks leaves operations teams with less time to act, leads to inefficient use of resources, and makes operational flow more difficult during peak periods.

How?

how can this problem be eliminated?

The goal is to display, on a single screen, the likelihood of on-time arrivals, estimated ground time, pallet/AWB processing priorities, warehouse routing recommendations, and information on risky flights.

Challenge:

How might we develop a predictive decision-support system that makes flight, pallet, AWB, and warehouse capacity data visible on a single screen to anticipate operational risks and strengthen data-driven HUB/GHA routing decisions?