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Lufthansa Systems launches new solution to optimize (multi-)hub networks

The NetLine/HubDesigner uses the latest AI methods to exploit profitability potential and help airlines adapt to the new normal after the near standstill of air traffic.

Raunheim, April 22, 2021 – Lufthansa Systems today announced the launch of the NetLine/HubDesigner, an optimizer that generates profitable (multi-)hub networks, optimizes fleet utilization, and creates the ideal bank structure at a single hub or in a multi-hub environment. Based on advanced artificial intelligence (AI) technologies, the solution harmonizes supply and demand while considering operational restrictions. This results in a schedule that is operationally feasible, perfectly suited to meet demand, and generates maximum network profitability. The new solution paves the way for more efficient, data-driven decisions in the recovery phase and well beyond.

The solution was developed in response to the current market situation, where demand and the competitive landscape are subject to dynamic and sweeping change in the short term. Even airlines operating based on hub-and-spoke business models now have to adjust or completely redesign their networks more frequently, more radically, and closer to the day of departure. “Optimizers are needed to create and maintain a profitable bank structure for a (multi-)hub environment, which takes into account demand, competition and operational restrictions and enables airlines to tap market opportunities,” said Judith Semar, Product Owner Schedule Optimization at Lufthansa Systems. “When market conditions change drastically, networks need to be redesigned from scratch. The NetLine/HubDesigner generates the most profitable O&D network, known as the point of origin and destination approach, without having to resort to existing schedules.”

Besides the clean-sheet network optimization approach, the NetLine/HubDesigner delivers integrated rather than isolated optimization results as it combines three optimizers in one solution:

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1. Hub optimization maximizes passenger services in terms of times, connections, and frequencies

The optimizer designs the best hub bank structure offering the optimal frequencies and connection times.

2. Fleet assignment ensures the most profitable use of a fleet

The optimizer efficiently assigns aircraft to routes while taking revenue and cost structures into account.

3. Rotation optimization generates reliable aircraft rotations

The rotation optimizer creates a rotation schedule that accounts for operational and commercial demands by considering aspects such as airport slots, maintenance requirements and airport restrictions.

Lufthansa Systems offers the underlying demand forecasts as a service, or they can be provided by customers themselves. This enables airlines to consistently plan and control their business process within their network planning and scheduling process.

The NetLine/HubDesigner is a cloud solution running on Lufthansa Systems' cloud delivery platform, the Global Aviation Cloud. "Our customers thus benefit from an excellent end-to-end service for simple, cost-effective and scalable use," said Dana Wilk, Product Manager Global Aviation Cloud at Lufthansa Systems. "The security measures are certified in accordance with multiple industry standards and are regularly reviewed in audits." Lufthansa Systems is the customer's single point of contact for the entire technology and service stack.

Caption (Copyright: Lufthansa Systems): Lufthansa Systems launches the NetLine/HubDesigner, which generates a schedule with maximum network profitability.

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About Lufthansa Systems

Lufthansa Systems GmbH & Co. KG is a leading airline IT provider. Based on long-term project experience, a deep understanding of complex business processes and strong technological know-how, the company provides consulting and IT services for the global aviation industry. More than 350 customers worldwide rely on the know-how of IT specialists at Lufthansa Systems. Its portfolio covers innovative IT products and services, which provide added value for its customers in terms of enhanced efficiency, reduced costs or increased profits. Headquartered in Raunheim near Frankfurt/Main, Germany, Lufthansa Systems has offices in 16 other countries.

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