

# Streamlined asset management takes flight

June 9 2011, By Lee Swee Heng

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Credit: AI-generated image ([disclaimer](#))

A single aeroplane contains roughly four million individual parts, and successfully keeping entire fleets in the air requires easy and efficient access to spare components. This demanding process is managed by companies specializing in maintenance, repair and overhaul (MRO). Managing these resources without guesswork is now possible using a software system called D-SIMSPAIR, which was developed by the company D-SIMLAB Technologies—a spin-off from the A\*STAR

Singapore Institute of Manufacturing Technology (SIMTech).

“D-SIMSPAIR is a system that is able to portray spare parts inventory networks in a high-fidelity simulation model and also comprises an engine to rapidly optimize inventory quantities and allocations,” explains Peter Lendermann, CEO and co-founder of D-SIMLAB. By providing a more comprehensive alternative to the simple mathematical models that were previously the industry standard, D-SIMSPAIR helps companies trim costs while offering the flexibility needed to rapidly implement changes.

Today, D-SIMSPAIR is used by MRO companies supporting aircraft manufactured by Airbus, Boeing, Embraer and Bombardier. In 2010, the company formalized an agreement with Airbus that makes D-SIMSPAIR the platform of choice for optimizing materials and logistics for both present and future Airbus aircraft. Most recently, D-SIMLAB was recognized for its innovations by the technology industry magazine Red Herring, which designated the company as one of its Global Top 100 Tech Startups for 2010.

D-SIMLAB got its start in 2006, prior to the commercial launch of the Airbus A380. In an effort to streamline its spare-parts management strategy for the new aircraft, a Singapore-based MRO company consulted Lendermann’s research team at SIMTech. The researchers had been working on simulation-based tools designed to help companies make strategically sound decisions related to the management of resources distributed around the world.

“We’d seen the need for novel decision-support tools to enable better asset management, but also realized that sufficient scalability could only be achieved by taking a global-scale approach,” says Lendermann.

In partnership with his SIMTech colleagues Gan Boon Ping and

Nirupam Julka, Lendermann subsequently parlayed the team’s efforts into the launch of D-SIMLAB. Their first software product was designed to assist aerospace asset management, based on a simulation engine that was subsequently incorporated into D-SIMSPAIR. It proved to be a powerful tool for the aerospace industry.

In parallel, D-SIMLAB incorporated the same simulation engine into a software platform for the semiconductor-manufacturing industry, D-SIMCON, which is now being used by companies in Singapore and Germany. According to Lendermann, these businesses are also gaining considerable efficiency in their manufacturing processes through the use of D-SIMLAB software. “They can react to changes in demand and operational conditions on the shop floor much faster than what is possible with conventional software tools,” he says. “This enables lower cycle times and higher capacity utilization, again leading to multi-million dollar cost savings.”

D-SIMLAB has grown rapidly in the past five years. Lendermann and colleagues, however, foresee considerable expansion as more companies recognize the advantages of using such simulation-based systems to accurately model the dynamics of their global networks, which minimizes waste and delays and ensures that essential resources are consistently in the appropriate place at the appropriate time.

Provided by Agency for Science, Technology and Research (A\*STAR)

Citation: Streamlined asset management takes flight (2011, June 9) retrieved 4 May 2024 from <https://phys.org/news/2011-06-asset-flight.html>

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