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Boeing [NYSE: BA] and the Knowledge & Development Centre (KDC) are extending a cooperative agreement to develop solutions for the sustained growth of aviation in the Netherlands. The KDC is a joint foundation that includes KLM Royal Dutch Airlines, Amsterdam Airport Schiphol (AAS) and Air Traffic Control the Netherlands (LVNL).

Officials from Boeing and the KDC signed a renewed three-year Joint Development Agreement (JDA) during the ATC Maastricht industry event on Feb. 14.

Initial work will focus on improved environmental operations and increased efficiency for air transport carriers. Ongoing trials of the Tailored Arrivals advanced operational concept and improved departure techniques for Schiphol Airport also will continue.

"Implementation of environmentally friendly procedures with high capacity is vital for sustained growth at Schiphol Airport, especially in light of the Dutch government's call to reduce noise and emissions in the greater Schiphol area," said Paul Riemens, LVNL director of Air Traffic Management. "In addition, this cooperation allows us to develop and implement important parts of the LVNL air traffic management system strategy for stable and predictable traffic streams."

For Boeing, the signing of the renewed JDA extends a cooperative relationship that began in 2002 with LVNL.

"Over the past four years, this integrated team of air traffic controllers, ATM engineers, airline operators and avionics experts has been demonstrating its ability to streamline air traffic flow and improve environmental conditions at Schiphol Airport," said Rob Mead, Boeing senior systems engineer. "Extending these efforts will help not only Schiphol and Europe, but also the rest of the world to meet the three-fold increase in air traffic that's anticipated by 2020."

The Dutch aviation sector partners KLM, AAS and LVNL joined their research and development efforts in the recently-formed Knowledge & Development Centre Mainport Schiphol to develop Schiphol Airport. The Directorate-General of Transport and Aviation of the Netherlands (DGTL) is a strong promoter of the KDC and uses the foundation to streamline its support for Schiphol's development.

"We are thrilled to see the KDC joining forces with Boeing, which will boost the innovation of Schiphol operations," said Jeroen Fukken, DGTL director Civil Airports.

The development of Schiphol has been in three phases. Phase 1 involved a critical factor analysis, followed by the development of an Inbound Priority Sequencing concept in Phase 2. The work resulted in successful slot-swapping and peak-shaving trials to boost the efficiency of KLM hub operations. These trials employed techniques that are now being introduced in other European operations.

"The first-come, first-served paradigm does not adequately meet hub operation requirements when capacity becomes the limiting factor," said Michiel van Dorst of the KLM Air Traffic Management Department. "The Inbound Priority Sequencing concept has cleared new ground for hub efficiency and is an important asset to the development of the European ATM concept in SESAR (Single European Sky ATM Research)."

Phase 3 has involved development of advanced arrival and departure techniques (including Tailored Arrivals) that use aircraft capabilities to improve air traffic management. The knowledge gained from Phase 3 experiments shows a path to more predictable traffic streams with less fuel burn and less environmental impact (noise and emissions).

During a Tailored Arrival, data-link technologies establish a four-dimensional flight profile between air traffic control and the pilot of an approaching aircraft when it's ready to begin its descent, about 140 miles away from final destination.

Rather than a traditional vectored, step-down approach in which pilots must abandon the aircraft's built-in automation, the Tailored Arrivals profile is an efficient, predictable, continuous descent. Both airborne and ground systems have the same descent plan, and pilots and controllers have minimal need for voice communication as they make maximum use of modern aircraft capabilities.

The next phase of cooperation will build on results of trials led by Boeing and LVNL in early 2006. These trials, which totaled more than 190 flights, involved near-idle descents from cruise altitude to landing. The high number of flights enabled the joint project team to achieve its primary objective, which was to identify key areas of air-to-ground data sharing that can improve predictions for arrival times and arrival paths.

Headquartered in Chicago, Boeing is the world's leading aerospace companies and is a top U.S. exporter in terms of sales. Employing more than 154,000 people in 70 countries and providing products and services to

customers in 145 countries, Boeing is a global market leader in commercial jetliners, military aircraft, satellites, missile defense, human space flight, and launch systems and services.

Its advanced R&D unit, called Phantom Works, collaborates with universities, research agencies and other technology companies worldwide to provide innovative aerospace solutions. As part of Phantom Works, Advanced Air Traffic Management is dedicated to providing innovative solutions to dramatically increase the efficiency, safety and security of air traffic systems throughout the world.

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