70MB project cements productive partnership between Schiphol and Vanderlande

Amsterdam Airport Schiphol has long been at the heart of Europe’s aviation industry. Having recently celebrated its centenary year, Schiphol retains its position as one of the continent’s most important air hubs. Today, the airport continues to invest in its vision to connect The Netherlands with the rest of the world and bring in significant business opportunities, facilitated by its unique one terminal concept.

From its origins as a local military airbase in 1916, Schiphol now serves 322 international destinations and over 100 airlines. Its pivotal position is also highlighted by the volume of passengers that passed through its doors in 2016 – 63 million. This equated to around 480,000 flights. Almost 40% of travellers are transfer passengers and Schiphol is also the base of home carrier KLM.

Schiphol remains focused on the future. Its partnership with Vanderlande, which stretches back five decades to 1967, has always been an important stepping stone in helping it to overcome its challenges. Growth at Schiphol has been higher than anticipated in recent times, and it has to balance this with its vision on sustainability and other factors. By partnering with Vanderlande, Schiphol aims to safeguard its position for many decades to come.
A balancing act
One of Schiphol’s main challenges was to ensure that its capacity was sufficient for future growth. “We needed to make sure our terminal facilities were fit for the future,” says Schiphol’s Director Asset Management Floor Felten. “However, given the number of passengers and traffic, we also wanted to retain the highest levels of service, and remain a preferred airport for our visitors.”

In addition, Schiphol wanted to balance a number of other criteria during any potential development work. Not only did the airport strive to improve the overall quality of its service to all stakeholders, but part of its vision was to reduce the cost per bag and mishandled bag rates. Improving the reliability of the overall system was also essential. In line with its strategy on sustainability, enhancing the working conditions for ground staff was another vital consideration.

“Schiphol faces a number of challenges over the coming five to six years – passenger numbers are up, and they’re up much more than we expected,” adds Schiphol’s Senior Manager Support and Resource Allocation Sanne Patijn. “Our main objective is to deliver the capacity for growth over the coming years. That’s for everyone concerned: airlines, passengers and baggage handling, which is why the optimal allocation of our assets will be a core focus for us.”

To achieve its multiple aims and objectives, the separate baggage areas at Schiphol had to be seamlessly connected. This included integrating new elements and installations within existing systems. The airport’s ambition was to develop a state-of-the-art system that provided improved baggage control, enhanced flexibility and offered in-built redundancy. It was also necessary for live operations to continue uninterrupted while all developments and installations were being carried out.

“The baggage system is vital for us, especially as we’re a hub airport,” says Floor. “As such, we needed an advanced baggage system to ensure that people make their connection times, together with their bags.”

**Floor Felten**
Director Asset Management

A monumental project
To support its aims, Schiphol defined the 70MB (70 Million Bags) programme. This was a monumental undertaking that comprised four large-scale projects across multiple locations. These were: Transfer Screening D-pier; Unloading Quays E-pier; the South Baggage Hall; and the Backbone system. A separate project began in 2002, when Vanderlande was contracted to redesign the baggage handling system in Departures 3 (West) to meet 100% hold baggage screening (HBS) requirements.
The Transfer Screening D-pier followed in 2006 (again to meet the need for 100% HBS), with the South Baggage Hall beginning in 2007 (delivered 2009). The latter development incorporated Vanderlande’s TUBTRAX individual carrier system (ICS) technology and BAGLOAD robotic loading. In 2008, Unloading Quays E-pier was added, which boosted Schiphol’s transfer capacity and included the latest screening equipment.

In December 2012, a separate development was handed over that connected all the baggage halls at Schiphol. A redundant, integrated baggage handling system – the Backbone project – was the final piece of the jigsaw. “It’s not only about getting the basics right for the airlines, but also the possibilities for our passengers,” adds Sanne. “That’s where the final part of 70MB – the Backbone – comes in. This makes it possible to reach every part of Schiphol without human intervention.”

Within each separate project, a variety of Vanderlande’s industry-leading technology was introduced. This includes TUBTRAX – a high-speed conveyance system – which is at the heart of the Backbone operation. TUBTRAX works by carrying items of luggage in tubs, providing faultless tracking. Schiphol also benefits from BAGTRAX, a high-speed ICS solution that ensures 100% tracking and tracing, and fast transportation of bags.

In extending the partnership between the two organisations, Vanderlande has a dedicated site-based service team on site. This comprises 75 full-time employees, who are responsible for performance-based and corrective maintenance, life-cycle planning and continuous improvement. By offering 24/7 support, the site-based team cooperates daily with Schiphol in helping it to deliver the best-possible service.

“I think that Vanderlande has provided a truly expert team,” says Floor. “It’s not our expertise as an airport to keep the baggage system operational, which is why we rely on Vanderlande’s expertise in this area. The added value for us is that the system delivers an excellent performance, and stays up and running. This helps us to focus on our core business, which is the overall performance of the airport.”

“The solutions that Vanderlande delivers fit precisely with our requirements at Schiphol, and as a result we work as partners – we simply go hand-in-hand.”

Sanne Patijn, Sr. Manager Support and Resource Allocation
A frontrunner
The 70MB programme has delivered a wealth of benefits to Schiphol. Passenger volumes have been increased, as well as the levels of flexibility and capacity. The combination of hardware and software also means that the airport can make more efficient use of the available baggage capacity, and guarantee a high-quality process to all stakeholders. By reducing the mishandled bag rates, the experience for passengers has also been enhanced.

Thanks to the in-built redundancy provided by the Backbone system, a number of important functions can be moved between baggage facilities to ensure that operations always remain uninterrupted. The Backbone project has also contributed to a decrease in connection times, and the shortest possible in-system times. Flexibility and control are also assured with the installation of BAGSTORE, which also features 100% redundancy.

With its vision on sustainability in mind, the 70MB programme has allowed Schiphol to reduce the number of transport movements by road, which has helped to lower CO₂ emissions on site. The ergonomic strain on the airport’s ground staff has also been significantly reduced owing to the installation of automated robotic loading technology.

In addition, VIBES gives Schiphol the ability to make precise predictions, carry out peak shaving, better analyse data and ensure faster connection times. Having a dedicated site-based life-cycle services team means that the airport has the peace of mind that it will receive an effective response during routine operational tasks.

“Vanderlande is definitely the frontrunner in its field of expertise,” says Sanne. “If Schiphol is going to set something up, we take the time to scan the market and really seek the best value. And this usually lies with the company that is way ahead in terms of technology and innovation. We also want to be a frontrunner within the airports industry, which is what brings Vanderlande and Schiphol together.

“Vanderlande is so self-assured about its capabilities, that if we suggest a different technology to integrate within the system, they say, “Ok, we’ll take a look”. In the end, we’ve got six robots, a ‘pull’ system, and we’re only utilising half the size of the basement compared to a traditional system.”

Floor is also clear on the benefits of working with Vanderlande: “Schiphol’s approach is to cooperate and co-create with partners. We challenge Vanderlande to come up with new solutions. On occasion, we put the problem
on the table and think about it together. As a result, we have a system that can handle the high demands that we put on it.

“At all times during each installation, the baggage system was in full operation. After all, we simply don’t have the room or the capacity to flick the switch off for a day or two. Everything was successfully put into place in a complex operation.”

Common ground
The 70MB programme has not only improved the operations at Schiphol, but it continues the 50-year partnership between two of The Netherlands’ leading organisations. Additional projects are already in progress, including the installation of a temporary departure hall, in which Vanderlande was selected to deliver the main baggage handling system. The hall will allow the airport to further enhance its passenger screening capacity.

For Floor, there is an interesting comparison to be made: “If you ask a couple that has been married for 50 years what makes the marriage work, they can’t say! It just does. In the end, it’s about having matching cultures and values, people who know each other, and open and direct communication.

“I think it helps that Vanderlande is also a Dutch company, and we’re both really well-known Dutch brands. The cultures match. Schiphol sets itself extremely high standards, so it needs sophisticated, high-quality partners as well. The solutions that Vanderlande delivers fit precisely with our requirements at Schiphol, and as a result we work as partners – we simply go hand-in-hand.”

Sanne believes it is satisfying that the relationship remains intact, even when times are tough. “In high-pressure situations, Schiphol and Vanderlande stay around the table and work towards our joint objectives. We always find common ground. I would say that a partnership needs to be tested occasionally, otherwise you’ll never know how strong it is.

“Ultimately, the partnership between Schiphol and Vanderlande has been growing over the past years owing to the high performance of the system, but also thanks to the people who have been pushing those results. Vanderlande are highly capable, proactive and pleasant to work with. As such, we remain partners with a joint goal to deliver the best baggage handling process to our customers.”