KLM Equipment Services reduces airport costs

KLM Equipment Services (KES), an independent subsidiary of KLM, the national Dutch airline, is a leading provider of Ground Support Equipment (GSE) services. Based at Schiphol, one of Europe's top airports, KES manages and maintains thousands of pieces of equipment, ranging from simple baggage dollies to massive main-deck-loaders. LANSA's productivity means that a small team can develop and maintain KES's system, initially with LANSA for iSeries and more recently with Visual LANSA.

Michiel Blok, Information Systems Manager at KES, says, "Using LANSA and a small development team of two, assisted by four contractors during project peak time, we have built our own system that provides us with a major competitive advantage. While a lot of new functionality was introduced, the number of programs was nearly halved due to efficient user interface design and reuse of components."

The Need to Modernize

KES provides a wide range of services in all areas related to Ground Support Equipment (GSE) services, with a focus on minimizing operational costs for customers and maximizing availability and utilization of equipment. KES's main areas of service include maintenance, fleet management, leasing, trading of equipment, consultancy, spare parts, rental and airside services such as refuelling and equipment pick-up/return.

KES manages 15,000 vehicles of which over 3,000 are motorized, with the majority of the equipment based at Schiphol. KES's maintenance and consultancy customers include major airlines, airline handlers, KES's own lease division, Schiphol and many other airports around the world.

Since the early nineties, all of KES's operational systems have been developed with LANSA for iSeries, the predecessor of the Visual LANSA.

"Back in 1992, LANSA's short learning curve and productivity were the main deciding factors," explains Blok. "We developed the entire equipment support system with just two developers in less than 6 months."

Since then, the system has grown tremendously with new modules for Fleet Management, Leasing, Trading, Commercial Consultancy and Fuel Distribution, all still developed and maintained by the same team of two.

Although the system had been extremely well designed, the green-screen user interface and lack of Windows integration started to affect user productivity, especially for new employees. KES decided to redevelop its systems. After an extensive evaluation and trial of Java and some other tools, KES selected Visual LANSA.

"We were already accustomed to LANSA's intuitive 4GL and repository. Java felt like a step backwards in comparison. It was more complex and required a lot of low level coding. I wanted to keep my team small and productive and decided for LANSA."

"The main reason to move our systems to a Visual LANSA Windows environment was to provide a more intuitive user interface with tree views, drag-and-drop, word wrapping and the ability to present more information in a single screen," says Blok. "Another reason was to give customers Web access."

"The fact we can develop and maintain a huge system with a team of two, indicates how powerful LANSA is."

Smooth Implementation

"Our two developers, assisted by four contractors during project peak times, used Visual LANSA to redevelop the original system and add several new modules," explains Blok. "Actual development took about one and a half years."

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The design of the new system's database was kept largely the same as the existing database. Because KES was planning a phased implementation, the old system had to be updated with some of the new changes, resulting in partial duplication of development effort. However, it also meant that there was no need for extensive data conversion, which made the implementation of the new system a low risk event.

Staff members familiar with Windows only needed a few minutes to find their way around the new system, according to Blok. "Overall the reaction was positive. Users find it an enormous advantage that they can view more information on a single screen. Also, they find navigation easy using the tabs and links." ➔

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Efficient Procedures

A large part of the new functionality is in the area of inventory management, spare parts and procurement. Previously KES used Movex for this, but the ERP's functionality was overkill for KES and required users to fill out many screens and parameters that were irrelevant to them.

"The new procurement module is easier to use and many times faster. Previously, creating a purchase order could take 10 minutes. Now it takes on average only one minute," says Blok.

Warehouse management has become more efficient as well. Warehouses and workshops are each presented with a small graphic on the screen and users can graphically drag-and-drop a delivery to the desired warehouse. Previously it required the input of the item number and location code. The drag-and-drop transfers are much faster and less prone to typing errors.

The planning module allows for scheduling of inspections, repairs, maintenance and modification jobs at over 100 workshop bays. It also caters for the scheduling of runners, who offer the service of driving/towing vehicles to and from the bays. KES employs 100 technicians and 26 runners.

KES's technicians carry laptops that allow them to view and update equipment maintenance history. These applications had to be designed with a slow GPRS connection in mind, as strict airport safety regulations disallow Wi-Fi networks.

One of the LANSA applications collects data from the Airport Equipment Fuelling System. All motorized equipment has been fitted with a transponder and each tanker has an antenna that enables it to identify authorized vehicles. The details that are collected by the tankers are uploaded to KES's system for fuel consumption statistics and billing. KES's five tankers handle over seven million liters of diesel each year.

KES also used LANSA to provide its customers with a Web site where they can log repair requests. Previously, repair requests consisted of written fault reports that were attached to the vehicle. As the manual system could not enforce rules, fault reports were often incomplete, for example only stating: "Not working". It would also happen frequently that drivers called in vehicle problems from their mobile phone, neglecting any procedures.

KES receives over 17,000 repair requests per year and the Web site has significantly streamlined procedures. Efficiencies are not just limited to the workshop, but also flow on to administration.

Michiel Blok, Information Systems Manager at KLM Equipment Services in front of the workshop at Amsterdam Airport Schiphol.

"The wealth of information also lets us offer razor sharp fees to our customers."

KES's Competitive Advantage

With over 15 years of statistical information, KES can provide its customers with high quality management information, such as accurate analysis of running cost per hour or per kilometer for many types of equipment. This information also allows KES to offer very competitive maintenance and leasing prices.

"We can provide significant savings for our customers. Some of our airport customers have seen their GSE and fleet cost come down by over 50 percent. The system helps us and our customers to make better buying decisions. There are virtually no other GSE service providers who can offer equipment consultancy at the level we offer."

Another area of savings KES can provide its customers is in managing spare parts. KES has agreements with several equipment suppliers for inventory management and distribution of parts. Being based at a major aviation hub provides KES an ideal location for this service.

"By managing both the inventory for parts suppliers, as well as providing customers with parts availability and maintenance services, we can maximize availability," explains Blok. "The same economy of scale also applies to our purchasing power. We could never manage this without our LANSA system."

Staying in the Lead

"To develop a huge system like ours in a 3GL would almost be impossible, or would require many more staff. The power of reuse and impact analysis that comes with LANSA is enormous. I find it difficult to quantify LANSA's productivity, especially for Windows development, but the fact we can develop and maintain a huge system like ours with a small team of two, indicates how powerful LANSA is."

"We could have bought SAP, but having our own system gives us a competitive advantage. The equipment information we gather is unique in the ground support equipment industry and helps our customers to make the right decisions."

"The wealth of information also lets us offer razor sharp fees to our customers. Supported by the LANSA-based system, the leasing of equipment has grown to become one third of our total revenue and is still growing," concludes Blok. ■

Company and System Information

- KLM Equipment Services (KES) services the entire fleet of ground support equipment at Amsterdam Airport Schiphol, which with 48 million passengers and 1.6 million tonnes of cargo passing through each year is one of Europe's top airports.
- KES employs 170 staff, of which 120 technicians and runners working in shifts.

For more information visit: **www.kes-gse.nl**