Efficiency gains are key to the thinking of most airport operators, but on a daily basis it may be hard to see precisely where improvements can be made. When challenging conditions arise, however, it becomes all too clear where information flows could improve and responses become faster.

Experience of adverse events has made many airports look at the potential benefits of operating a centralised airport management centre (AMC) to coordinate the activities of different service providers, and the latest in that list is Sheremetyevo International Airport in Moscow. It has recently implemented the Zeus system from Swiss company NeuroPie at its new AMC to help improve overall efficiency and increase its responsiveness to critical situations.

Like every major airport, Sheremetyevo has many different stakeholders, but previously, the only system to coordinate all departure processes was the airport’s acquisitional database. But this could not bring together all the services, and the airport’s management decided it wanted to coordinate not only those services relating directly to flights, but also the many other facets of its operation. So it looked to other airports to see if there were any lessons to be learned.

“We looked at hub airports and saw from their experience that it was worth creating an AMC to handle flights, security and other services. The main deliverable is the dissemination of information. Now, there are ten complex systems, including air traffic control, ground vehicle management, access control and CCTV, all combined in the centre,” explains Khokhlov. “The information comes into one coordinator and is spread to all stakeholders. The information in the system, which can be relayed to our video walls, lets everyone know what is happening and what to do. Previously, information was spread by radio on a point-to-point basis. Now, communications are faster and more efficient.”

Opened in December 2011, the AMC consolidates the gathering, monitoring and control of the airport’s different control centres across all of the organisations that have an impact on its efficient operation. The AMC is the nerve centre where reaction to any irregular event is managed, along with capacity issues and the standard operating procedures that define the level of customer service. Thanks to the airport performance measurement system from NeuroPie, the airport has a more thorough process for evaluating irregular events and a clearer view of its action checklists.

“The emergency plans are in the system, so everyone can prepare for forecast events,” says Khokhlov. “The system enables better preparation and training, and we can also analyse why events happen and why they cause problems.”

Interestingly, one of the most significant challenges in developing the AMC was putting in the right system. NeuroPie’s Zeus provides a common platform for shared data, providing a standardised view for all areas involved in airport operations. Bringing together the different stakeholders and data feeds is a complex task, but for Khokhlov, it was not the most challenging aspect of shifting to the new model.

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Moscow’s Sheremetyevo International Airport has become the latest facility to invest in a management centre to coordinate the activities of the many business partners that make an airport operate efficiently. Although the project is in its early days, the airport has already reaped tangible benefits, IT director Igor Khokhlov tells Jim Banks.
NeuroPie has had experience of airport systems implementations around the world, building up domain expertise that enables the Zeus software to be put in place in as little as ten weeks. What takes longer is the cultural shift that is required to make the software achieve its full potential.

“There were some technical issues, but they were not critical,” Khokhlov explains. “The biggest challenge is one of mindset or culture. The centre is based on basic ideas like the combination of effort, but some people are not accustomed to sharing problems when they arise; they are used to working in their own boxes and dealing with problems on their own. They worry about blame when it is better to be open and for people to see problems in their analysis. The human factor is the biggest problem in making the change.

“In the new culture, however, the human factor is very important in solving problems. It is not about blame but about getting things to work better. The centre is a big investment, but the change is not so much about the systems as getting people to work together to improve performance.”

The airport has used the new business intelligence system for the past three months, but is still waiting for the cultural change to take effect. As the new mindset trickles down from senior management to all of the different business partners, efficiency gains grow. For now, Khokhlov is happy to wait, having never expected the new way of working to take hold overnight. The best changes often take time.

“The experience of Zurich Airport suggests that it takes a year, perhaps 18 months, for the change to happen, but we are moving quite fast,” says Khokhlov. “The implementation of the management centre took four months, which is impressively fast considering we had to work on software, hardware and processes. Already we are seeing the advantages. We are better coordinated, we understand our business processes better, and some business partners have implemented key performance indicators, which help us to improve performance.”

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