INTEGRATED FLIGHT AND GROUND OPERATIONS

HUB CONTROL CENTER (HCC)

CUSTOMER STORY
SMOOTH TURNAROUND

With increased passengers and flights at its Shanghai hubs, China Eastern needed to reduce the impact of disruption by improving the efficiency of its ground operations.

China Eastern is one of the world’s five largest airlines. With a fleet of over 500 short and long haul aircraft flying over 80 million passengers annually, China Eastern connects China to the world.

At its Shanghai hubs Hongqiao (SHA) and Pudong (PVG), China Eastern is operating at near capacity with over 1,100 flights a day. To cope with a predicted 6% increase in passenger numbers, the airline is adding more flights to schedules, which in turn places additional pressure on the ground and flight operations. China Eastern recognized that to cope with more flights and potential disruption, it would need more agile and efficient ground handling.

One area of improvement would be in communications between flight operations and China Eastern’s own ground handling department. “The two departments worked in different silos, which was a significant hindrance to flight operations schedulers who did not have full visibility into staff and equipment resources required for turnaround,” said Soren Charles, sales director of SITA WorkBridge. China Eastern needed an integrated system where flight planners could see the impact of ground operations workflow on the flight planning, in order to accurately predict off-block time.

A second challenge was that the ground operatives at SHA and PVG relied upon paper-based processes and verbal instructions by walkie-talkie, and this did not scale well. “They couldn’t just increase ground handling personnel. Labor costs were rising rapidly and access to qualified staff is not unlimited. This made the optimization of available resources paramount,” added Charles.

Further, paper-based processes can be inaccurate and inefficient, making it hard to confidently change or plan future workloads on-the-fly. China Eastern was interested in being able to push out assignments to mobile devices and track their progress.
CREATING A HUB CONTROL CENTER

In September 2012, China Eastern engaged long-term technology partner SITA to help create a hub control center (HCC) that would bring together flight and ground operations into an integrated team with automated workflows. The HCC could then enable ground staff to rapidly adapt to inevitable disruptions and keep delays to a minimum.

By June 2014, the HCC was fully operational, coordinating 13,000 tasks to support the 1,100 daily flights. Using SITA AirportResource Manager and the turnaround and transfer systems, operators in the HCC receive expert guidance for the optimal reallocation and real-time management of staff and mobile equipment. They can then reallocate ground tasks, suggest flight schedule changes and re-accommodate passengers, all in real time.

Operators in the HCC can send tasks directly to ruggedized mobile devices, via WiFi and cellular connections, so that ground staff do not need to rely on verbal instructions or paper forms. With built-in reporting, the HCC has a full picture, in real time, of staff availability. It also cuts the paperwork from reporting, which means the ground staff can be better utilized.

In its first year, the HCC has proven to be a major success. “Our operations are running more efficiently and our passengers are benefiting from improved service. Every minute counts in operations and now at our Hub Control Center, with SITA AirportResource Manager and the turnaround and transfer systems, we are making informed decisions in real time that are delivering improvements every day,” said Hu Zhenming, Chief Service Officer and General Director of Airport Service, China Eastern.

Bringing together flight and ground operations into one department means that China Eastern has been able to schedule better and adapt to delays. Both of these have a positive impact on the bottom line and passenger satisfaction. Secondly, the system has helped the ground staff to be more productive. Dispatching functions can be cut by 50% due to automated processes and back office administrative tasks can be reduced dramatically with the removal of paperwork and manual processes.

RAPID RETURN ON INVESTMENT

Better planning has resulted in a reduction in staffing costs at SHA and PVG. China Eastern estimates that it has benefited from a 16% drop in staffing hours and a 60% reduction in overtime payments. Overall, the improved efficiencies are expected to deliver a return on investment within 12 months and savings of more than US$4 million in 2015 alone.

Ilya Gutlin, SITA President, Asia Pacific, said: “China Eastern’s experience of the drop in both overall staffing hours and overtime shows how SITA’s technology enables real-time and collaborative decision making to deliver improvements across the business. The airline has integrated SITA’s operations technology into a HCC that is delivering benefits in three areas. Our resource management systems are ensuring high utilization of staff; our turnaround management system is improving on-time performance; and our transfer management system is improving the passenger experience by reallocating transfer passengers effectively during times of disruption.”

With such a success in their two main hubs, China Eastern is now taking the HCC concept to its regional hubs, working with SITA to deploy the full solution to Beijing (PEK), Kunming (KMG) and Xian (XIY) airports.
SITA AT A GLANCE

We are the world’s leading specialists in air transport communications and IT solutions.

We deliver and manage business solutions for airline, airport, GDS, government and other customers over the world’s most extensive network, which forms the communications backbone of the global air transport industry.

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“WE HAVE WORKED CLOSELY WITH SITA TO DEVELOP OUR NEW HCC AND THE RESULTS WE HAVE SEEN FROM USING SITA’S INTEGRATED TECHNOLOGY FOR OUR GROUND OPERATIONS ARE IMPRESSIVE. THE COST SAVINGS WE ARE EXPERIENCING WILL SEE THE INVESTMENT PAY FOR ITSELF IN LESS THAN A YEAR.”

HU ZHENMING
CHIEF SERVICE OFFICER AND GENERAL DIRECTOR OF AIRPORT SERVICE, CHINA EASTERN

BETTER GROUND HANDLING

To make it easier to manage staff and mobile equipment, China Eastern’s ground operations at Shanghai Hongqiao and Pudong airports are using SITA AirportResource Manager with transfer and turnaround systems. The comprehensive solution includes modules for:

- **Planning**: To calculate capacity and resource demand based on standard flight schedule information. It includes work shift modeling and scenario simulations to simplify “what-if” analysis and cost projections.

- **Rostering**: To generate staff rosters automatically, based on regulations and working rules management, overtime impact analysis and shift validation.

- **Real-time operations**: For real-time planning using flight information, resource availability and unallocated tasks.

- **Mobile management**: For pushing tasks to mobile devices and ensuring tasks are completed and where relevant, can be billed.

- **Turnaround management**: For real-time flight management with a prediction of off-block time.

- **Transfer planning**: To provide better visibility into flight movements and the impact on ground operations.

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