

EUROCONTROL CFMU, Brussels

Enhancing situational awareness of European air traffic

“The situational awareness provided by Barco's video walls helps our staff to better anticipate where our priorities and resources need to be concentrated.”



Every day in Europe more than 30,000 aircraft take to the skies. EUROCONTROL, the European Organization for the Safety of Air Navigation, makes sure that this air traffic flow is a safe and efficient process. As an operational unit of EUROCONTROL, the Central Flow Management Unit (CFMU) manages one single air traffic flow management system over Europe. The EUROCONTROL CFMU, located in Brussels, Belgium, ensures that the number of aircraft that plan to fly is never greater than the capacity of air traffic control to handle them safely. To continuously optimize air traffic flow and reduce delays, the CFMU works in close collaboration with airlines, airports and air navigation service providers.

With an ever-increasing number of states and flights, the role of the CFMU is constantly being expanded. To support this growth and to improve daily operations, EUROCONTROL put into use a new Central Flow Management Operations Room in July 2007. Entering the new facilities in Brussels, Barco's video walls immediately catch the visitor's eye. Next to that, Barco's technology has become an indispensable support for CFMU operators.

BARCO

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CFMU Operations Service Delivery (OPSD) section

A situational overview for operators and visitors

There are two main activities in the operations room: Operations Service Delivery (OPSD), where the information on all European flights and the airspace infrastructure is processed and the predicted and actual traffic flow is managed, and the CFMU Systems Operations Section (CSO), where CFMU systems and data are monitored, and real-time connections to these systems are deployed to more than 2,500 end-users worldwide.

Brian Flynn, Assistant Head of CFMU operations division explains the need for a high-quality video wall.

“CFMU has a number of operational services which process a huge amount of data on a daily basis. We have a large

number of technical systems, both inside the CFMU and outside, with remote access to our systems and information deployed in hundreds of different sites throughout Europe. Up to 70 CFMU operator positions are available in our operations room. To have a better overview on our systems and to achieve situational awareness of the entire European traffic situation, we were looking at a large-screen visualization solution that could support our daily operations.”

Another need was raised as a result of the information management role of EUROCONTROL CFMU. “We are managing the flight planning and flow management services on behalf of all European ANSPs,” comments Mr. Flynn. “Because of the nature of our work, we have a lot of European visitors, both from ANSPs and from airline operations. Through our responsibility and accountability to

them, we feel it is necessary to provide visitors to our facility a real-time, realistic and synthetic view of our operations.”

All-in-one display solution

As EUROCONTROL was aware of Barco’s market leadership in the field of video wall technology, Barco came almost automatically into the picture. “We were looking for a company that was able to provide us with a total solution, including all necessary hardware and software and support, so that it would simply be a matter of piping our images directly onto the screen. We did not want to do any additional development work.” Following a call for tender process, Barco was regarded as the supplier that could best suit EUROCONTROL’s needs.

Barco came with an all-in-one visualization solution, including video wall dis-



CFMU Systems Operations Section (CSO)

plays, display controllers for transport of various sources over the network, and wall management software allowing for efficient operation and configuration of the video wall. In practice, Barco's technology approach allows to bring multi-platform content from various legacy operating systems with different resolutions to the screen. Bringing together this wide variety of sources is a great enabler of situational awareness.

Integration of sources onto a large screen

The video wall display for the CFMU OPSD was installed early 2007. It consists of 67" display cubes with XGA resolution in a set-up of six by two and spans about 8 meters wide. The OPSD operators are presented with an overview of a wide variety of information, such as flight plan data, maps, sur-

veillance video, weather information and slot allocation data.

In October 2007, Barco installed a second video wall display for the CSO section. This wall consists of 67-inch display cubes with SXGA+ resolution in a set-up of four by two. On this wall, CSO operators are presented with the real-time status of the many components of the technical systems, server and network overviews, and various planning data.

"For both video wall displays, we have taken a subset of the information of all the individual working positions and sent this to an integrated overview on the large screen," comments Mr. Flynn. "This subset, the main operational and technical system views, is then completed with additional sources, for example weather information or views of the North Atlantic traffic situation."



Enhanced situational awareness

Both from a technical and an operational perspective, Barco's video wall technology significantly contributes to a higher situational awareness. At any one time, the CFMU operators now have an overview of the current status of their systems (both operationally and technically).

"This morning for example, we had fog in a number of European airports and other congestions problems in several geographically dispersed parts of the airspace. These have led to a reduction in the traffic acceptance rates of those airports and airspaces" Mr. Flynn illustrates. "Up to recently, if an operator had been dealing with the south-west area of the European airspace, he would not necessarily have been immediately aware that there are problems in other parts of the airspace. The image presented on Barco's video walls is helping to change this. This situational awareness helps our staff better to anticipate where our priorities, our resources need to be concentrated. Also, as to presenting an enhanced image to visitors, the project has been a real success."

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