REFER, Portugal

From pixel to building

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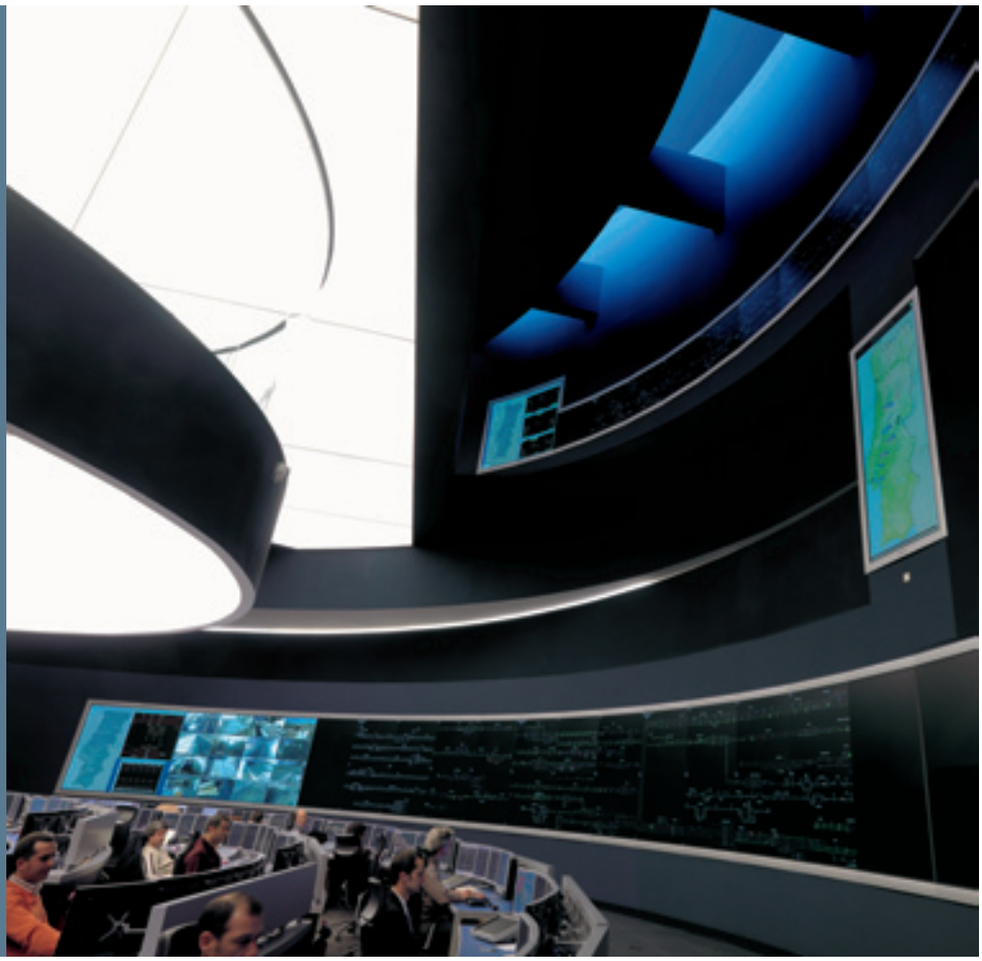
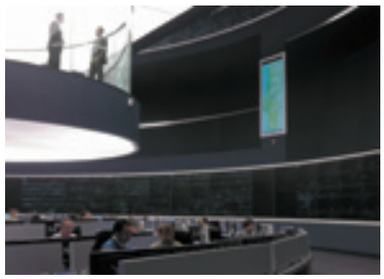
Pedro Ferreira,
Head of Operations, REFER



With the construction of the Operational Control Center (OCC) in Lisbon in 2004, Portuguese Rail Infrastructure Manager REFER put operator ergonomics on top of its requirements list. The company must have realized that ergonomics not only determine the way operators process information, but also the quality of traffic management as a whole. The Lisbon OCC is no less than a textbook case of how user ergonomics can drive the entire construction of a building. The center houses an impressive Barco video wall presenting an overview of almost half of Portugal's rail network.

BARCO

Visibly yours



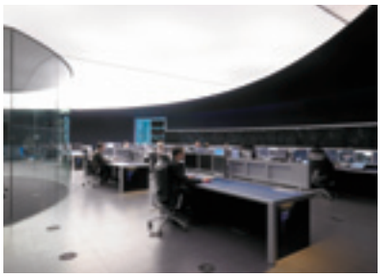
From the OCC, REFER manages the railway infrastructure of the greater Lisbon area, as well as several lines to the north and the east of Portugal in one coordinated effort. Quite a different situation than some twenty years ago, when local station masters managed traffic individually for their station to avoid any local irregularities. In the 1990s, the installation of Central Traffic Control Centres (CTC) all over the country improved this situation. But still, operations proved to be cumbersome.

Mr. Pedro Ferreira, Head of the OCC's daily operations: "In the past, in case of issues, we needed to coordinate actions between several people, all residing at different locations. This significantly slowed down decisions and operations."

Quality of information

Further centralization of operations came about recently with the inauguration of the Lisbon OCC in 2007, which brought all of these responsibilities under one roof.

"Having all these people together in one control room has really improved our operations," explains Mr. Ferreira. "And with the Barco video wall, every stakeholder is presented with the same information, at the same time. We have made a major step forward in terms of efficiency, as we can solve problems and get trains running faster in case of issues."



The first floor of the OCC building houses a Barco video wall of 72 SXGA projection cubes. 13 operators monitor a variety of information, including a track overview of the suburban and north lines. On the third floor, another four OCC employees operate a fourteen-by-one video wall presenting the eastbound tracks. In between those floors lies the OCC crisis room, which has been equipped with a two by two Barco video wall.

From pixel to building

At the start of the project, Barco supported main contractor Thales with extensive visualization studies, in which Barco investigated how the use of its technology could help operators process information in the best possible way and in the best ergonomic circumstances. These studies played a defining role in the conception of the OCC building.

"Everything began with Barco's visualization studies," comments Mr. André Louro, Rail Signaling Solutions Projects Director at Thales. "First, we traced out the layout of the tracks which had to be monitored. Then we determined the distribution of the total number of operators. Next, we defined pixel size, character size and viewing distance. After that, we were able to decide on the number of video wall cubes. Finally, knowing the size requirements of the video wall, we were able to define the dimensions of the building."

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