

# Elia, Brussels, Belgium

Elia powers a world in progress – with the help of Barco

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Gustaaf Hoste,  
IT Exploitation Project Manager, Elia



Established in June 2001, Elia is Belgium’s independent electricity transmission system operator. The company has huge responsibilities: besides maintaining and developing grid infrastructure and helping develop the electricity market, Elia has to ensure the continuous, stable transmission of electricity from the power plants to the distribution system operators and the industrial customers connected to its grid. On top of that, it has to constantly manage the balance between electricity consumption and generation.

Committed to constantly raising its operating efficiency, Elia recently moved to a brand-new national control center in Brussels. Two impressive Barco video walls offer operators a dynamic, real-time overview of ‘the spider’s web’ that the country’s complex electricity grid is.

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Belgian transmission system operator Elia manages a power grid with voltages ranging from 380 kV to 30 kV. The national grid comprises 5,641 km of overhead lines and 2,765 km of underground cables, connected by over 800 high-voltage subsystems. In other words: a highly complex structure - comparable to a spider's web. Elia has four control centers where the grid is managed and monitored 24/7. The brand-new center in Brussels houses the national control center and the regional dispatching for Belgium's central region.

Elia's plans to merge its national control center with the regional dispatching, in a new building, compelled the company to search for two new video walls to visualize the electrical grid. The concept of a video wall was not new to the system operator. "Our very first video wall was a Barco wall, set up in the regional center in Brussels in the late nineties," Gustaaf Hoste, IT Exploitation Project Manager, started off. "In Namur, we installed a Barco wall five years ago to replace the original LED wall."

### Great products and support

Thanks to Elia's past good experiences with Barco, its technological leadership and competitive price, Barco came out tops again when Elia needed a new visualization solution for the new building. Once the contract was signed, the Barco engineers joined forces with Elia and the architect to design the most efficient and ergonomic control room layout. "Barco proved to be a trusted partner, rather than a mere supplier, throughout the design and implementation phases," Hoste continued. "They listened to our needs and wishes, adapted their planning flexibly whenever needed and were - and still are - always ready to help."



### 42 x 70" cubes

In the space of just three weeks, the two walls were up and running. In the regional control center, which is situated next to the national dispatching center, system operators and engineers monitor energy flows for the Brussels' region on an OV-715 rear-projection wall, in a 7x3 set-up, with DLP technology. Their colleagues at the national center supervise the flows on the 380kV, 220kV and 150kV grids on a second 7x3 70" screen. A room with large windows overlooking the regional and national control centers provides a perfect view of both video walls.

### Facilitating a complex job

Elia's control room operators have a complex task. Besides monitoring the electricity flows, they also control the balance between supply and demand and the status of each network mode. If consumption peaks, a power plant breaks down or a major consumer goes offline, they have to take corrective measures immediately to restore that balance. What makes it even more complex is that the Belgian grid also sees a constant flow of cross-border energy transport that has to be coordinated with the system operators in neighboring countries. "It is obvious that high availability, reliability and performance are key to us," said Hoste. "Our team must have up-to-date information data at their

disposal at all times so that they can react immediately if a problem arises. By displaying a perfect overview of the electrical grid on the wall, we can facilitate better decision-making and foster situational awareness."

### Reliability and user-friendliness

Barco's Overview series are optimized for use in a 24/7 mission-critical environment. They ensure continuity of operations by using durable components, dual-redundant lamps and a completely sealed-off optical engine, which prevents dust from entering. Elia lauds the wall's exceptional clarity, contrast and high resolution. "The SCADA information is presented with the highest color accuracy and contrast range," Hoste confirmed. "Our engineers also consider the user-friendliness and flexibility to be major assets. It allows them to easily change info on the wall or look at part of the grid in greater detail."

### Long-term partner

"Our long-term goals are to guarantee secure and high-quality electricity supply, ensure a balance between supply and demand, modernize our infrastructure and prepare today's grid to meet tomorrow's challenges. Barco really helps us achieve all four."

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The information and data given are typical for the equipment described.  
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