

# ČEPS a.s., Prague, Czech Republic

Barco supports reliable operation of the Czech power system

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*Robert Odehnal,  
Executive Head at Nowatron*



The Czech Republic is often cited as a model example of electricity market liberalization. In 1998 already, much earlier than in many other European countries, the electricity generation and transmission activities of the state-controlled ČEZ company split up, leaving ČEZ to handle electricity generation while the new ČEPS became the country’s sole transmission system operator. Since its inception, ČEPS has developed into a highly professional company with huge potential for playing an active role not only within the Central European region but also in the greater European electricity market.

One of the signs of that professionalization is ČEPS’ National Control Center. At its heart is a Barco rear-projection video wall that offers operators a dynamic, real-time overview of all transmission activities.

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Since 1998, ČEPS has been on an ambitious mission to ensure the reliable operation and further development of the Czech transmission system and provide Czechs with access to its services. Aware of its unique position in the Czech electricity market, the company constantly strives to raise the standard of its services to fully satisfy customer needs. The safe and reliable operation of the power system is an implicit part of that commitment. In order to optimally control the transmission processes, the power grid operator adopts technical equipment of the highest quality.

In 2000, shortly after relocating its headquarters to a specially reconstructed 22kV substation on the outskirts of Prague, ČEPS set up a National Control Center (NCC) to monitor and manage its transmission processes. Nowatron Elektronik, a renowned supplier of projection and presentation technologies, was taken on board to steer the NCC project. They recommended Barco as a visualization solution, instead of the mosaic tile system ČEPS had in mind. "As the exclusive Barco distributor for the Czech Republic since 1993, we have always been impressed by Barco's solutions and services," said Robert Odehnal, Executive Head at Nowatron. "The design of ČEPS' NCC was based on a Harris SCADA system and a synoptic board. We were confident that Barco would be the best match."

### Countless successful references

ČEPS followed the advice and installed a Barco CRT rear projection wall in a 4x2 set-up. When, in 2006, the existing SCADA system was replaced by the tailor-made TRIS dispatch control system, the wall needed upgrading as well. After comparing several solutions, ČEPS re-chose Barco. "We proposed a Barco rear-projection video wall with DLP technology," Odehnal continued. "As ČEPS had been very satisfied with the solutions and services we had been delivering since 1999, they agreed. Barco's many references in control rooms throughout Central Europe strengthened their confidence."

### Bright, reliable and user-friendly

Experienced Nowatron engineers equipped the updated transmission control center with a large Barco DLP video wall consisting of 6x3 50" cubes. Operators were surprised about its light uniformity, contrast and high resolution. "The brightness of the CRT projectors had been quite poor in the end, especially as the NCC has many windows with direct light coming in. ČEPS therefore asked us to design two partitions to shield out incident light at both sides of the new wall. We advised against it as DLP technology promotes very bright colors but they insisted."

In the meantime, they've found out the partitions were not really necessary indeed," said Odehnal. ČEPS further praises the system's long lamp life-time, reliability and user-friendliness.

### Bird's eye view on all transmission system data

Barco's high-quality, always-available video wall optimally supports ČEPS' NCC operators in their complex tasks. On the wall, they get a clear overview of all parameters and information needed to control the transmission system, balance the electricity loads and cooperate with other operators, thereby helping them make decisions faster. "The operators are tasked with the dispatch control of the transmission system," Šula, director of Grid Operations Control at ČEPS, explained. "They have to ensure reliable electricity transmission whilst maintaining electricity quality parameters. That implies balancing electricity supply and demand at all times and mitigating the risk of bottlenecks. If a certain power line becomes overloaded, the control system will recommend reconfiguring the network or re-dispatching the generating plants situated in a different part of the power system."

### Support strategic growth

Today, the ČEPS transmission system comprises 38 substations of 400 kV and 220 kV located at 30 transformer stations, along with 3,479 km of 400 kV lines and 1,910 km of 220 kV lines, one 110 kV substation and 94 route km of 110 kV lines. That infrastructure will be substantially expanded in the future, as will the cooperation with transmission system operators in other European countries. Barco will gladly support the power grid operator in its ambitious growth strategy.

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Barco is an ISO 9001 registered company.  
The information and data given are typical for the equipment described.  
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Barco nv  
Pres. Kennedypark 35, B-8500 Kortrijk  
Europe, Middle-East, Africa: +32 56 26 20 09  
USA: +1 678 475 8000  
Latin America: +55 11 38421656  
Japan: +81 3 5762 8727  
China: +86 400 88 22726  
Or mail to sales.utilities@barco.com

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