CASE STUDY
ENERGY

Spanish Electricity Giant Endesa Remotely Controls Its Plant Operations With The Help Of KVM over IP

- **Industry:** Energy
- **Client:** Endesa
- **Region:** Spain
- **Solution:** KVM over IP
- **Products:** Agility KVM over IP

BACKGROUND

Endesa is a Spanish producer and distributor of electricity and gas which currently has 174 plants spread throughout Spain, Portugal and Morocco. With an installed capacity of 26,750 MW, it generates electricity from different energy sources (hydroelectric, thermal and nuclear) and 60% of the production of its renewable energy is owned by the wider Italian group Enel.

THE CHALLENGE

Due to strategic business reasons, Endesa needed to implement a control room in order to remotely control operational activities of one of its power plants which was situated further away. This had to be accomplished without losing video quality or having to move the existing computers from the original location.

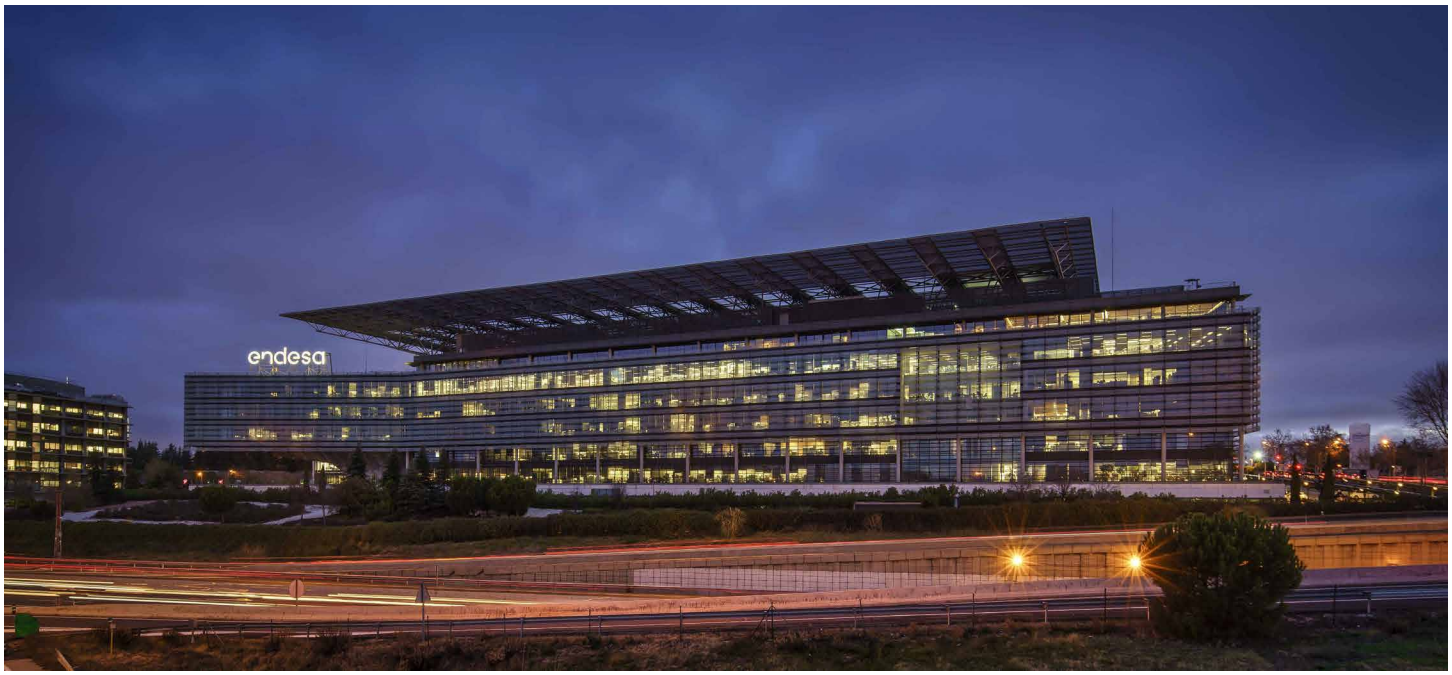
Endesa made sure to perform the necessary PO of all equipment to begin operational testing in order to start the project. Hence during a timespan of two weeks Black Box conducted an on-site implementation that included configuration tasks and testing & training of the systems.

There was a strong need to move equipment, services and operations staff to a new place as soon as possible. A fibre optic cabling infrastructure had to be implemented for long distances maintaining adequate bandwidth for each user, avoiding delays or loss of resolution.

THE SOLUTION

This project consisted of implementing all necessary infrastructure requirements for a remote operating centre with reliable and secure connectivity of over 80 km of video, data and computer peripherals with redundancy and with the ability to instantly switch between a main fibre optic link and a backup link.

The solution incorporated the the Agility KVM Extender which enabled the extension of a console via IP over long distances (about 100 km). Thanks to the compact design of the Agility, which combines multiple interfaces in one small box (video, audio, USB, serial) it was possible to adapt the different connectivity needs of each operator with the same system and was also possible to facilitate maintenance. The Agility Extender system proved to be the most suitable solution since it is flexible and modular and therefore, very easy to adapt to future changes in operational or technology requirements without design modifications. It also allowed easy and secure extension of video, data, and computer peripherals between the servers and the control Room with no latency or loss of performance that met Endesa's uptime requirements.



The final solution used was composed by the Agility KVM and the CATx IP Extender Remote Units and transmitter units that were configured as a DVI, USB and audio extender providing dual-head extension for each video channel at DVI-D resolutions up to 2560 x 1600 over CAT6 cables.

RESULTS

The active technical support provided by Black Box Spain was key to the successful deployment of all necessary quality assessments for the project. It made sure that teams were sent out to the site to perform binding tests as well as bandwidth and connectivity reports. This project has enabled Endesa to simplify their telecontrol process, bringing operational transparent added value to the end-user. Given that Endesa was pleased to have worked with Black Box on the implementation of one of its operating centres, Black Box is looking forward to future collaborations on more related projects carried out on any of the existing 174 plant locations.