



Ukraine introduces high-tech stadium

Donbass Arena ready for UEFA Euro 2012

With a capacity of over 50,000, the newly opened Donbass Arena is the first football stadium in Eastern Europe designed and built to meet UEFA's Elite category standards. The real test for the arena will take place in summer 2012, when it will be one of the host stadiums for the UEFA Euro 2012™ championships.

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Opened in August 2009, Donbass Arena in Donetsk, Ukraine, is one of a kind both in terms of the cutting-edge technologies and multifunctional usage possibilities. In addition to football matches, it is designed to host concerts, conferences, exhibitions and corporate events of all kinds. The arena is also the first stadium in Eastern Europe to incorporate a huge variety of sophisticated IT applications.

"All of the stadium's functions are controlled through a highly advanced IT infrastructure. This guarantees a pleasant, user-friendly and safe experience for players and visitors alike. For example, rather than using cash in the public area of the stadium, visitors use a special payment card purchased at the entrance. By depositing an amount of money on the card, they can pay for various products and services quickly and reliably," says Dmitry Teplyakov, IT Director of the Donbass Arena.

"It is also a question of safety: the personalised card allows the visitor to access only the stadium sector – out of the 20 in total – in which their seat is located. Thus, in case of an emergency, we are able to evacuate the entire stadium in just eight minutes," Teplyakov continues.

Sophisticated technology requires clean power

Donbass Arena is not known as the most high-tech stadium in Eastern Europe without good reason. Inside the arena, there are 6,000 network ports installed and 1,200 kilometres of cabling. Wi-Fi communication is provided by 150 hotspots, and security is controlled by 450 CCTV cameras. Visitors can follow the games on two LED screens – each measuring almost 100 square metres – and via the almost 600 monitors installed throughout the arena.

With such an extensive IT infrastructure to maintain, the stadium needs reliable power.

"The mains supply fluctuation is a major challenge in Ukraine. That is why it was crucial to ensure stable power for all of the stadium's essential applications. This was only possible with online double-conversion topology," says Kari Koli, International Sales Director at Eaton Power Quality.



Powering Business Worldwide

Eaton Corporation is a diversified power management company with 2008 sales of \$15.4 billion. Eaton is a global technology leader in electrical components and systems for power quality, distribution and control; hydraulics components, systems and services for industrial and mobile equipment; aerospace fuel, hydraulics and pneumatic systems for commercial and military use, and truck and automotive drivetrain and powertrain systems for performance, fuel economy and safety. Eaton has approximately 70,000 employees and sells products to customers in more than 150 countries. For more information, visit www.eaton.com, www.eaton.com/powerquality

Donbass Arena has several server and communication rooms that manage the stadium's IT infrastructure. A total of 35 mid- and high-range Eaton UPSs provide uninterruptible power for the stadium's IT, safety and security, payment and communication systems.

"We equipped the main server room with three 80 kVA double-conversion Eaton 9390 UPSs. These units provide sufficient capacity to power the entire IT infrastructure in case of mains power loss. They also provide N+1 redundancy," Koli says.

Other server and communication rooms employ a total of six scalable Eaton BladeUPS® units. With the ability to expand and provide backup power from 12 kW to 60 kW in a standard 19-inch rack, the modular BladeUPS grows in line with the needs of the IT applications. A total of 26 15/30 kVA Eaton 9355 UPSs protect the stadium's individual security sectors and communications screens from power disturbances.

"In an emergency situation, the UPSs ensure that the security system continues to function, including emergency lights and monitors that show directions to the nearest exit. The stadium's 20 security sectors also provide redundancy for each other, meaning that in the event of a power loss in one sector, continuous power is guaranteed for the security system's needs," Koli explains.

Local service the deciding factor

When choosing a power quality partner, the amount of local support the partner can provide is a key factor.

"The success of the power quality supplier is measured by the level of service it is able to provide locally. We worked closely with our main partner and distributor Megatrade in Kiev as well as our local reseller and authorised service partner DonbassInformCommunicationService (DICS) in Donetsk right from the start of the project. The local aspect was one of the factors that tipped the balance in our favour," says Koli.

"The feedback we have received from Donbass Arena so far has been very complimentary. In a project of this scale, it is of utmost importance that all equipment is delivered and installed on schedule. This project demonstrated our ability to manage demanding IT projects and meet the customer's expectations," says Oleg Metelin, Technical Director at DICS.



DICS's Oleg Metelin is pleased with the result. "The feedback we have received from Donbass Arena so far has been very complimentary."



Eaton 9390 80 kVA UPS

Donbass Arena in a nutshell

- Opened in August 2009, construction started in 2006; UPSs installed in early 2009
- First stadium in Eastern Europe to meet UEFA Elite category standards
- Ranked among the top three stadiums in Europe in terms of technology and multifunctionality
- Final cost USD 400 million
- Total seating capacity 51,500
- More than 60 restaurants, bars, cafes and fast food outlets
- Home of FC Shakhtar; one of the host stadiums for UEFA Euro 2012