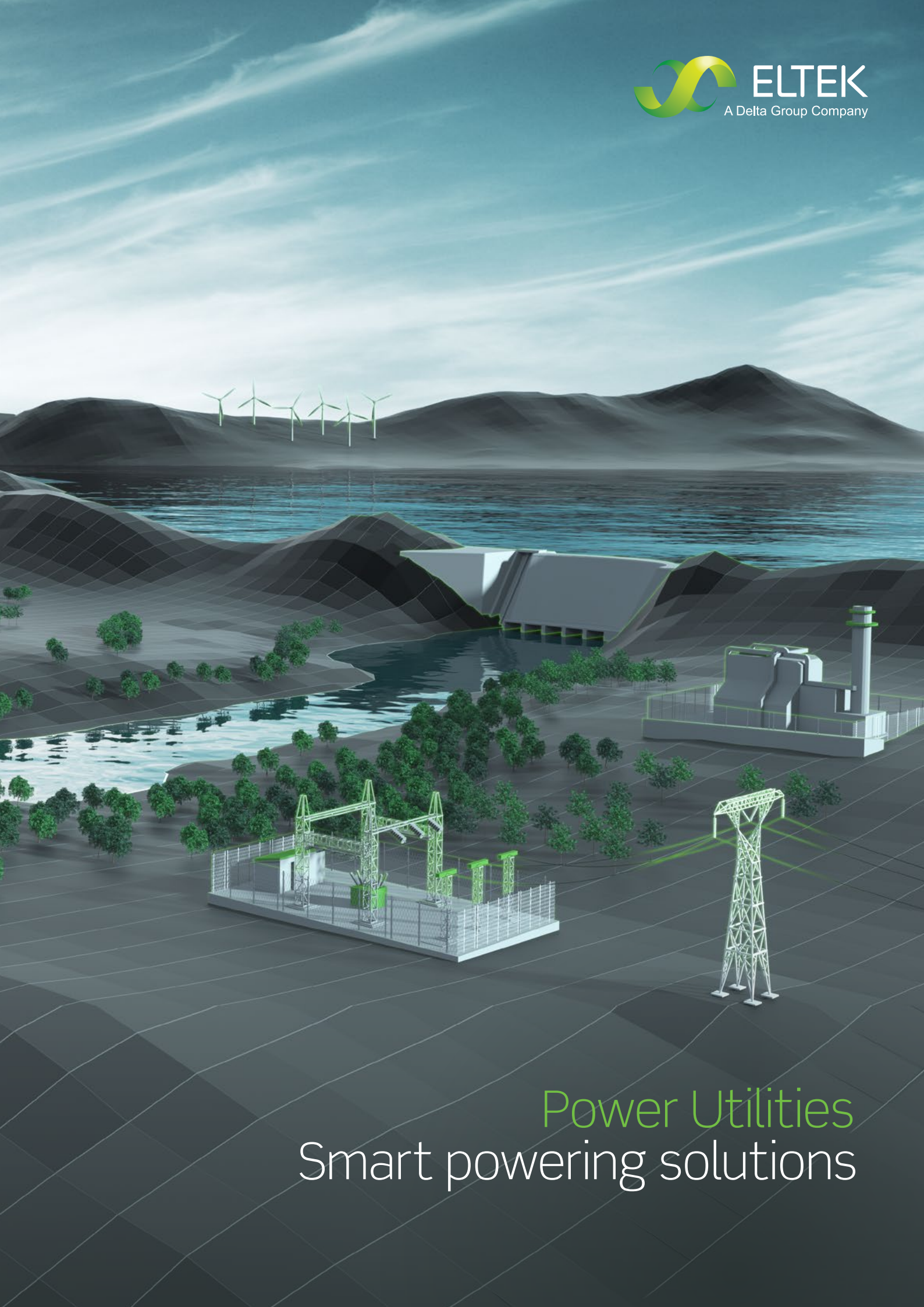
ELTEK
A Delta Group Company



Power Utilities
Smart powering solutions

Powering a smarter grid

The foundation for tomorrow's smart grid is being built today. We provide the AC and DC powering solutions you need for switch gear control, automation and data transmission, emergency and alarm systems, and more. These are solutions that will grow with your operation as you develop tomorrow's smarter grids.

Modular, compact and flexible power systems, built by power experts for power experts.

Meet an Eltek expert

Name	Rafi Krikorian
Position	Power Utilities Segment Manager
Location	France
Contact	utilities@eltek.com

From his listening post in Paris, Rafi keeps tabs on global technology trends and requirements, and is a key contributor to Eltek's product and application development, marketing and sales towards power utilities.

Tomorrow's grid is being built today

Electricity, and the infrastructure that makes it available for consumption, are the heart and soul of modern society. Reliable and secure electricity supply for everyone is a top priority. Tomorrow's smart grid technology is developing and will allow power to be optimally generated, stored, supplied and managed. This covers all aspects of generation, transmission and distribution.

Where Eltek products fit

The power network is based upon a multitude of subsystems in nodes performing various tasks, and needing a variety of voltages to operate properly. They all require highly dependable power supply equipment, frequently with backup. We are capable of providing power to operate every subsystem according to its specific needs, based on our singular core technology.

"Modular" and "switch mode" are the keys

At Eltek, our roots are in telecom power systems, where we have been a technology leader for decades, developing modular power systems based on the switch mode technology. Telecom operators have the same priorities as power utilities: highest reliability, availability, ability to build power systems based on a few building blocks, and the ability to manage many systems as one.

We have successfully offered this concept to power utilities for many years: Eltek has power systems that cover all types of needs with the same basic switch mode conversion modules for all applications.

Today, our systems supply the power needed to operate the supervision and control systems, the switchgear, data transmission infrastructure, and other auxiliaries in power plants, substations, dispatch centers and so on, with outputs set according to requirements.

The advantages for power utilities

Power utilities require specific electromagnetic compatibility features, the highest quality of back-up DC & AC power, and of course, reliability.
In addition, our technology inherently provides:

- scalability to take care of future expansion
- low maintenance and cost of ownership through the lifetime of the equipment, having very high MTBF
- rapid replacement of faulty modules if necessary: modules can be hot-swapped
- possibility to combine various uninterruptible supplies, each with different output characteristics, into one system with one common back-up, and one control function
- compatibility with all battery types used in the market
- flexible incorporation of inputs from various renewable power sources into a hybrid power system
- ability to be controlled locally and remotely from distant control rooms. Eltek controllers can communicate with other supervisory systems, in accordance with various standards used in the market

Ready for a smarter future

Our technology is designed to play a key role in tomorrow's smart grid technologies and to support the increased automation that is a part of these grids. Our product range now includes the revolutionary Rectiverter a combined module that is capable of supplying stabilized AC power while charging back-up batteries and supplying DC loads, simultaneously. These Rectiverter modules maintain all reliability, modularity, efficiency and manageability advantages available in all Eltek products.

Looking ahead, optimized use of electric energy sourced from various traditional or renewable power plants, will require increased capacity and more flexibility for storage and retrieval. Our technology is ready to meet such requirements with bidirectional conversion modules.

"Made for today's and tomorrow's grid."

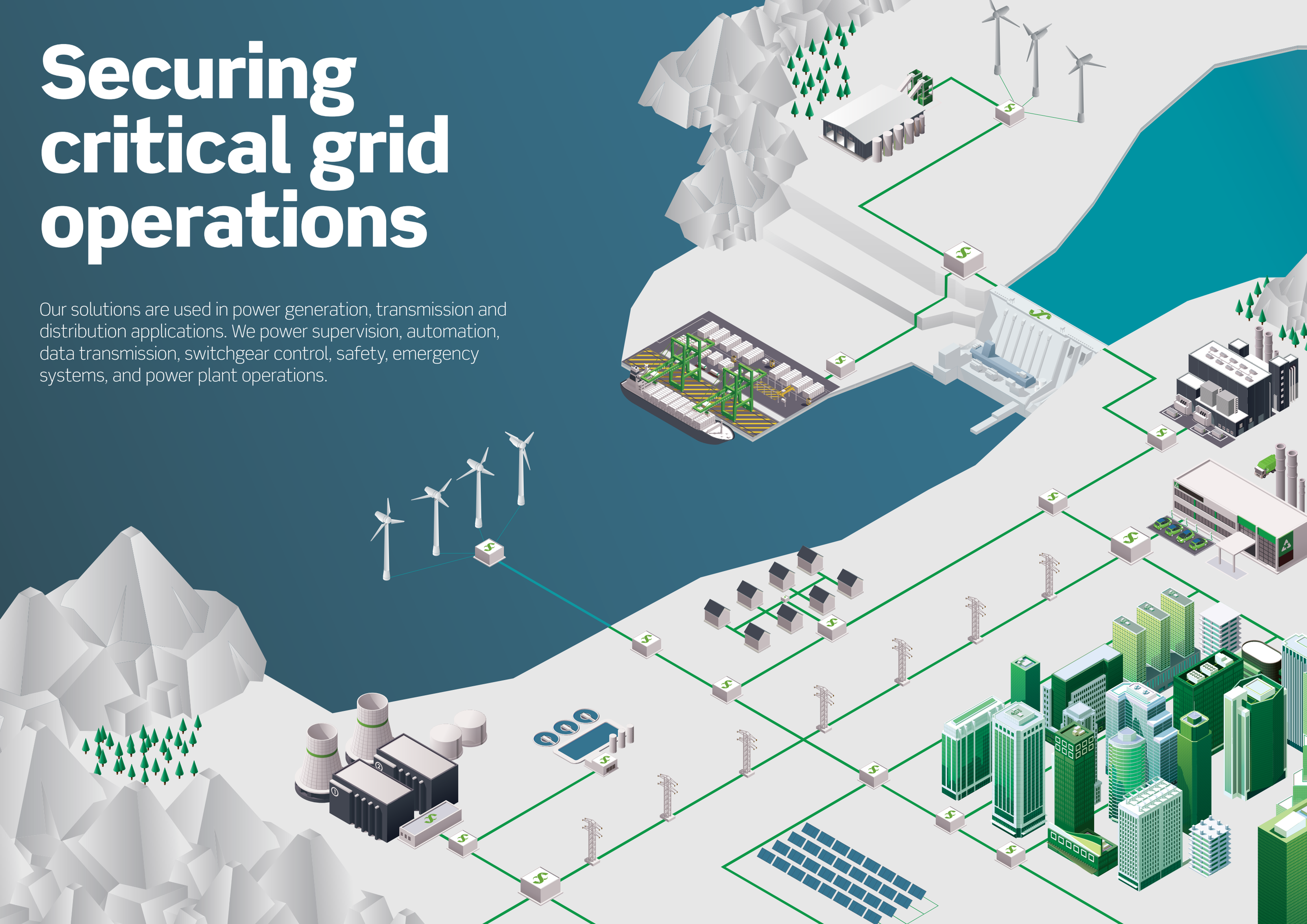
Eltek's Rafi Krikorian on power conversion technology and solutions that will advance the development of smarter grids.

Watch this short video

Scan the QR code or go to:
www.eltek.com/utilities

Securing critical grid operations

Our solutions are used in power generation, transmission and distribution applications. We power supervision, automation, data transmission, switchgear control, safety, emergency systems, and power plant operations.



"We provide power systems from a few hundred watts to several hundred kilowatts"

Hot swap modules

Complete AC and DC systems with distribution

For a wide range of capacities, modules in parallel sharing the load will provide utmost reliability and availability.

Combining systems to secure various AC & DC outputs and creating custom UPS is possible.

The same technology is used in large custom made, stand-alone systems as for small power cores. Preconfigured high efficiency racks with ultimate reliability, can be installed in customer cabinets using minimal space.

In power plants or other grid locations, control & supervision systems, data transmission equipment, hazard detection systems and fire alarm & suppression systems need highly reliable power supplies to operate. Compact, power dense Eltek equipment will use little space in the cabinets used to fulfil these functions. Heat losses are minimal, voltage stability is optimal, longevity is maximal, and reliability is unquestionable.

This compact system has all of the features needed for supplying DC power to the loads and charging the back-up batteries, including the control functionality that provides supervision & control of the power supply, and communicates management data to the operator.

An Eltek Solution:
The power dense 3U rack Flatpack S.

Illustrating the above capabilities is this unique 3U system, a building block for various industrial applications. The Flatpack S 3U rack can be used in a configuration of 2 separate DC systems each consisting of 2 redundant rectifiers under 1 controller. The system will supply power to highly critical loads needing alternate power inputs.

In other cases, all the rectifiers can operate in parallel under one controller to create a single DC power output. Inputs to rectifier modules may be separate. If ultimate safety and reliability features are required, the Flatpack S in its SIL3 version can be used. It is capable of handling double fail and has a proof test interval exceeding 15 years, while protecting loads against overvoltage.

- Compact and shallow (265mm systems depth)
- High power density
- Accepts DC input (DC/DC converter)
- Alarm relay output
- Basic monitoring without controller is possible
- Several communication interface options*

**Read more at www.eltek.com/3u_powercore*

The building blocks and the glue

Eltek's power solutions are genuinely modular, based on industry leading power conversion modules. They are combined in flexible solutions controlled by system management hardware and software.

AC/DC

Various DC output levels are possible. Modules can be stacked from a few to hundreds in a system with or without battery.

DC/AC

For direct conversion from a DC source in the same cabinet or for supplying AC fed from batteries.

DC/DC

Either as add-on to existing DC system or integrated into a new one to avoid additional battery banks for each voltage.

AC/DC/AC

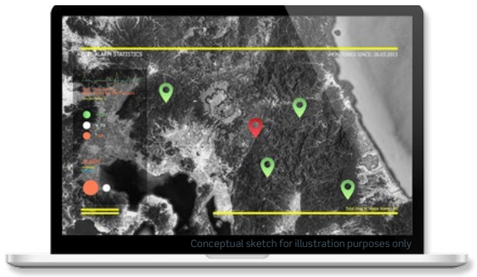
By using Rectiverter modules, custom modular UPSs will manage batteries and supply AC loads as well as DC loads, simultaneously.

Batteries

Our systems are compatible with different types of batteries such as various lead acid, Ni-Cd & Lithium-ion.

Distribution

AC or DC distribution may be incorporated within our power supply cabinets or as a stand alone system.



Supervision, control and MultiSite Monitor

Power supply systems sharing an Eltek controller, benefit from its extensive communication facilities. They can be remotely controlled and supervised easily. Furthermore, an Eltek MultiSite Monitoring system can supervise, from a central location, a large number of sites equipped with our systems.

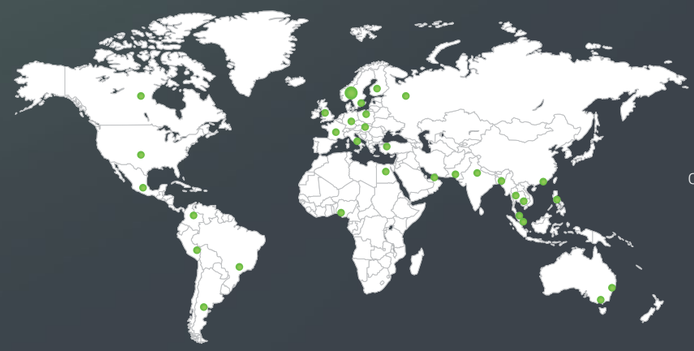
Rectiverter

The Rectiverter is a new concept in power conversion. It combines the functionality of a rectifier, an inverter and a static transfer switch in one bidirectional power module.

This opens up a new power flow architecture and a new way of designing power systems, meeting the needs for both AC and DC outputs, in one modular system.

The Rectiverter has the same dimensions and mechanical design as Eltek's industry leading rectifier and inverter modules.

Visit rectiverter.com



Local presence - Global reach

Sales in more than 100 countries, offices in 40 countries and 2500 employees

www.eltek.com

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EXPERIENCE THE POWER.

At Eltek, we are power experts with a sharp focus; to develop and provide our customers all over the world with the greatest power solutions available for applications used in an industrial context - where stable, safe and efficient supply of power is crucial.

This has been our passion and motivation for more than 40 years: to innovate and lead the way in power conversion and control. Today, we help our customers optimize and safeguard the operation of business-critical equipment, reduce their carbon footprint, while, at the same time, reduce the total cost of ownership of their power supply equipment.

Nordic by birth, we have grown to service all countries and cultures, offering the best global technology and solutions matched to local requirements.

The combination of superior expertise, advanced solutions, responsive support and service, makes it possible for our more than 2500 passionate and proactive power experts worldwide to provide our customers with a unique, powerful experience.

www.eltek.com/utilities
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