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HIGH EFFICIENCY HYBRID EXCELLENCE

SUPERIOR POWER SOLUTIONS FOR OFFGRID TELECOM INSTALLATIONS

ARE YOU MAKING THE MOST OF FREE, RENEWABLE ENERGY TO REDUCE OPEX?

Mobile operators have expanded telecom networks into rural areas with no or weak electricity supply. However, powered by continuously running diesel generators, remote offgrid sites typically have very high operating costs.

THE BENEFITS OF AN ELTEK HYBRID POWER SOLUTION

With a hybrid solution from Eltek, operators can now substitute, partially or in full, the diesel generators and make use of renewable energy. Our solutions are fully integrated and all energy sources and equipment are managed by a single controller. The benefits have been realized by numerous operators and Eltek hybrid solutions contribute to saving energy, diesel and money in thousands of installations.

UP TO 80% OPEX REDUCTION

The combination of optimized gensets and efficient exploitation of the power generated by solar panels and/or wind turbines, will significantly reduce the diesel consumption and associated transportation cost. Even if you may not be able to completely replace diesel by renewable energy, an Eltek HE solution will make sure you get the most out of every drop.

> 96,5% EFFICIENCY

Whether input power comes from solar panels, wind turbines, diesel generators or mains, our HE power conversion equipment will make sure that power loss is minimized.

REDUCED CO_2 EMISSIONS

There are approximately 500 000 offgrid telecom installations powered by diesel generators today. These represent an enormous potential for reduction of environmental footprint. Many generators serving as the main energy source are operated in an inefficient way. By optimizing the control and using our hybrid solution the energy is not just replaced kWh by kWh, but the emissions per kWh drop significantly.

FULLY INTEGRATED

The site is controlled and monitored by a single controller, providing full overview and management of all energy sources, solar and wind chargers and the diesel generator.

REDUCED SERVICE REQUIREMENTS

Our systems are specified, designed and built for endurance and problem-free operation under harsh conditions. Genset optimization mechanisms ensure that the diesel generator runs at optimal loads (80-90%), resulting in less soot and hence reduced need of maintenance.

GALVANIC ISOLATION

Our equipment has galvanic isolation, providing extended surge protection. An overvoltage pulse, e.g. from lightning, will be suppressed by the external surge protection in connection with the converter.

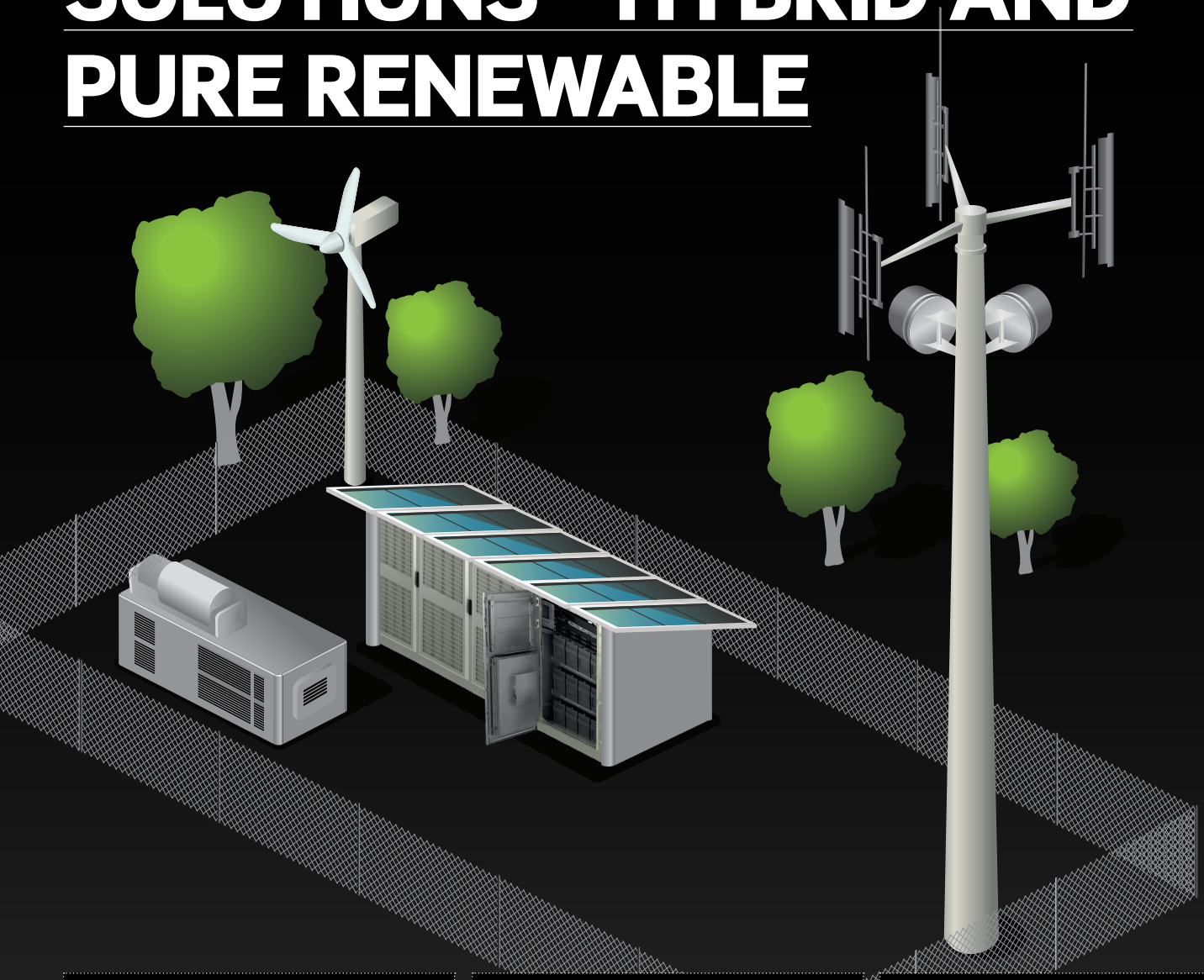
REMOTE MONITORING AND CONTROL

Our solutions come fully prepared for remote monitoring and control, and using our MultiSite Monitor software, consolidated performance reports can easily be generated and underperforming sites identified.

MODULARITY

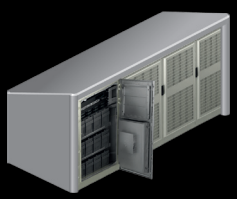
With their modular design, our systems can be easily adapted to various power input sources and scaled to meet higher load requirements.

COMPLETE, INTEGRATED SOLUTIONS – HYBRID AND PURE RENEWABLE



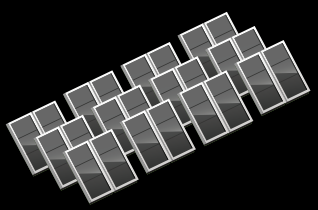
HYBRID

A hybrid solution incorporates numerous energy input sources, such as diesel generators, solar panels, mains or wind turbines. An Eltek hybrid solution allows you to optimize the operation of the site, to achieve maximum efficiency at all times. The monitoring and control functions include advanced battery monitoring routines, gen-set optimization programs, fuel level and consumption measurements and extensive data logging functions.



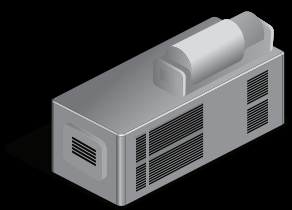
RENEWABLE ONLY

The Flatpack 2 HE Solar and Flatpack 2 HE Wind are ideal choices for telecom sites where solar or wind energy are the only available sources. At the core of the solution are the Flatpack 2 HE Solar Charger and the Flatpack 2 HE Wind Charger. With optimal power draw and 96.5% conversion efficiency, they ensure nearly complete utilization of the energy generated by the PV panels and the wind turbines.



DIESEL ONLY

A cyclic operation setup can more than double kilowatt-hours per liter of fuel compared to constant generator operation. The Smartpack controller will record and analyze critical system parameters and control the generator to ensure a maximum kWh output per liter diesel consumed. The OPEX savings add up to more than reduced diesel costs: there will be less transport, longer intervals between site service visits and a longer generator lifetime.



ELTEK's pure renewable and hybrid power solutions are based on industry leading building blocks, fully integrated into coherent, complete and flexible solutions – with one single Smartpack controller overlooking all energy sources, flow and storage. The entire installation is easily and efficiently monitored and controlled over the Internet by means of advanced, yet user friendly monitoring software, with relevant system data fed from the Smartpack controller which at all times oversees critical parameters and general system performance.

REMOTE MONITORING AND CONTROL

- Advanced, yet user-friendly web application
- Seamless communication with onsite Smartpack controller
- Full overview of all energy flow, usage and harvest in your network

INTERNET

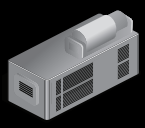
SMARTPACK2 - SITE CONTROLLER

- Advanced charging control and battery monitoring
- Gen-set optimization programs
- Fuel level, consumption and theft monitoring
- Configurable data logging options
- Password protection and site cloning features

FLATPACK 2 INTEGRATED POWER CORE

This is a rack mountable system with integrated DC load distribution, housing controller, solar chargers and/or rectifiers. The system is flexible and can easily be upgraded to meet changing demands.

DIESEL & MAINS



FLATPACK 2 HE RECTIFIER

- 96.5% power conversion efficiency
- High power density
- Wide operating AC input range
- Wide operating temperature
- Power rating 2 kW/3 kW

SOLAR

FLATPACK 2 HE SOLAR CHARGER

- 96.5% power conversion efficiency
- Advanced Max Power Point Tracking routines
- Full galvanic isolation
- Wide operating DC input range
- Power rating 1.5 kW
- Full telecom specification

WIND

FLATPACK 2 HE WIND CHARGER

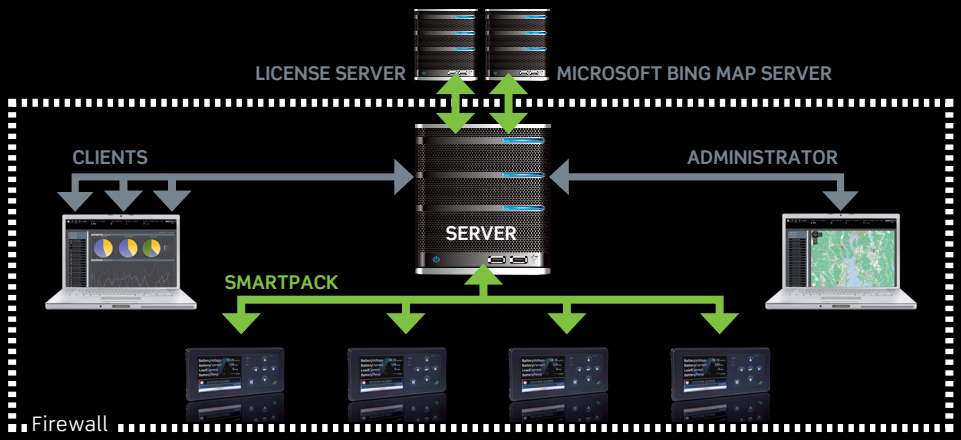
- 96.5% power conversion efficiency
- Programmable power vs. voltage characteristics
- Full galvanic isolation
- Power rating 3 kW
- Full telecom specification

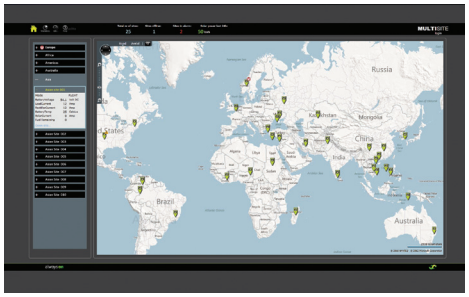
ELTEK MULTISITE MONITOR

FULL OVERVIEW AND OPTIMIZED OPERATION OF ALL YOUR SITES

Having the full overview of energy usage, power consumption from various sources and other key parameters is a great advantage. The Eltek Multisite Monitor offers this in a flexible package that can be adapted to various network sizes and requirements.

The Multisite Monitor enables the operator to remotely optimize energy cost, monitor savings and have full overview of network site status down to the smallest alarm.



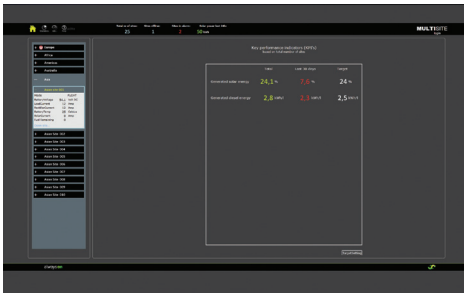


NETWORK OVERVIEW

Through an embedded map service, the Multisite Monitor provides the operator with an immediate overview of the network and its current status.

STATISTICS VIEW

Every site in the network can be easily accessed to drill down on details and history on energy usage, harvest from renewables and other details. Data is available site by site or aggregated for the entire network.



KPI VIEW

In the KPI overview, predefined key performance indicators are displayed and easily compared with their targets.

SERVICES THAT MAKE A DIFFERENCE

As a customer of Eltek, wherever your location in the world, you can rely on high quality services and support, delivered by 3000 dedicated power professionals in our global organization.

Our offering includes turn-key and adhoc services:

- Site survey, planning and project management
- Installation and commissioning
- Preventive maintenance
- On-site service
- Repairs

REDUCE YOUR COST OF ASSET OWNERSHIP

Eltek is committed to meeting all of our customers' power needs, including financing. With partners, we are able to extend the value of your power investment through highly competitive and flexible operating lease arrangements. Contact your Eltek representative for further information.

"ALWAYS ON" WITH ELTEK

Eltek is a world-leader in high efficiency power electronics. For nearly four decades we have provided power solutions for telecommunication networks globally. Our systems cover the entire range of power requirements, from small to very large, meeting all the power needs of the telecom industry.