



HYBRID POWER FOR
TELECOM SITES

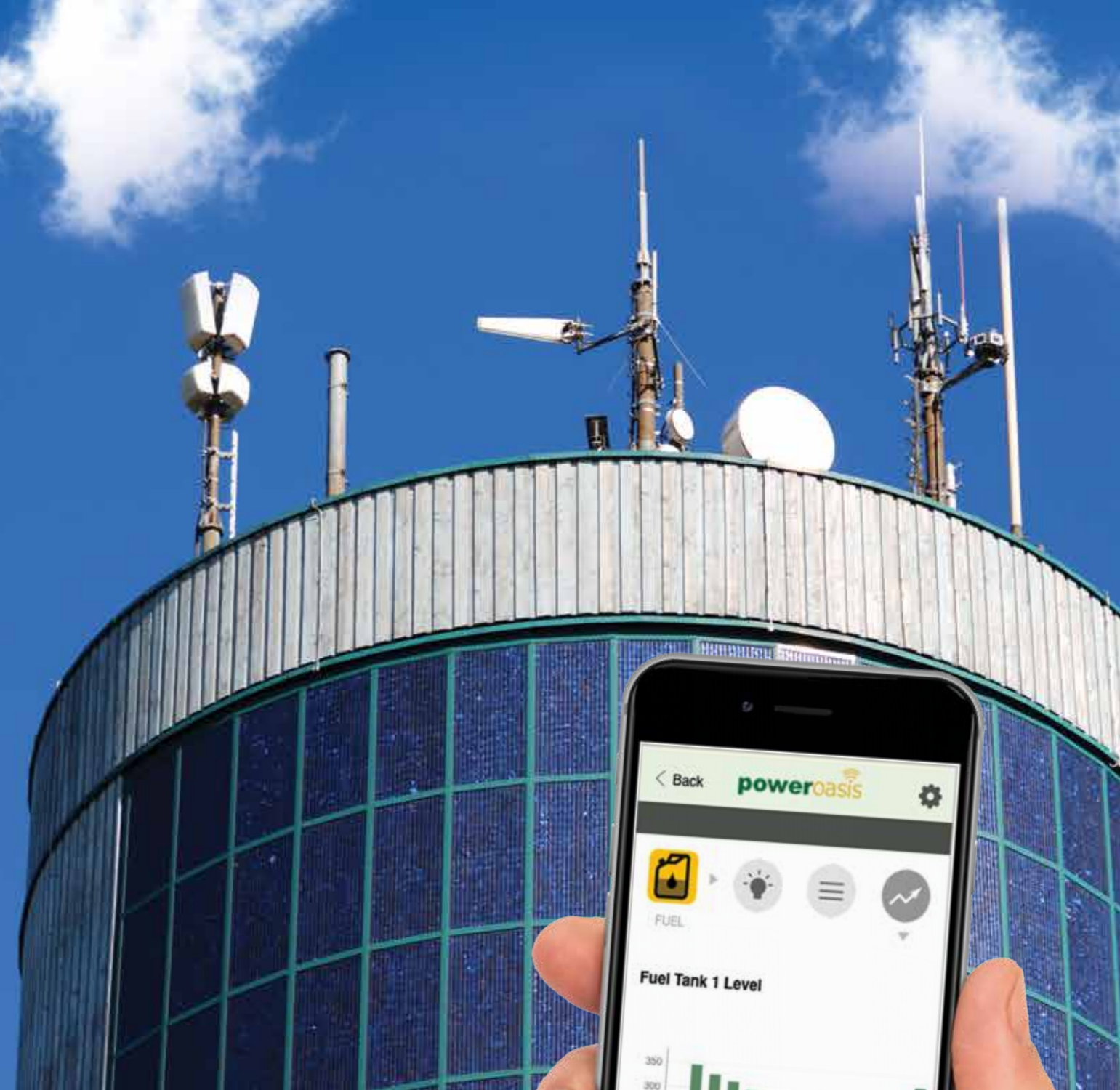
ARE YOU MAKING THE MOST OF YOUR ENERGY TO REDUCE OPEX?

Energy costs can amount to 55-65% of total operating expenditure for mobile operators, yet many lack the tools they need to effectively control this significant and ever increasing cost. With no clear, real-time view of power systems, it has been virtually impossible to pro-actively monitor and manage OPEX-driving activities and costs, until now.

Introducing the eTuit System – the all-in-one solution for site power optimization and reliability. eTuit is an intelligent world leading power solution (ELTEK) and dedicated monitoring platform (Power Oasis), fully integrated to a cloud- or server-based one-stop interface for remote management and optimization of all network power.



AFRICA NEEDS ACTIONS, NOT WORDS. OUR COMMITMENT IS TO CUT YOUR OPEX WITH THE OPTIMIZED CAPEX & WE WILL PROVE IT BEFORE YOU INVEST.



CUT YOUR FUEL COST BY UP TO 90%

FLEXIBLE & SCALABLE

TRUE INTEGRATION: EXISTING SITE & EQUIPMENT.

COSTS TRADING, REAL-TIME MONITORING & CONTROL ON ONE INTERFACE.

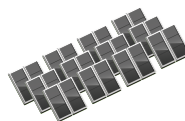


A CUSTOM SOLUTION
BROUGHT TO YOU BY MCS
POWERED BY ELTEK AND POWER OASIS



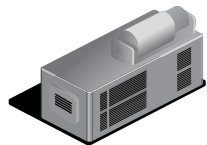
HYBRID

A hybrid solution incorporates numerous energy input sources, such as diesel generators, solar panels, mains or wind turbines. An eTuit solution allows you to optimize the operation of the site, to achieve maximum efficiency at all times.



RENEWABLE ONLY

The Solar and Wind are ideal choices for telecom sites or the only available sources. With optimal power draw and 96.5% conversion efficiency, ensuring nearly complete utilization of the energy generated by the PV panels and the wind turbines.



DIESEL ONLY

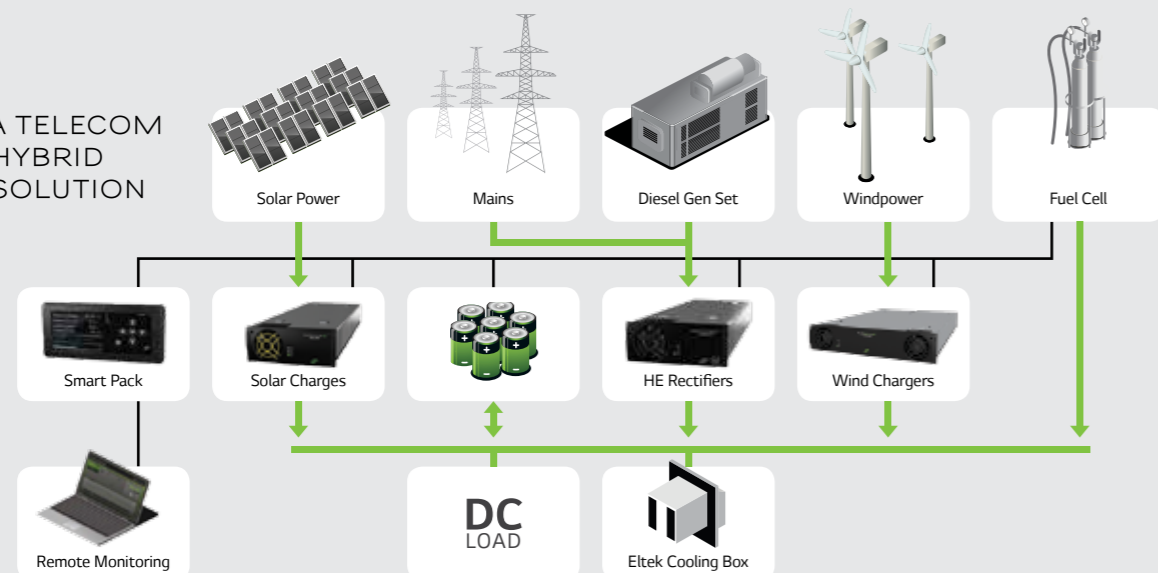
A cyclic operation setup can more than double kilowatt-hours per liter of fuel compared to constant generator operation. Control of the generator we ensure a maximum kWh output per liter diesel consumed. The OPEX savings add up to more than reduced diesel costs: there will be less transport, longer intervals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



POWER MANAGEMENT

- Multi-base, multi user remote monitoring, control and measurement of power, fuel & equipment status.
- Remotely access via secure modem or IP back-haul.
- Web-based graphical user interface for visualization, analytics & reporting.
- Manage site power information & alarms against key performance indicators.
- Track performance at a site, region & network level to enable service efficiencies.
- Support of multiple sensors monitor power usage.
- Monitor grid integrity.
- Environmental monitoring & control.
- Security monitoring.
- Smart logic & learning algorithms.
- KPI reporting & alarm notification.
- Email or SMS notification for critical events.
- Easy to use network view with drill down into selected sites for monitoring and control.

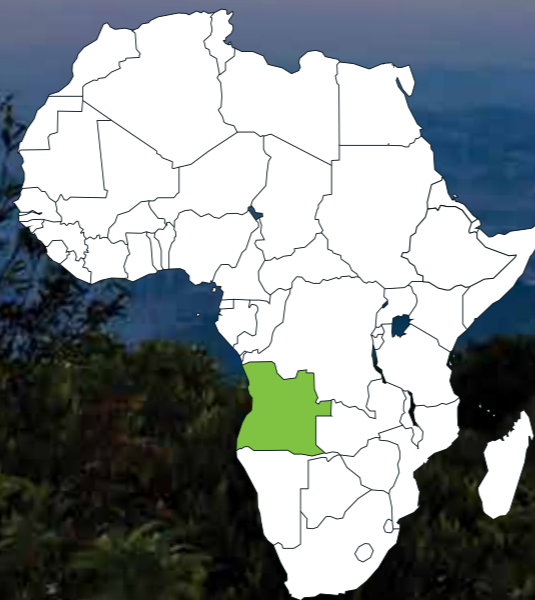
A TELECOM HYBRID SOLUTION



REAL WORLD PERFORMANCE

ANGOLA

50 SITES / 12 MONTHS



REAL WORLD PERFORMANCE

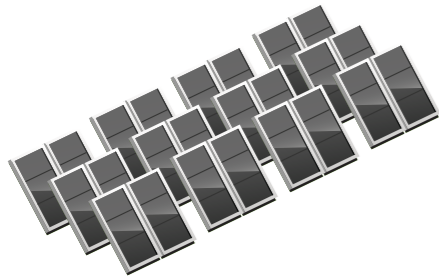
NAMIBIA

15 SITES / 12 MONTHS



SITE SPECIFICATION	DIESEL SAVINGS	SAVINGS PER SITE
20kVA Generator (Existing) 40% DOD 140A Recharge current available Peak Load 1.2 Kw Average Load 1Kw		13,667 liters of Diesel per annum. Saving approx. \$15,648.70
SITE USAGE		SAVINGS PER 50 SITES
Generator - 3.5 Hrs Battery - 14.5 Hrs Solar - 7 Hrs 1 cycle per day (\$1.145 per liter delivered) Average configuration		683,350 liters of Diesel per annum. Saving approx. \$782,435.70

SITE SPECIFICATION	DIESEL SAVINGS	SAVINGS PER SITE
12kVA Generator (Existing) 40% DOD 105A Recharge current available Peak Load 1.6 Kw Average Load 1.3 Kw		10,480.3 liters of Diesel per annum. Saving approx. \$10,270.70
SITE USAGE		SAVINGS PER 15 SITES
Generator - 2 Hrs Battery - 15 Hrs Solar - 8 Hrs 1 cycle per day (\$0.98 per liter delivered) Average configuration		157,402.5 liters of Diesel per annum. Saving approx. \$157,060.41



POWER CORE 1500W SOLAR MODULE



FEATURES

- OUTPUT POWER: 1500 W
- GALVANIC ISOLATION
- HIGH EFFICIENCY (>96%)
- OPERATING RANGE: 85 – 265 VDC
- OUTPUT VOLTAGE: 48 – 58 VDC
- MAXIMUM POWER POINT
- TRACKING (MPPT)
- "GREEN ENERGY" PRIORITY

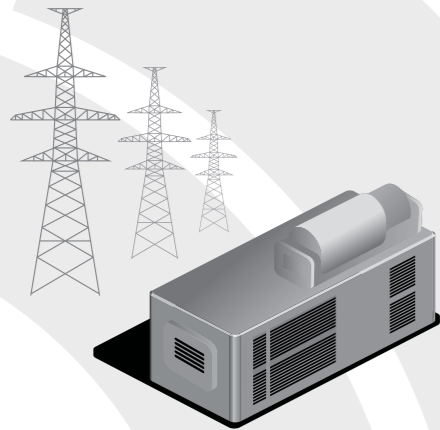


POWER CORE FLATPACK S 48V RECTIFIERS WIND CHARGER



FEATURES

- HIGH EFFICIENCY
- MAXIMUM UTILIZATION FOR MOST WIND TURBINES
- TELECOM SPECIFICATION
- GLOBAL COMPLIANCE
- FULLY INTEGRATED IN ELTEK CONTROL SYSTEM
- LOGS WITH WIND ENERGY PRODUCED
- PATENTED HE TECHNOLOGY



POWER CORE 2000W/3000W RECTIFIER MODULES



FEATURES

- POWER DENSE, UP TO 33 W/INCH³
- HIGH EFFICIENCY
- PROVEN RELIABILITY
- APPLICATION FLEXIBILITY 2KW-3MW
- GLOBAL COMPLIANCE
- PATENTED HE TECHNOLOGY

THE MAIN OBJECTIVE OF THE SOLAR HYBRID SYSTEM IS TO REDUCE THE COST OF OPERATION, MAINTENANCE AND LOGISTIC BY MINIMIZING THE GENERATOR RUNTIME AND FUEL CONSUMPTION.

TO ACHIEVE THIS THE GENERATOR ONLY RUNS AS NEEDED TO RECHARGE THE BATTERY AND TO SUPPLY EXCESS LOAD WHEN NEEDED.

THE GENERATOR WILL START WHEN THE BATTERIES REACH A PRESET DISCHARGE LEVEL (DOD) AND IS RUNNING AT FULL CAPACITY UNTIL THE BATTERY REACHES THE PRESET RECHARGE LEVEL (SOC).

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

Specified, designed and built for endurance and problem-free operation under harsh conditions.

GALVANIC ISOLATION

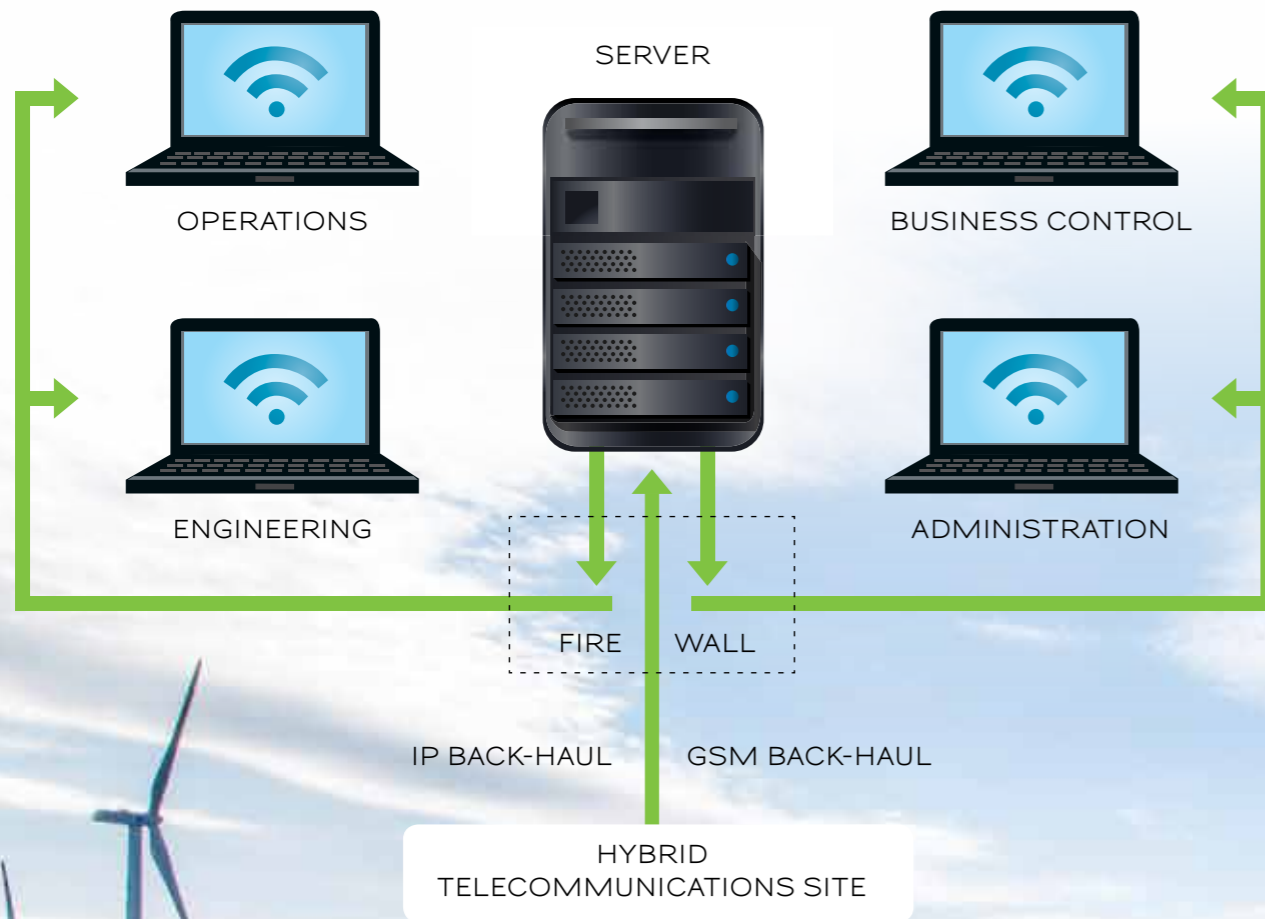
Galvanic isolation, providing extended surge protection. An over-voltage pulse, e.g. from lightning, will be suppressed by the external surge protection in connection with the converter.

MODULARITY

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

eTUIT HYBRID POWER FOR TELECOM SITES

MONITORING, CONTROL AND CONFIGURATION SOLUTIONS SPECIFICALLY DESIGNED TO MANAGE POWER SYSTEMS ACROSS ALL OF THE BASE STATIONS IN A NETWORK. MANAGER PROVIDES A PLATFORM TO DELIVER POWER-RELATED SERVICES THAT ELIMINATE WASTED ENERGY, REDUCE POWER COSTS AND MAXIMIZE SITE AVAILABILITY.



FEATURES

- Network overview of site status, fuel & critical alarms.
- Scalable multi-site & multi-user system.
- Continuous monitoring of performance against operation targets.
- Exception reporting.
- Web-based used interface for ubiquitous access.
- Remote configuration of system parameters.
- Telecom load monitoring.
- Remote application of software upgrades.
- Grid blackout / brownout detection.
- Communications via SMS, GPRS or IP back-haul.
- Fuel theft detection.
- Equipment health status indications with acknowledgeable alarms.
- Total energy production & consumption reporting.
- Inventory & asset management.

CUSTOM REPORTS & ANALYTICS

Flexible data analysis and reporting engine, can be expanded to meet numerous needs. Reporting at network level can be customised for monthly or quarterly review, showing performance against company-specific baselines and targets such as CO2 reductions. The system has been designed to allow for the combination of external inputs and internally generated performance data to support a wide array of Business Intelligence requirements.

Through a bespoke report, an interface with another system, or the production of attractive data-driven graphics for company presentations, the automation of data collection, aggregation, analysis and visualisation can reduce overhead and complexity, mitigate errors and demonstrate company achievements. We can work with you to understand your requirements and workflow, to provide the optimum customised reports and analytics solution.

REPORTS & ANALYTICS ENGINE

A powerful data analysis tool providing network-wide analytics of all system parameters and statistics. A wealth of site-level data is collated, graphed and presented within the Server User Interface. Critical site power performance statistics are available via this portal, presented in easy-to-assess graphical form.

Whilst able to produce routine reports of aggregated measurements, the true power lies in its ability to process the multitude of data into concise and insightful visualizations, providing quick and easy understanding of network wide system performance and identifying areas for improvement. Intelligent algorithms and trend analysis are amongst some of the methods used to detect discrepancies in operation, highlighting maintenance needs and conformance to targeted KPIs.



PROVIDING TRUE SUPPORT

IN COUNTRY STOCKING & SUPPORT

- EQUIPMENT REPAIRS
- WARRANTIES IN COUNTRY
- INTEGRATION SPECIALISTS
- 24 / HOUR HIGH LEVEL TECHNICAL SUPPORT

DESIGN POWER & CONTROL SYSTEMS

- BTS POWER
- DATA CENTER POWER
- SMART SITE OVERLAY
- HVAC

IN THE FIELD

- OPEX AUDITS
- POWER DISTRIBUTION
- OPTIMIZATION & CONTROL OF EQUIPMENT
- HANDS ON TRAINING OF LOCAL STAFF & CONTRACTORS
- ON SITE INTEGRATION SPECIALISTS
- LIVE UPGRADES

REMOTE MONITORING & MANAGEMENT

- TREND ANALYSIS
- CUSTOMIZED REPORTING
- SITE ASSET REGISTERS
- POWER NETWORK MONITORING & MANAGEMENT



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