



## MARINE & OFFSHORE

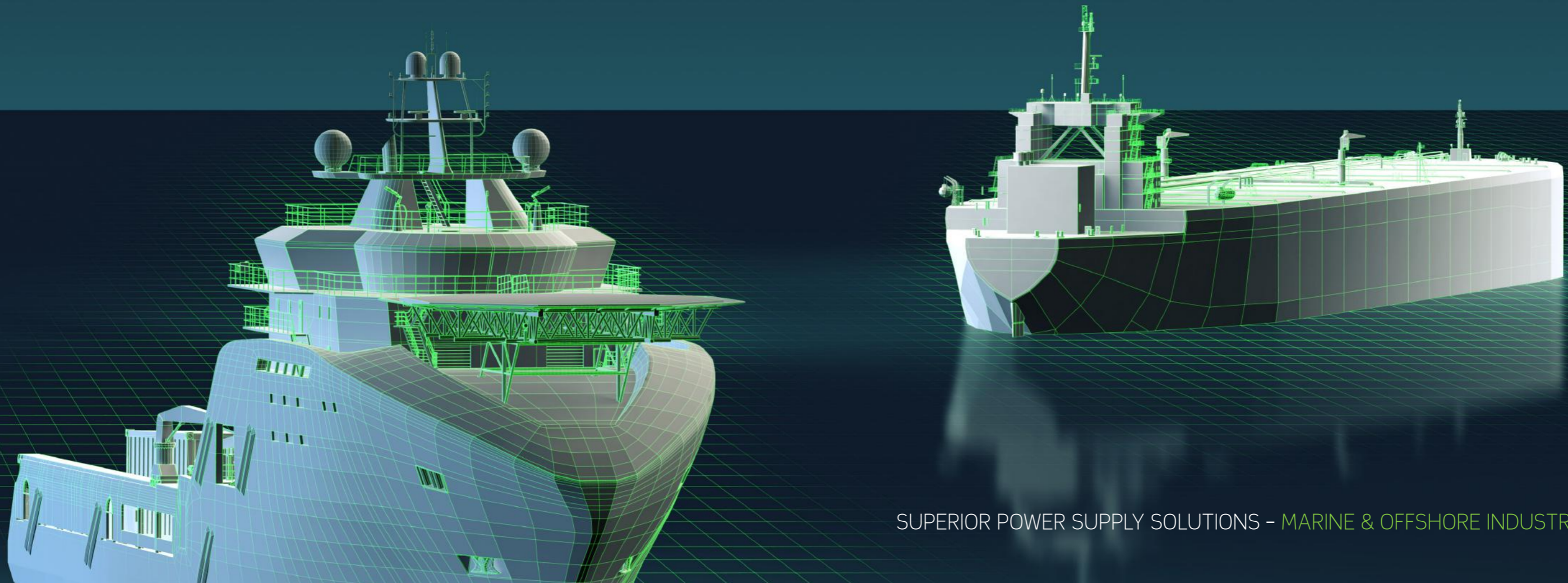
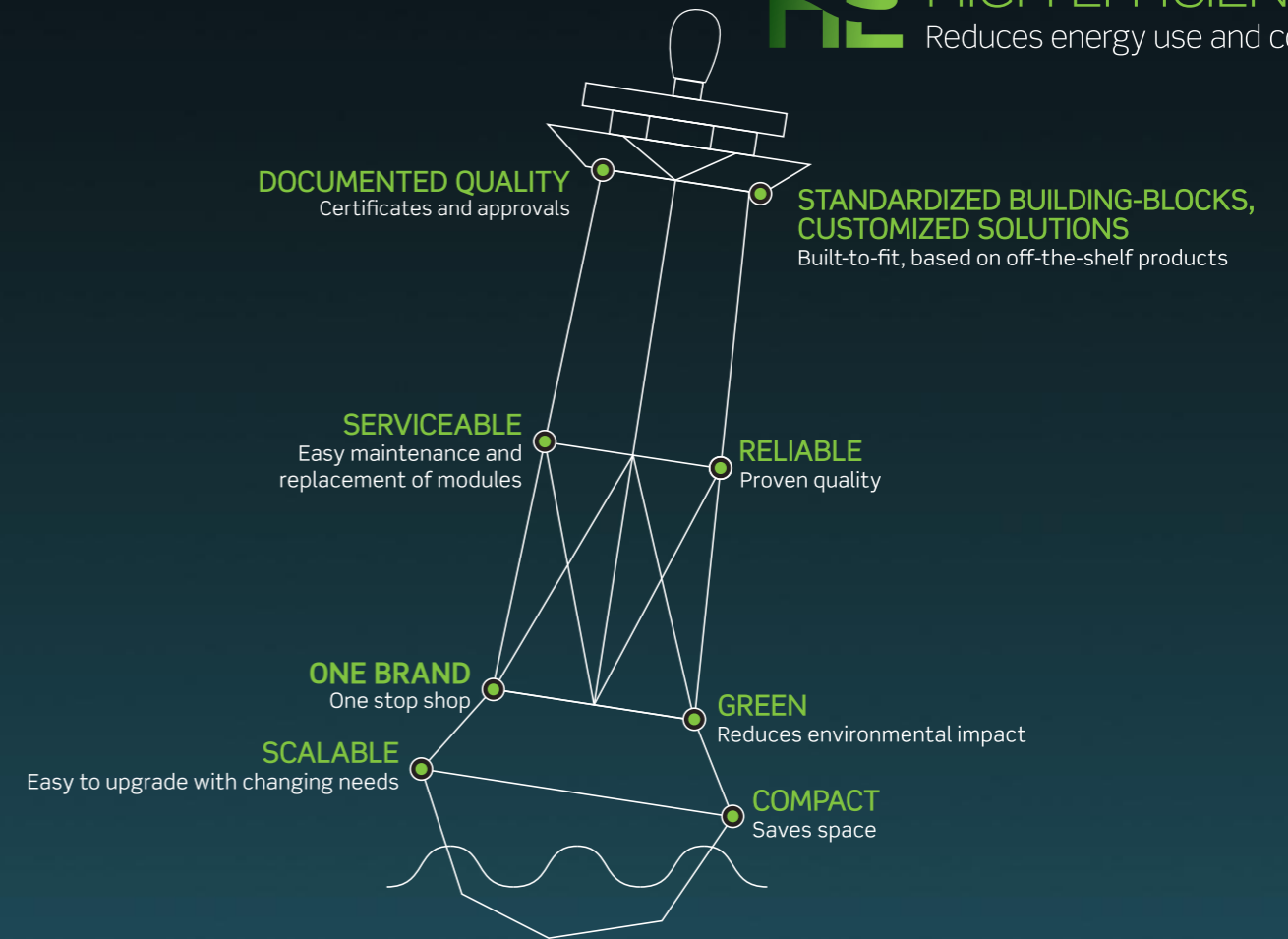
MEETING YOUR REQUIREMENTS  
FOR ON BOARD POWER

# COMPLETE POWER SOLUTIONS REDUCED COST OF OWNERSHIP

On board any ship or offshore installation, there are numerous critical systems that oversee a large number of functions and applications. Continuous and safe operation of these systems begin and end with stable and safe supply of power.

Eltek is part of the proud Norwegian maritime and offshore heritage and can look back on more than 40 years experience as a dedicated power specialist. We offer marine and offshore power solutions that are reliable, modular and compact. They provide the power you need to keep your revenue on-stream.

**HE** HIGH EFFICIENCY  
Reduces energy use and cost



# ELTEK POWER SOLUTIONS

## THE MODULAR WAY FORWARD

### TOTAL COST OF OWNERSHIP

Eltek TCO is based on high end components with a very high life time. All solutions are modular, scalable, with a short MTTR.

### STANDARDIZED BUILDING BLOCKS, CUSTOMIZED SOLUTIONS

Eltek systems are modular and based on our high-efficiency converters, controllers and other off-the-shelf products. These building-blocks allow for greater flexibility when it comes to designing optimal systems for the application at hand. This concept is also cost-efficient, with easy installation and short delivery-times.

### GLOBAL SERVICEABILITY

Modularity equals serviceability. If a module should fail, it is a simple task to replace it. This can be done immediately and swiftly if a spare module is at hand.

Eltek's global service and support organization are ready and available to service our installations all over the world.

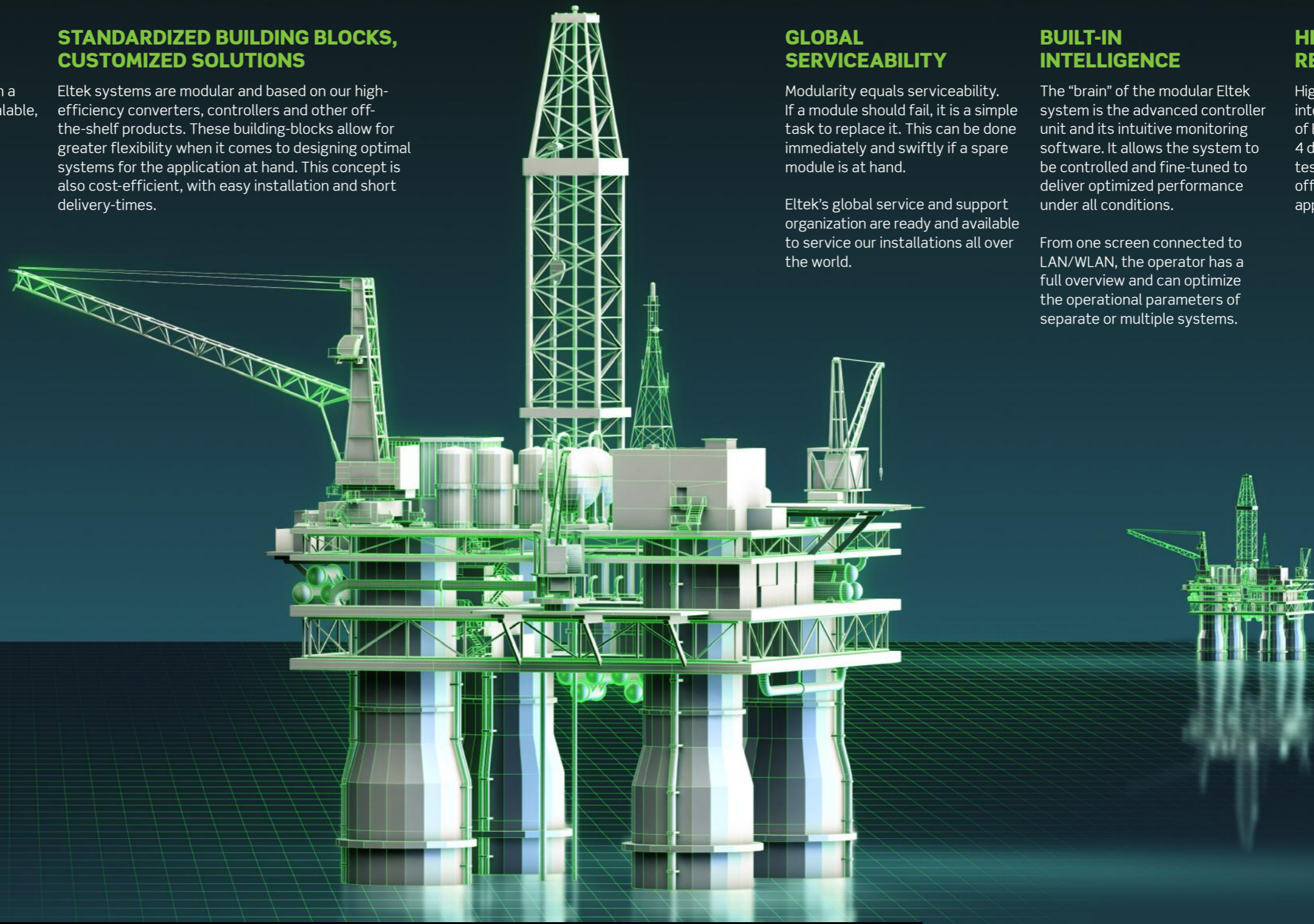
### BUILT-IN INTELLIGENCE

The "brain" of the modular Eltek system is the advanced controller unit and its intuitive monitoring software. It allows the system to be controlled and fine-tuned to deliver optimized performance under all conditions.

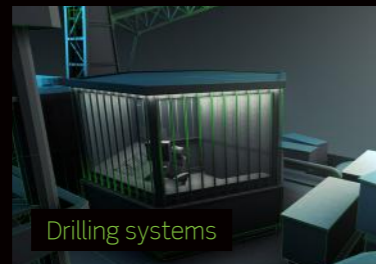
From one screen connected to LAN/WLAN, the operator has a full overview and can optimize the operational parameters of separate or multiple systems.

### HIGH RELIABILITY

High quality and reliability are built into the design and engineering of Eltek's products. For more than 4 decades, they have stood the test in the field, powering marine, offshore, telecom and other critical applications under harsh conditions.



Public address and alarm



Drilling systems

### EXAMPLES OF APPLICATIONS WE DELIVER POWER TO:

- Dynamic positioning
- Propulsion control
- Water tight doors
- Navigation
- Ship identification
- Ballast water treatment
- Drilling systems
- Leisure room
- Computer room
- Public address and alarm

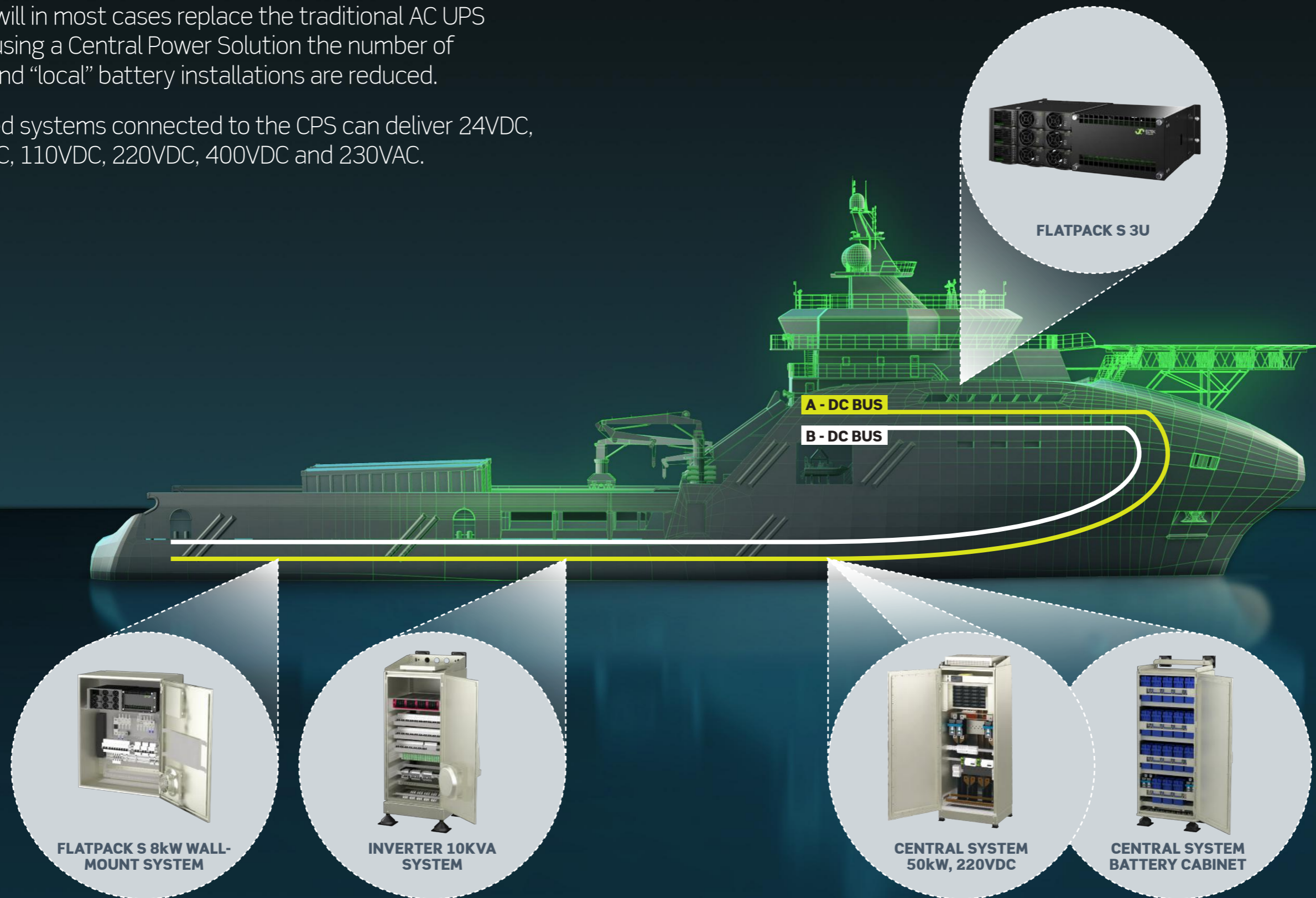


Propulsion control

# TYPICAL MODERN SUPPLY VESSEL HIGH VOLTAGE DC BUS

This solution will in most cases replace the traditional AC UPS on board. By using a Central Power Solution the number of conversions and “local” battery installations are reduced.

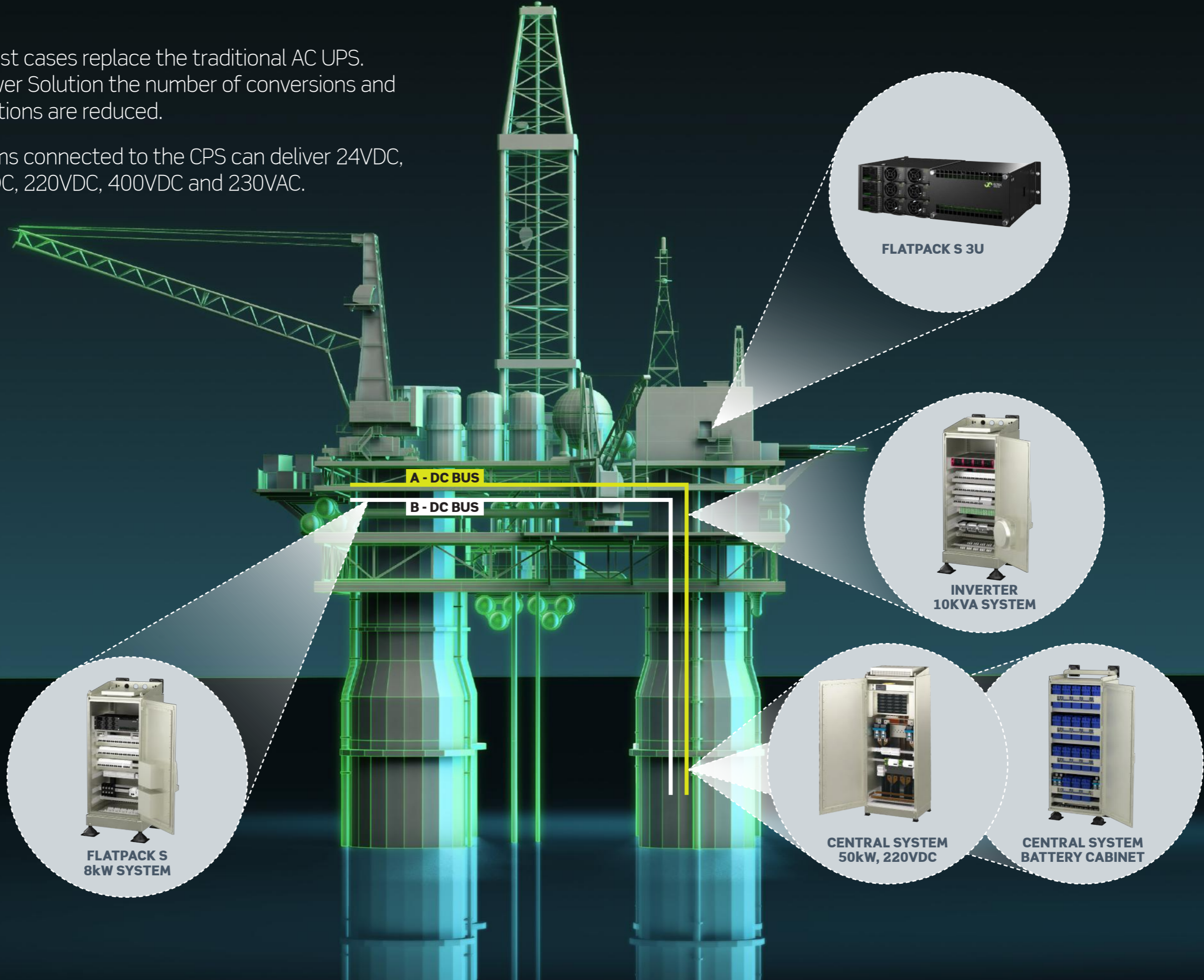
The distributed systems connected to the CPS can deliver 24VDC, 48VDC, 60VDC, 110VDC, 220VDC, 400VDC and 230VAC.



# TYPICAL MODERN OIL RIG HIGH VOLTAGE DC BUS

This solution will in most cases replace the traditional AC UPS. By using a Central Power Solution the number of conversions and “local” battery installations are reduced.

The distributed systems connected to the CPS can deliver 24VDC, 48VDC, 60VDC, 110VDC, 220VDC, 400VDC and 230VAC.



# ELTEK CENTRAL POWER SYSTEM /CPS/

CPS is a high-end solution for ships and oil installations. In most cases central power replace the AC-UPS and provide a closed and high voltage DC bus that can convert to various voltages with a central battery back-up.

- Modular- scalable
- Few and global spares
- One management system
- Easy serviceable (short MTTR)
- Real battery management
- Fewer battery banks
- Full redundancy (all levels)
- Easy installation
- Standard solutions with DNV approval
- Low life time cost

**MAINS NO 1  
EMERGENCY**



**220VDC**



**220VDC**

**MAINS NO 2  
EMERGENCY**

## CENTRALIZED POWER A

**12VDC**



**24VDC**



**48VDC**



**60VDC**



**110VDC**



**220VDC**



**230VAC**



**400VDC**



## CENTRALIZED POWER B

# SYSTEMS AND NODES

## ELTEK CENTRAL POWER SYSTEM /CPS/



The central system is the heart of an Eltek Marine Power system, providing the secure 220VDC power that can be efficiently distributed around the vessel. The central system is modular and thus provides full flexibility in output power, redundancy and serviceability.

### FEATURES

- IP 43 (IP20 inside)
- Size: 1800x800x600mm
- Full overview and control
- Dual input
- Modular
- Scalable up to MW size

Part number. C22438 400

**APPLICATION EXAMPLE: CENTRALIZED POWER**

## CENTRAL SYSTEM BATTERY SOLUTIONS



The battery cabinet is designed for tough condition and has IP 43/44. More over dampers in order to prevent the vibration effect on its components. Horizontal stabilizers that from moving around inside the large cabinet can be added.

### FEATURES

- Stand alone or part of centralized system
- IP43
- Size: 1800x800x600mm
- Integrated Battery fuse switch

Part number. BE0138 000

**APPLICATION EXAMPLE: CENTRALIZED POWER**



### FLATPACK2 24VDC 43.2kW

The combination of cost-effective design, power density and reliability makes the Flatpack2 24V 43.2kW a product family that truly stands out and provides unparalleled availability. The versatility of the Flatpack2 rectifier means that it can be used in a wide variety of 24VDC marine applications across the globe.

Part number. C22438 401

**APPLICATION EXAMPLE: BATTERY BACKUP**

### FEATURES

- Stand alone or part of a centralized system
- 48VDC and 110VDC
- Uninterrupted operation
- Full overview and control
- Modular



### FLATPACK S MARINE SYSTEM 8kW, 24VDC

Based on the successful Flatpack S rectifier module, this system can provide up to 8kW 24VDC with comprehensive distribution and terminations, all housed in a 1.2 m high cabinet. The system can be powered from AC or DC.

Part number. CS0825 000

**APPLICATION EXAMPLE: SAS SYSTEMS**

### FEATURES

- Stand alone or part of a centralized system
- 24VDC or 48VDC
- Uninterrupted operation
- Full overview and control
- Modular



### INVERTER 10KVA SYSTEM

This concept allows for the first time to build AC power systems by removing any possible "Single Point of Failure" with full scalability and high efficiency. Based on one multifunctional module it leads to truly redundant parallel architectures. It can be used in DC-AC marine applications across the globe.

Part number. CINV0425.002

**APPLICATION EXAMPLE: NAVIGATION**

### FEATURES

- Build in static switch in each inverter module
- Stand alone or part of centralized system
- Uninterrupted operation
- Full overview and control
- No single point failure
- Dual input
- Modular



### FLATPACK2 8kW INTEGRATED BATTERY

Based on the successful Flatpack2 rectifier module, this system can provide up to 8kW 24VDC with comprehensive distributions and terminations, and battery room, all houses in a 1,4m high cabinet. The system can be powered from AC or DC.

Part number. CIE20425.401

**APPLICATION EXAMPLE: PA SYSTEM**

### FEATURES

- All-in-one cabinet
- Space saving
- Uninterrupted operation
- Full overview and control
- Dual input
- Modular



### FLATPACK S MARINE SYSTEM 8kW, 24VDC WALLMOUNT

Compact 24VDC / 8kW system for wall-mounting. Based on the Flatpack S rectifier this is fully modular system for you on board applications that need safe and reliable power. The system can be powered from AC or DC.

Part number. CS0816.000

**APPLICATION EXAMPLE: DP SYSTEM**

### FEATURES

- Stand alone or part of centralized system
- Uninterrupted operation
- Full overview and control
- 24VDC or 48VDC
- Dual input
- Modular



### FLATPACK2 WALLBOX

The Flatpack2 Wallbox is built around our Flatpack2 rectifier and its compact design and simple installation make it a powerful wall-mounted DC power supply package.

Part number. CTO30210.XXXX

**APPLICATION EXAMPLE: PROCESS AUTOMATION**

### FEATURES

- Support for 24-125VDC output
- Bulk-Feed or integrated distribution
- Digital controller with color display



### MICROPACK WALLBOX

The Micropack wallbox have been designed for industrial applications with power requirements in the range of 120 - 1000W. With its compact design and simple installation and optional internal backup batteries, it makes it a really "micro" DC backup system.

Part number. CTOU0410.XXX

**APPLICATION EXAMPLE: SUPERVISION & ALARM SYSTEMS**

### FEATURES

- Support for various DC output voltages
- Bulk-Feed or integrated distribution
- Optional digital controller with color display



### SMALL BATTERY CABINET

The battery cabinet is designed for tough condition and has IP 43/44. More over dampers in order to prevent the vibration effect on its components. Horizontal stabilizers that from moving around inside the large cabinet can be added.

Part number. BB0212.000

**APPLICATION EXAMPLE: GMDSS**

### FEATURES

- Stand alone or part of centralized system
- IP43
- Integrated Battery fuse switch
- GMDSS application

# POWER CORES



## FLATPACK2 INTEGRATED 19" 2U

The 2U power core can be used as a stand-alone system both for AC and DC (85-300VDC) input, for integration into 19" system. The system has individual AC or DC feed with a DC bulk output. It comes as standard with Smartpack2 controller and I/O unit.

### FEATURES

- Individual feed. AC or DC input voltage
- 24 – 125VDC output
- Can be used as a stand-alone system
- Integrated controller with color display, and remote monitoring

**APPLICATION EXAMPLE:**  
SUPERVISION & ALARM SYSTEMS

## FLATPACK S 3U

With a system depth of only 300mm and high efficiency rectifiers the Flatpack S systems will fit in most cabinets. It has built-in redundancy for reliable operation.

### FEATURES

- Accepts AC or DC input
- SIL rated overvoltage protection option
- Compact and shallow construction

**APPLICATION EXAMPLE:**  
OFFSHORE INSTRUMENTATION

### FEATURES

- Accepts AC or DC input
- SIL rated overvoltage protection option
- Compact and shallow construction

## FLATPACK S 1U

With a system depth of only 300mm and high efficiency rectifiers the Flatpack S systems will fit in most cabinets.

**APPLICATION EXAMPLE:** SAS POWER OR PA SYSTEMS

## FLATPACK S DUAL BOX

With a system depth of only 290mm and high efficiency rectifiers the Flatpack S systems will fit in most cabinets.

**APPLICATION EXAMPLE:** SUPERVISION & ALARM SYSTEMS

## MICROPACK SYSTEM

The Micropack System is convection cooled, designed for less power hungry applications, but still with system functionality options to match any requirements. Use as stand alone or in a flexible off the shelf configurable system.

**APPLICATION EXAMPLE:** INTERNAL POWER CONTROL CABINET

# MODULES AND CONTROLLERS



## FLATPACK2 HE RECTIFIER

The most efficient power conversion module in the industry. Since the launch the Flatpack2 family has expanded into a wide selection of power ratings and voltages

**APPLICATION EXAMPLE:** IN AC/DC OR DC/DC SYSTEMS

### FEATURES

- Proven reliability
- High Power Density
- 24-220VDC Output
- Global Compliance (CE, UL, NEBS)



## FLATPACK S SIL3 RECTIFIER

The Flatpack S system depth of only 265mm and the SIL3 rectifiers high efficiency/low heat dissipation provides easy integration in most cabinets.

**APPLICATION EXAMPLE:** SAFETY AND INSTRUMENTATION SIL 3

### FEATURES

- Compact and shallow
- High Power Density
- 24-48VDC Output
- Alarm relay output - basic monitoring without controller possible
- SIL3 rated output versions available (Overvoltage Protection)



## MICROPACK RECTIFIER

The Micropack is a convection cooled rectifier for less power hungry applications, but still with system functionality options to match any requirements. Use as stand alone or in a flexible off-the-shelf configurable system.

**APPLICATION EXAMPLE:** POWER SUPPLY OR CONVERTER FOR CONTROL CABINETS

### FEATURES

- Compact
- Din rail mountable
- On-site configurable
- Stand-alone option
- 12, 24-30, 48VDC output versions



## SMARTPACK 2 CONTROLLER

The High-End Controller has increased program memory and new hardware allows for more features and improved user interface. The new modular distributed control system simplifies connections.

**APPLICATION EXAMPLE:** ALL SYSTEMS WITH MONITORING & COMMUNICATION

### FEATURES

- 3.2" Graphical TFT, high resolution color display
- LEDs for local visual alarms
- Ethernet for remote or local monitoring and control via WEB Browser
- Fault finding in "One Click"
- Support for 24-220VDC systems



## SMARTPACK S CONTROLLER

Designed for the Flatpack S system platform, the Smartpack S finds its way into many space restricted application.

**APPLICATION EXAMPLE:** ALL SYSTEMS WITH MONITORING & COMMUNICATION

### FEATURES

- Graphical 2.2" TFT, high resolution color
- Ethernet for remote or local monitoring and control via WEB Browser
- SNMP and Modbus protocol
- Support for 12- 48VDC systems



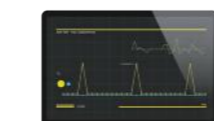
## SMARTPACK S PANEL MOUNT CONTROLLER

Smartpack S controller designed for panel mount, works together with all our low voltages rectifiers and converter modules.

**APPLICATION EXAMPLE:** ALL SYSTEMS WITH MONITORING & COMMUNICATION

### FEATURES

- Graphical 2.2" TFT high resolution color display
- Ethernet for remote or local monitoring and control via WEB Browser
- SNMP & Modbus protocol
- Support for 12-48VDC systems



## MULTISITE MONITOR SOFTWARE

The MultiSite software is a server based tool that gathers statistically data from connected sites and store it in a database. It also includes web pages for viewing the data from the database.

**APPLICATION EXAMPLE:** MONITORING

### FEATURES

- Easy access through web browser for both clients and administrators
- Monitoring clients do not need access to site network
- Central database server holds statistical data – decreased latency when browsing



# BATTERIES



## LEAD ACID BATTERIES

AGM technology with Front Terminal range of valve regulated lead acid batteries has been designed specifically for use in applications that demand the highest levels of security and reliability.

The AGM Monoblocs are designed for installation in cabinets or on stands, close to the point of use.

### FEATURES

- Competitive price
- Design life 3-12 years
- Needs stable temperature around 20C° to sustain life time, high temperature rapidly reduces life
- Separate battery room is not necessary
- Maintenance free: no water addition required.



## NI-CD BATTERIES

NiCad batteries are maintenance free valve regulated particularly suited for extreme temperatures from -40 degr. C to + 70 degr. C.

Operational lifetime: 12 years at + 40 degr. C and 20 years plus at + 20 degr. C.

### FEATURES

- More expensive than regular lead acid batteries
- Operating in a wider temperature range
- Need higher voltage to recharge
- Low level of gas emission



## LITHIUMION BATTERIES

Lithium batteries provides more energy per weight and volume: 2x smaller than lead acid and 4x lighter than lead acid.

Lithium is ideal for cyclic operation. Fast recharge: up to 95% in 3 Hr. Wide temperature range: from -40 degr. C to + 75 degr. C.

### FEATURES

- Latest technology
- Environmental friendly
- Built in electronics control the batteries
- High cyclic numbers
- Operating in a wider temperature range
- Space saving

# AC-UPS



## 10KW - 200KW MODULAR

The compact all-rounder, for various applications that require a high power protection level including frame, UPS, battery and communication.

Decentralized Power Architecture (DPA), where all the hardware component of the power system within the same footprint, are N+1 redundant (UPS, STS, battery control panel, electronic power supply).

This results in a solid and flexible solution, suitable for the rough vibrating conditions inside the ship and under heavy temperature environment in a steady ventilated chamber

### FEATURES

- 10kW - 20kW rated power module
- Online Swap Modularity (OSM)
- Online serviceability
- True redundancy: N+1 redundancy (up to 180kW N+1)
- Low input harmonic distortion (THDi of < 3%)



## 8KW - 1,2MW MODULAR

Conceptpower DPA, the energy-efficient, rack-mountable modular UPS from 8 to 1200kW.

In today's world, the increased power protection requirements, high availability and easy serviceability can be fulfilled with the Conceptpower DPA™, the energy-efficient three-phase modular UPS.

### FEATURES

- 8kW-50kW rated power module
- Online Swap Modularity (OSM)
- Online serviceability
- Output power factor of up to 0.8 lagging to 0.9 leading without derating
- Up to 30 modules in parallel configuration



## 500KW - 3MW MODULAR

Conceptpower DPA 500 is a high-power, modular and transformer-free UPS system for organizations who need zero downtime.

The UPS is built using true online double with multilevel conversion technology to provide maximized uptime and decreased total cost of ownership, efficiently and reliably.

### FEATURES DUMMY

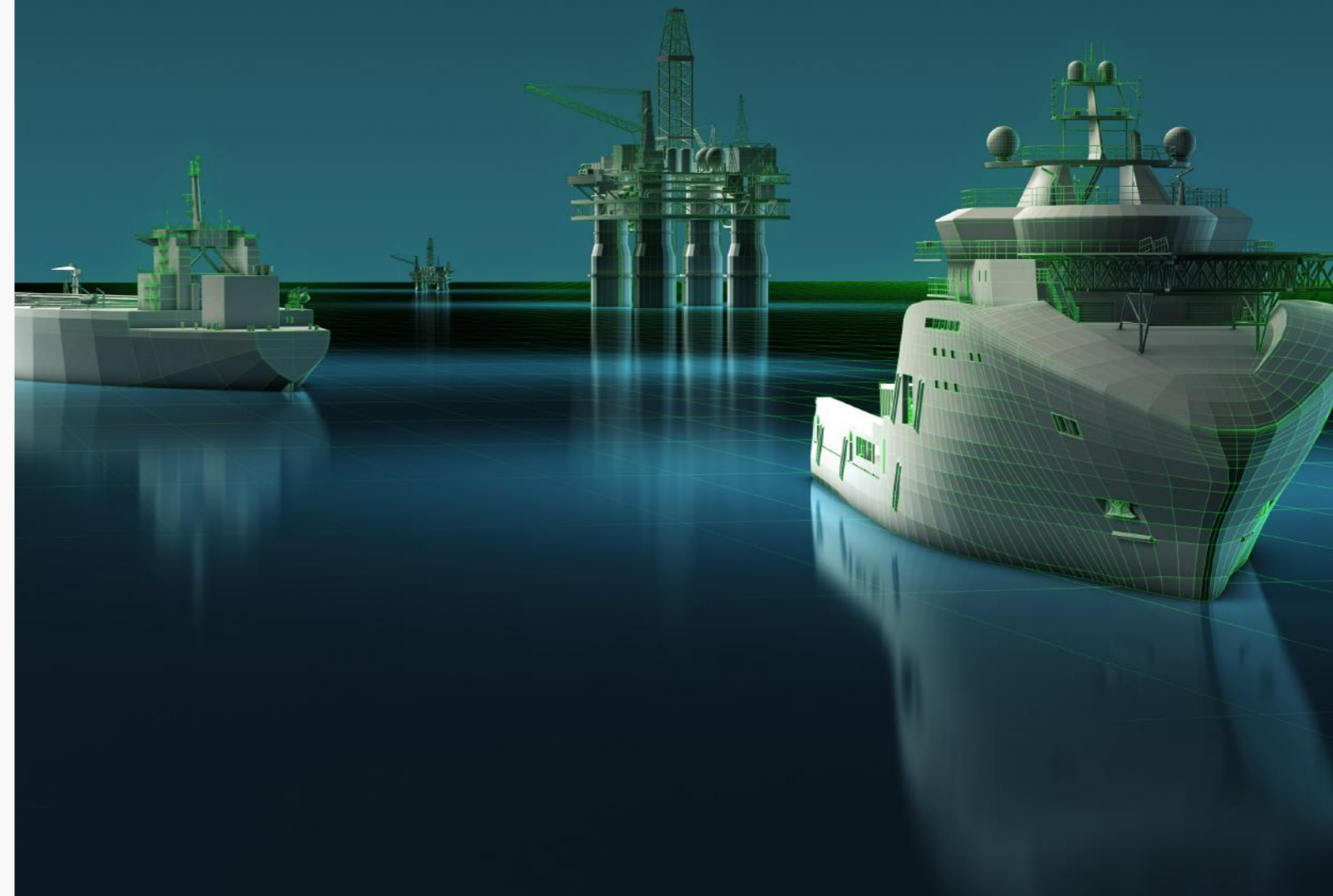
- 100kW rated power module
- Online Swap Modularity (OSM)
- Online serviceability
- 500kW rated power in single frame
- Extended power range: from 100kW to 3 MW

Specifications are subject to change without notice.

# SERVICES THAT MAKE A DIFFERENCE

At Eltek we are committed to providing the highest quality of service to meet your specific requirements and add value to your investments in power solutions. As a customer of Eltek, wherever your location in the world, you can rely on high quality services and support, delivered by dedicated and highly qualified power professionals in our global organization.

- Installation
- Start up and commissioning
- Preventive maintenance service contracts
- 24/7/365 emergency service
- Product repairs
- Training
- Battery testing
- Extended warranty



# THE POWER CONVERSION SPECIALIST FOR MORE THAN 40 YEARS



- Sales in more than 100 countries
- 2500 employees
- Offices in over 40 countries

Eltek has more than 40 years of experience as a power conversion specialist. Driven by a strong ambition to push the frontiers of technology, our hallmark has always been an ability to develop power conversion products that set the industry standard when it comes to efficiency, power density and flexibility.

