MNS® Low Voltage Switchgear

Power with purpose

ENGINEERED
TO OUTRUN

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Electrical safety and power availability in low voltage systems

Customer needs

Higher safety and reliability standards

Ensure the highest safety and reliability to protect people and assets.

Meeting higher targets and KPIs

There is pressure to achieve higher targets and KPIs, including faster lead times, increased productivity, and maximized uptime.

Reducing operational and maintenance costs

Minimize operational expenditure (OPEX) and reduce maintenance costs as key priorities.

Sustainability and reducing carbon footprint

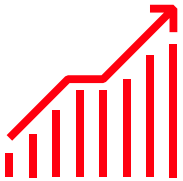
Sustainable solutions and reducing the carbon footprint of products are increasingly valued

Flexibility and adaptability

Flexible solutions that can adapt to changing requirements are essential.

ABB Value Propositions for MNS® Low Voltage Switchgear

ABB is dedicated to delivering exceptional value to its customers through its MNS® switchgear.



PERFORMANCE ORIENTED

ABB's MNS switchgear solutions set the benchmark for safety, reliability, and adaptability, maintaining continuous power and keeping operations running even in the harshest environments. ABB’s verification testing and arc protection technologies provide superior safety for people and processes. Its modular design makes it easy to scale and adapt to a site’s changing power requirements.

SUSTAINABILITY EMBEDDED

Integrate ABB Ability™ for real time power management and continuous condition monitoring into operations with ABB MNS switchgear. MNS enables users to optimize operations, track sustainability metrics – and lower energy and maintenance costs. ABB’s independently verified Environmental Product Declarations and green manufacturing processes provide transparency and sustainability.

PEACE OF MIND

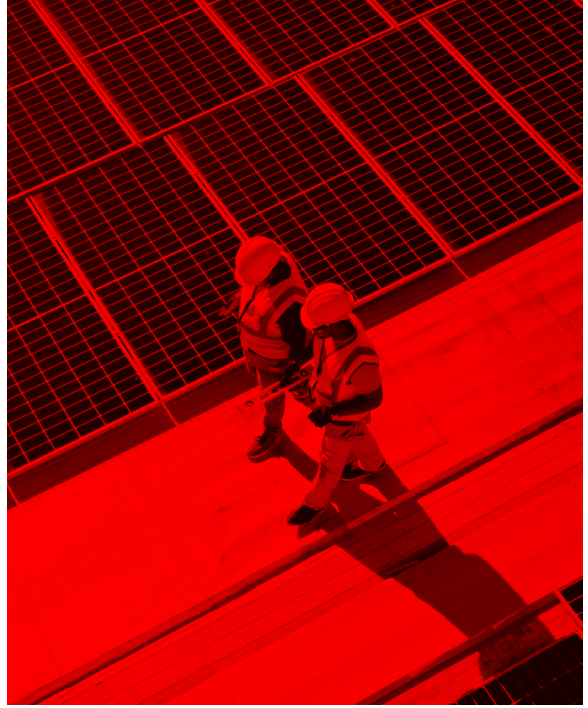
Rely on the world’s largest installed base of power distribution switchgear and motor control centers engineered by a global network of the industry’s most skilled switchgear experts. Our teams are committed to delivering a superior customer experience with world-class quality from our state-of-the-art production facilities.

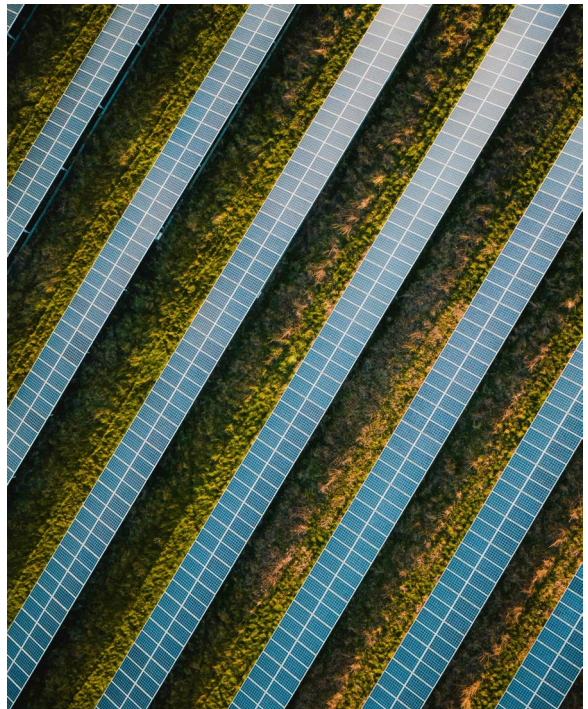
Performance oriented

- **Reliability:** Consistent and trustworthy performance
- **Safety:** Protection for all operators
- **Anomaly detection:** Early identification of irregularities
- **Predictive maintenance:** Easy maintenance to reduce downtime and costs
- **Adaptability:** Flexibility, scalability, and modularity to fit customers requirements
- **Suitability for extreme environments:** Optimal performance in harsh conditions

Sustainability embedded

- **Optimize operations:** Real-time, data-driven decisions.
- **Energy efficiency:** Use the collected data about energy usage and turn it into insights
- **Compliance:** Third party verified Environment Product Declaration (EPD)
- **Carbon footprint reduction:** Produced in ABB facilities championing green energy, zero waste and circular economy





Peace of mind

- **ABB manufacturing:** Standardized operation governance to ensure high-quality production in all sites
- **Superior customer experience:** Rely on robust engineering team to provide solutions for the most complex projects
- **Regional customization:** Tailored products for specific regional needs
- **Comprehensive global support:** From quotation to installation and beyond
- **Higher safety:** Thanks to temperature and environment condition monitoring

Advancing sustainability in low voltage switchgear

Leading the way to a circular economy

Our ABB EcoSolutions™ portfolio supports sustainable decisions with products offering transparent circularity values and environmental impacts. We continuously innovate and expand this portfolio with our value chain partners.

ABB EcoSolutions products meet our circularity criteria throughout the product life cycle, as outlined in ABB's circularity framework, and have Type III Environmental Product Declarations (EPDs). These values and EPDs are accessible via QR codes and verified by a third party (ISO 14025 Type III compliant).

ABB uses EPDs in MNS switchgear to make environmental performance transparent. These EPDs provide verified information about a product's environmental impact throughout its lifecycle, helping customers make informed decisions and achieve sustainability goals.

Advancing sustainability in low voltage switchgear

ABB's circularity criteria include:

- Durable design with sustainable materials
- Waste-avoiding processes and sustainable packaging
- Enhanced resource and process efficiency, upgradability, and optimized equipment lifetime
- Take-back services for refurbishment, reuse, or recycling, with end-of-life treatment instructions

MNS includes a global sustainability program focused on:

Waste management: Optimize waste sorting, reduction, and reuse.

Paperless factory:
Use e-drawings and recycled paper.

Energy initiatives: Purchase green energy, transition to 100% EVs, and generate solar power on-site.

Product overview

The MNS Platform
Writing the future of electrification with MNS

- A legacy of innovation with solutions for energy distribution and Motor Control Center (MCC)
- MNS portfolio provides comprehensive scalability, from cost-effective energy distribution to high-end systems.
- MNS Digital combines the latest advances in smart electronics, edge computing and cloud technology to create a low voltage switchgear solution with built-in intelligence.
- MNS smart configuration tools generate the required switchgear layout, select the right components and allow the use of Building Information Modeling (BIM).
- Digital twin capabilities in ABB Ability™ optimize performance and identify any issues or maintenance requirements, and also schedule predictive maintenance.

The MNS Platform
Energy distribution and Motor Control Center

Power distribution solutions

- Reliable power distribution is crucial across industries, requiring a constant 24/7 energy supply.
- MNS switchgear, with technologies like Emax 2 and Tmax XT, optimizes energy flow and adapts to any grid condition.
- The digital solution also simplifies maintenance, enhancing sustainability ensuring continuous and safe energy management.

Process control solutions

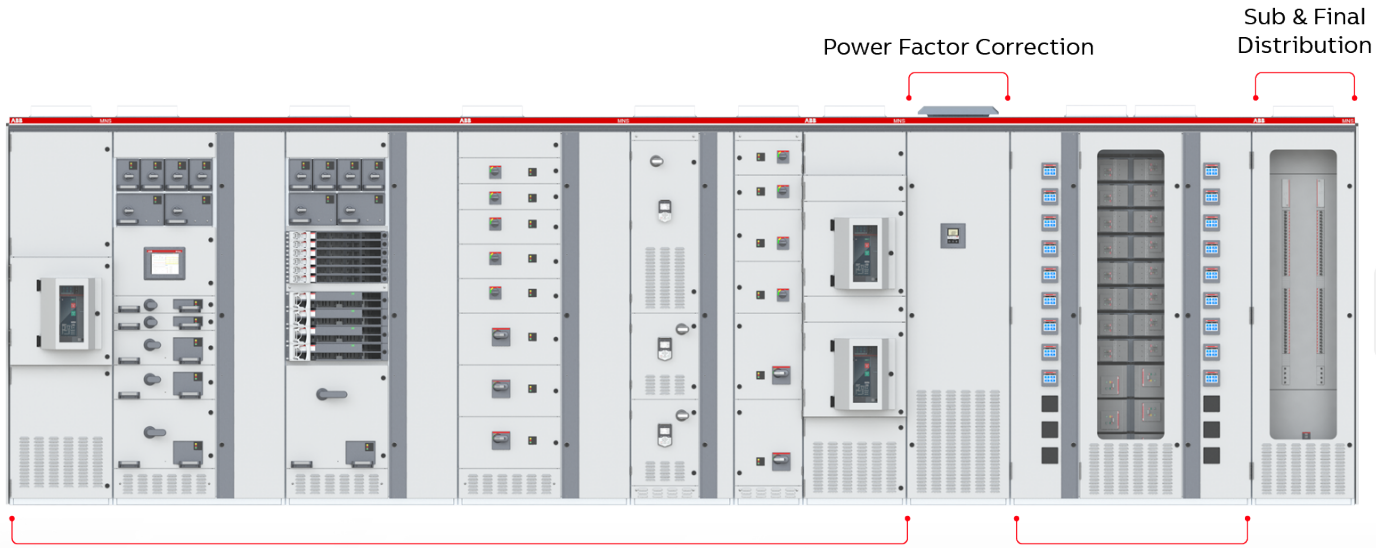
- The MNS MCC optimizes processes and reduces costs with compact direct online starters and smart motor controls for enhanced monitoring.
- For full-speed applications, the softstarter balances control, while variable speed drives provide precise motor management.

Coupled with temperature and ambient condition monitoring, it enables continuous data analysis via ABB Ability™ CMES without disrupting operations.

The MNS Platform
Scalable solutions to ensure asset availability

Identify any potential issues and determine where maintenance is needed to shift from planned to condition-based maintenance. Avoid unplanned outages, conducting maintenance only where and when necessary.

Diagnose



Monitor

Data monitoring from commissioning right across full lifetime. Analysis improves over time as more details accrue.

MNS: the switchgear that sees everything

Connect your intelligent devices, MNS' smart device family forms the backbone for your data collection.

ABB Ability™ CMES

Diagnose issues and ensure availability with on-premise condition monitoring and predictive maintenance.

ABB Ability™ Energy Manager

All your real-time data, alarms, events and trends visualized in the cloud. Maximize productivity & reduce OPEX.

MNS Low Voltage Switchgear
IEC portfolio

MNS Front

- Up to 6300A
- Withdrawable, plug-in including compact and fixed
- Power Delivery Unit (PDU)

MNS Rear

- Up to 7300A
- Withdrawable and fixed

Discover our MNS 3D-eCatalog

MNS Low Voltage Switchgear
Main features & benefits

MNS®

- More than 1.7 million of MNS sections installed in all type of environments including harsh conditions
- Flexible platform designs: front/rear access, back-to-back, and duplex solutions
- Universal panel design for different technologies: withdrawable, plug-in including compact, fixed and PDUs
- Withdrawable and interchangeable design for replacements without power shutdown
- Modular construction, extendable at both ends
- Multifunctional wall to mitigate risks of internal arc
- Maintenance-free busbar and frame structure

MNS Low Voltage Switchgear
Main features & benefits

MNS®

- Tested beyond the standards and certified by the most recognized organizations
- Fully certified to IEC 61439 -1/-2 up to 690V, 7300 A[1], 100 kA
- Arc proof certified to IEC TR 61641 Ed.3:2014 criteria 1 to 7 up to 690 V, 100 kA, 0.3 s
- Segregation up to form 4b type 7
- Marine, harsh Environment, seismic[2], vibration, and shock resistance applications
- Up to IP54 protection
- On-premises condition monitoring with ABB Ability™ CMES
- Connectivity to ABB Ability™ Energy Manager
- Third party verified type III EPD according to ISO 14025

[1] MNS Rear: 7300 A ; MNS Front 6300A

[2] MNS seismic withstand capability of the equipment exceeds the level of UBC97, Zone4

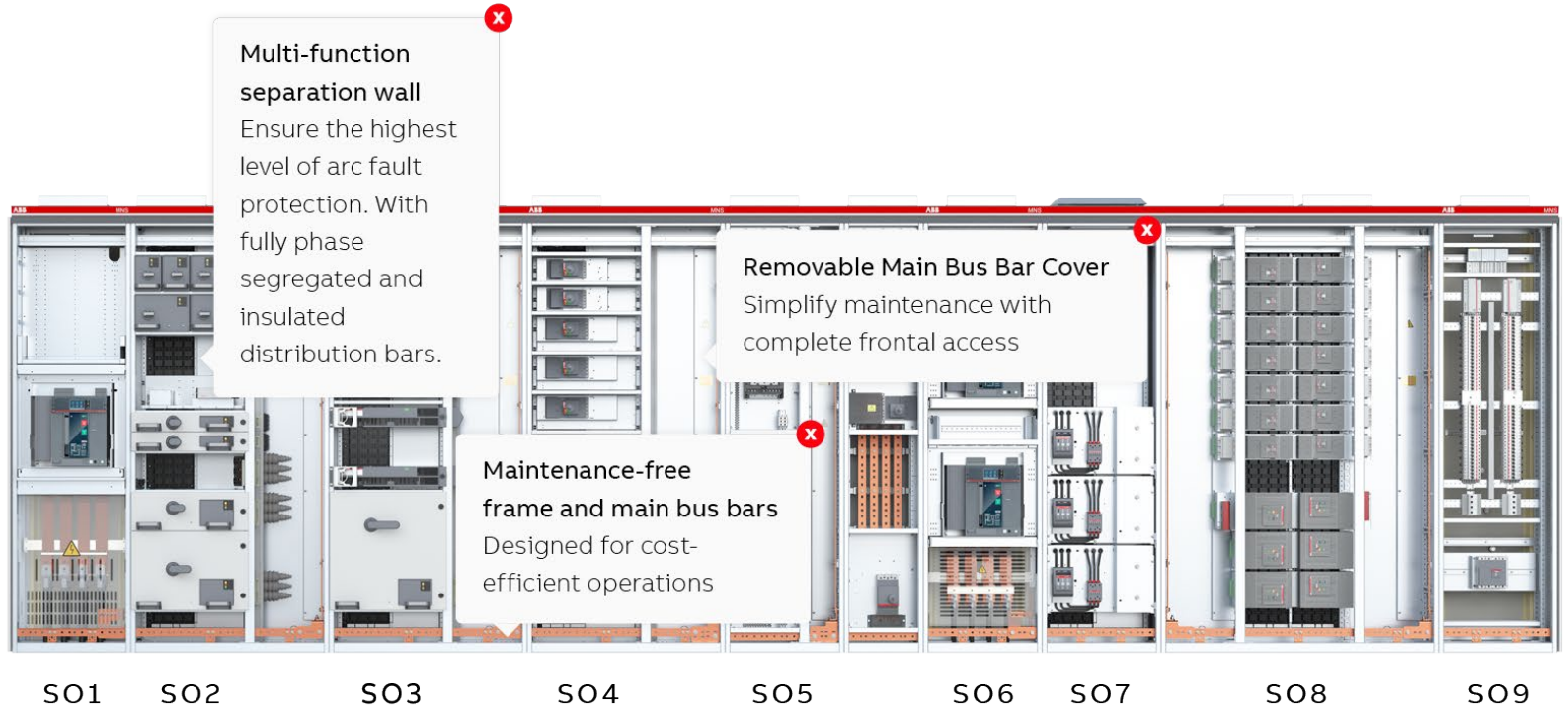
MNS Low Voltage Switchgear
Main features

Take a look inside the highly customizable MNS set-up.

Explore MNS

For more information click on the sections below

- Design
- Modules
- Integrated solutions



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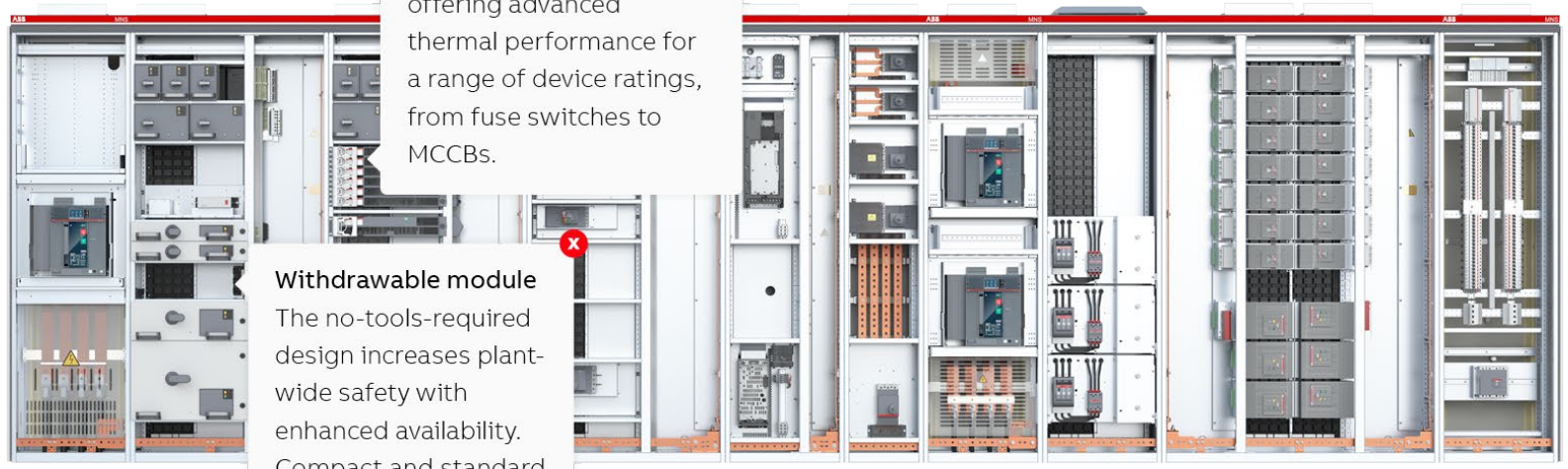

Plug-in modules
Cost-efficient alternative to withdrawable modules, offering advanced thermal performance for a range of device ratings, from fuse switches to MCCBs.

Withdrawable module
The no-tools-required design increases plant-wide safety with enhanced availability. Compact and standard sizes available.

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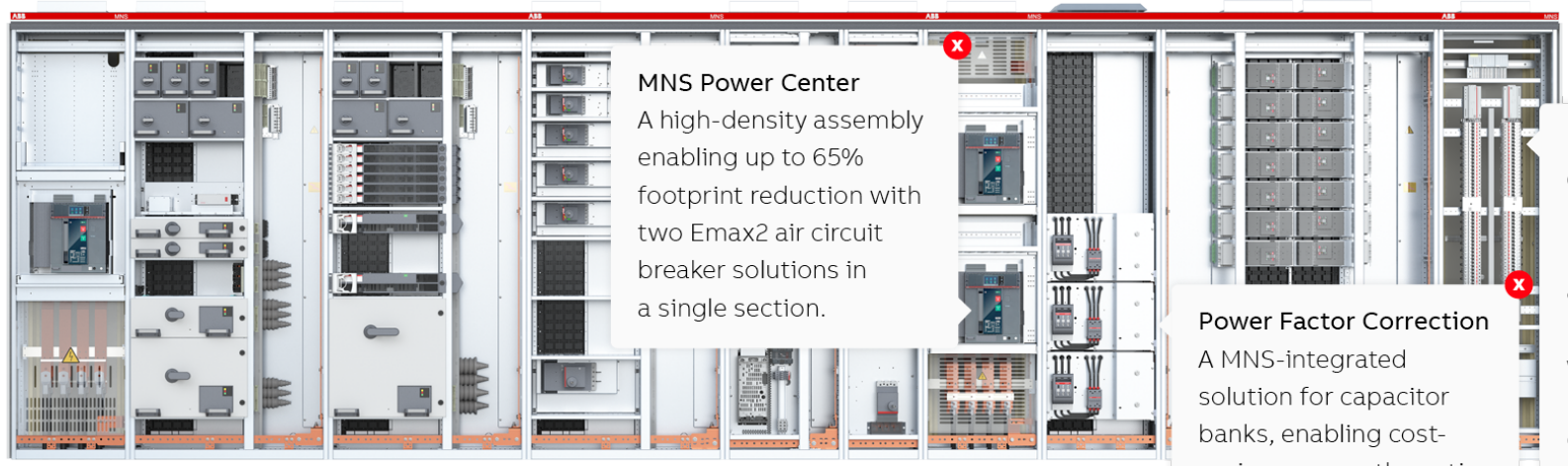


MNS Power Center
A high-density assembly enabling up to 65% footprint reduction with two Emax2 air circuit breaker solutions in a single section.

Power Factor Correction
A MNS-integrated solution for capacitor banks, enabling cost-savings across the entire lifecycle.

MNS RPP power distribution unit
Ensures continuous power to critical applications and rack-level energy monitoring with this scaleable, remote power panel. Optimized for safer hot-swaps and operator safety

Digital capabilities

ABB MNS Low Voltage Switchgear Digital gives you access real-time data from across operations. Its intelligent sensors connect your assets to on-premises solution ABB Ability™ CMES or cloud-based ABB Ability™ Energy Manager for ultimate visibility and control

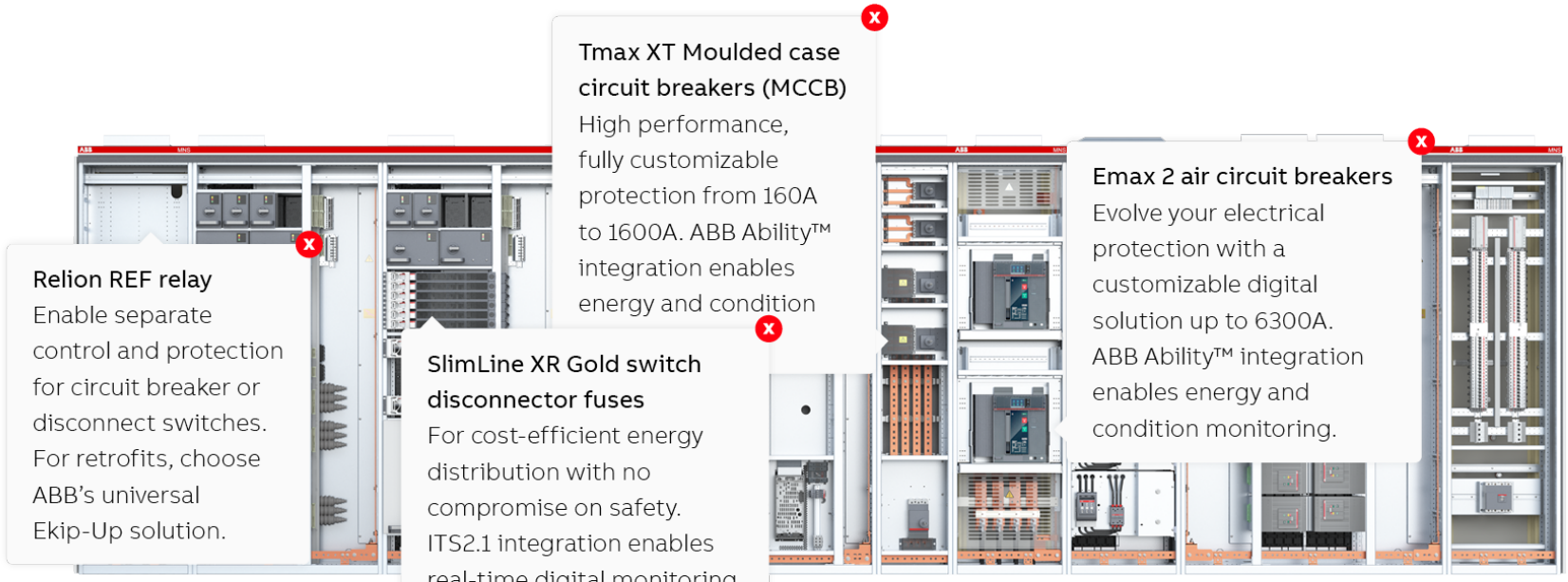
- Supporting availability and sustainability with collected data and analytics for informed decisions
- Monitoring real time energy usage and switchgear conditions with ABB Ability™
- Sensors technology for monitoring temperature to increase safety and reliability

MNS Digital Solutions

Explore MNS Digital

For more information click on the sections below

- Circuit Breakers & Switches
- Motors and Drives
- Network Connectivity
- Monitoring & Management



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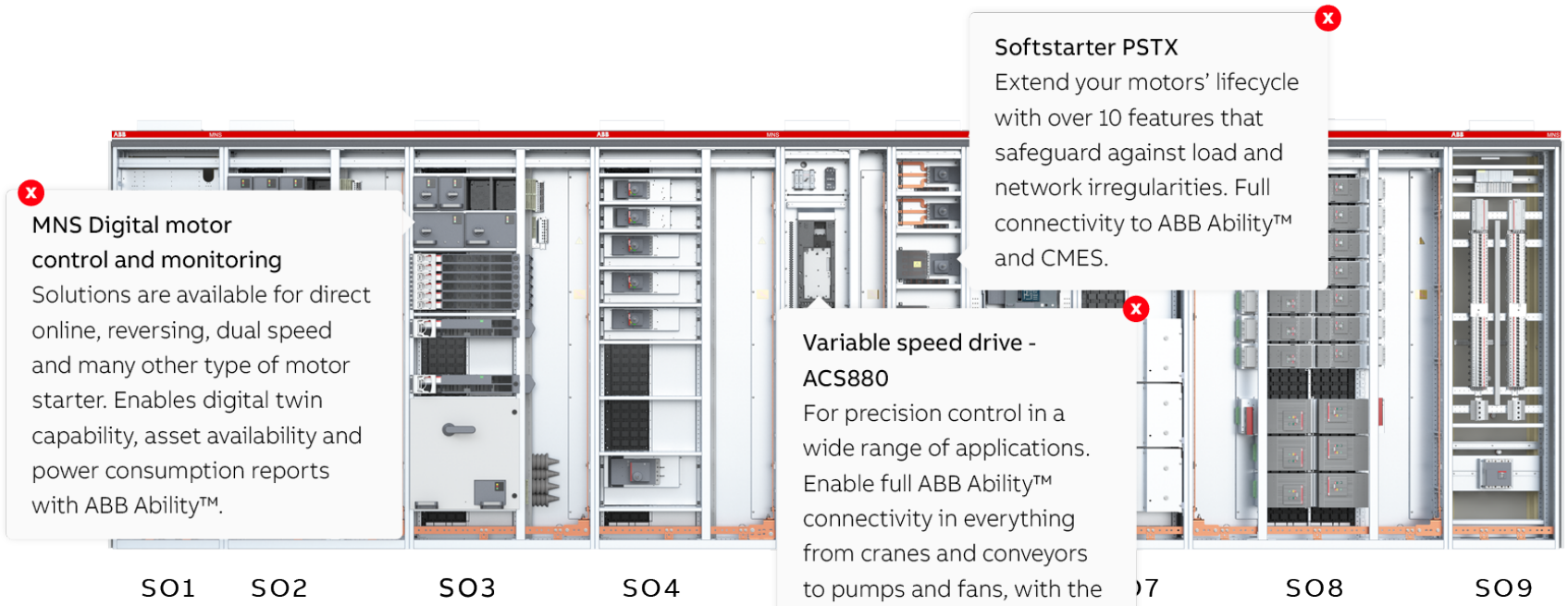

MNS Digital motor control and monitoring
Solutions are available for direct online, reversing, dual speed and many other type of motor starter. Enables digital twin capability, asset availability and power consumption reports with ABB Ability™.

Softstarter PSTX
Extend your motors' lifecycle with over 10 features that safeguard against load and network irregularities. Full connectivity to ABB Ability™ and CMES.

Variable speed drive - ACS880
For precision control in a wide range of applications. Enable full ABB Ability™ connectivity in everything from cranes and conveyors to pumps and fans, with the add-on module.

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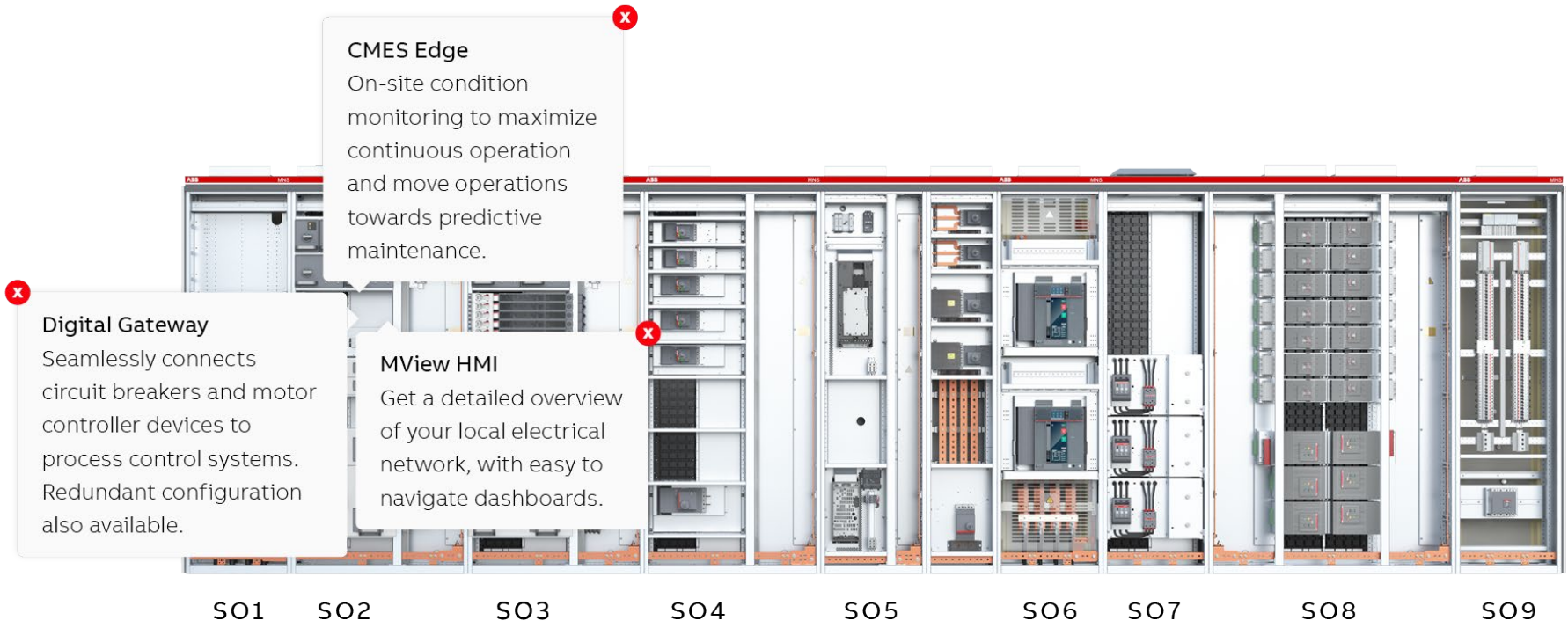

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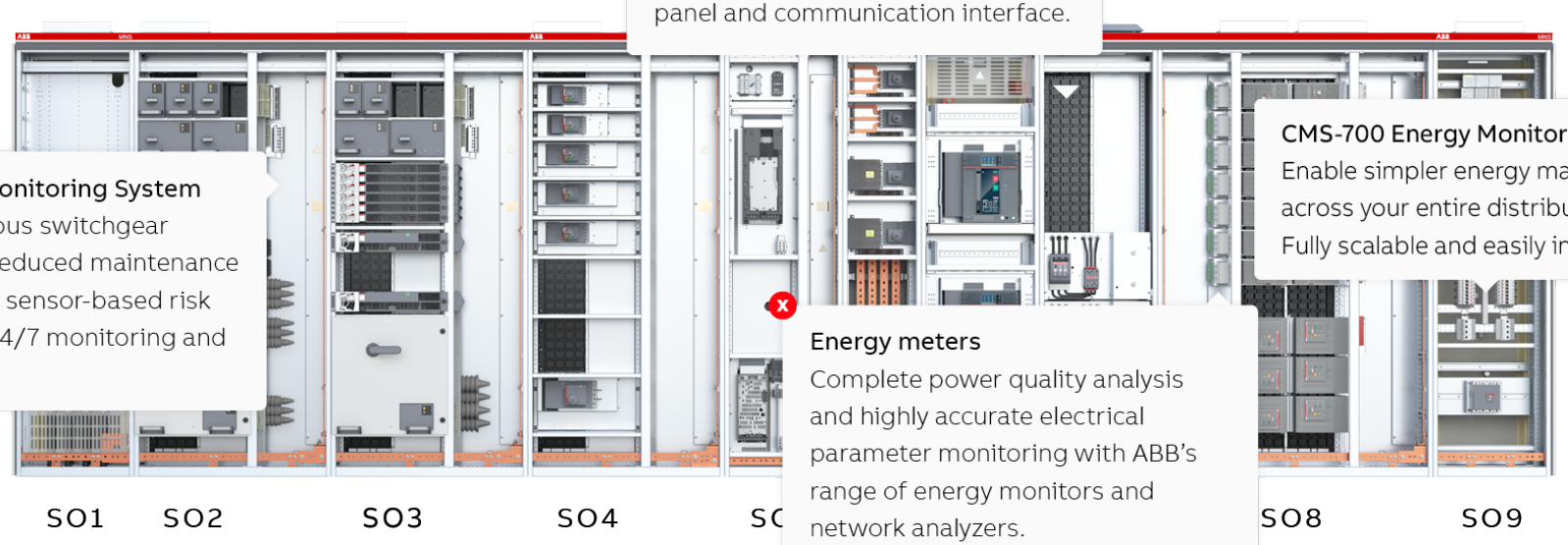


Smart Power Factor Controller
Advanced control, measuring and monitoring for automatic capacitor banks, access through single touch panel and communication interface.

Temperature Monitoring System
Ensure continuous switchgear operation and reduced maintenance costs with early sensor-based risk detection and 24/7 monitoring and analytics.

CMS-700 Energy Monitor
Enable simpler energy management across your entire distribution board. Fully scalable and easily integrated.

Energy meters
Complete power quality analysis and highly accurate electrical parameter monitoring with ABB's range of energy monitors and network analyzers.

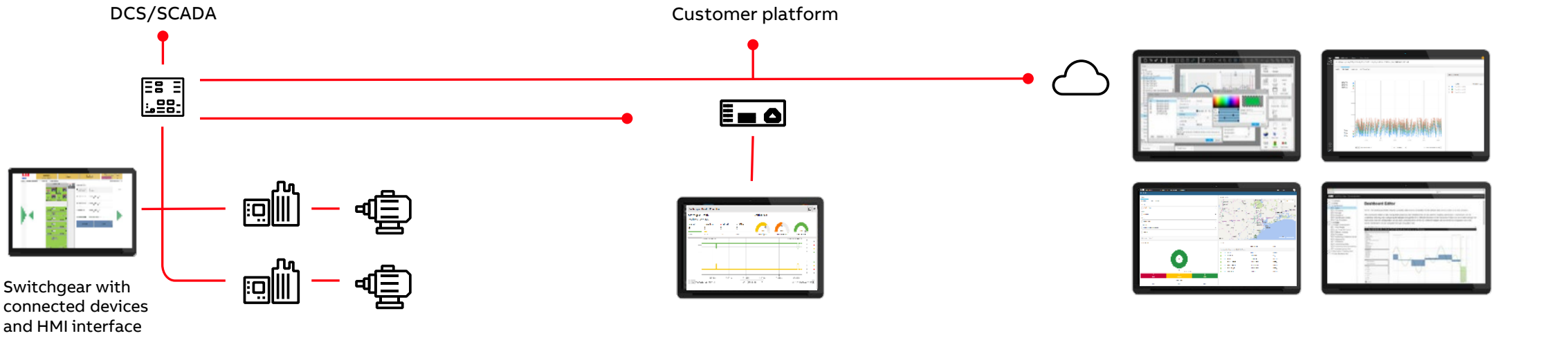
Low-voltage Switchgear Digital and ABB Ability

Three major pillars

LVS Digital

ABB Ability™ Condition Monitoring (CMES)

ABB Ability™ Energy Manager (EAM)



- Digital Gateway and line-up HMI MView to access all devices in switch room
- CMES Edge device collects, stores and analyzes data
- Makes them available on-premise and ready to connect to the cloud

On premise: ABB Ability CMES

- Condition health index
- Real time data, alarm and event display
- Condition monitoring and reporting
- and optional OPC UA connectivity to customer platforms or private clouds

On-cloud: ABB Ability Energy Manager (EL)

- Determining future conditions across sites
- Further data gathering from additional sources
- Including data beyond electrical values
- or connectivity to ABB Ability Genix (PA)

ABB Ability™ Condition Monitoring for electrical systems (CMES)

Identify & manage problems before they occur

The ABB Ability™ CMES is an innovative on-premise monitoring platform that allows you to monitor and manage electrical distribution systems in real time.

Meeting traditional challenges

- Reducing OPEX & CAPEX
- Reducing unplanned downtime
- Increasing availability & reliability
- Maximizing safety

Creating digital opportunities

- Future proofing with simple upgrade management
- Data analytics supporting remote diagnostics
- Lowering cost of ownership with optimized power management
- Process optimization. Enabling predictive maintenance
- Optimal sustainability with asset management
- Robust response to climate change by optimizing efficiency & power usage

The ABB team
Your partner for success

At ABB, it is our talented and dedicated team that makes the difference. From the initial consultation to ongoing support after installation, our experts are there to ensure your projects are successful.

- Highly qualified professionals with extensive experience in energy distribution and switchgear technology located all around the globe
- We emphasizes customized solutions, tailoring each project to meet specific customer requirements and goals.
- Using standardized manufacturing processes across our global locations, we ensure large capacity, high-quality, consistent products, fast response to demand, and quick delivery times.
- Comprehensive customer service includes planning, engineering, manufacturing, installation, training, and maintenance to ensure optimal system performance.
- Aftermarket support offers spare parts, upgrades, and modernizations, along with service contracts for continuous assistance.
- ABB is committed to being a reliable partner, providing the tools and support necessary for customer success in every project.

Segment tailored offering

Data Center

Challenges

- Ensuring maximum availability to meet customer demand
- Meeting the demand for scalable and flexible infrastructure, consider space constraints and power density
- Ensuring suppliers capacity and global coverage
- Sustainability and reducing carbon footprint

MNS Solution

- Front/rear access, withdrawable/fixed modules, and combined cable compartments for space-saving
- Highest quality and faster delivery through global standardized procedures
- Large manufacturing capacity and standardized operation procedures
- Local experts available 24/7 all around the globe
- With ABB Ability™, optimize switchgear operation and ensure prompt response to prevent downtime
- Online temperature monitoring enables early detection of potential failures
- Real-time energy monitoring provides insights for sustainable choices
- MNS EPD for environmental compliance and sustainability

Chemical, Oil & Gas

Challenges

- Ensuring reliable solutions for operator and plant safety
- Unplanned down times leading to production losses
- Maintaining high levels of productivity while minimizing costs

MNS Solution

- MNS proven design with highest safety and reliability gets further enhanced with condition monitoring and predictive maintenance minimizing downtime
- MNS exceeds the standards with verification and testing above the requirements and provide optimal performance in harsh conditions
- Maintenance-free bus bars and frame structure
- Online temperature monitoring of critical electrical connections for a safer working environment
- Arc fault containment for people and equipment safety
- Withdrawable design allows maintenance without affecting overall switchgear operation
- Local experts are available 24/7 all around the globe helping our customers to design even the most complex projects

Power Generation

Challenges

- Complex projects with multiple requirements and particular customer configurations
- Reliability and maximum uptime requirements
- Maintenance and upgrades of installed base
- Sustainability and reducing CO2 footprint

MNS Solution

- Experienced and knowledgeable team all over the word from design, engineering, manufacturing and testing
- Global manufacturing footprint with strong connection to local requirements and standards
- Optimize efficiency and reduce downtime with withdrawable solutions
- Early detection of abnormal conditions with CMES condition monitoring to enable predictive maintenance and remote diagnostics
- Lifetime expansions and interchangeability with latest generation compatible with older versions
- Real-time energy monitoring provides insights for sustainable choices
- MNS EPD for environmental transparency and sustainability

Process Industry

Challenges

- Meeting escalating standards for reliability and productivity
- Safety requirements for personnel and equipment to mitigate risk associated to workforce changes
- Reduced footprint for space and cost optimization
- Committing to sustainability and reducing overall carbon footprint
- Reduce operational costs and downtime

MNS Solution

- Maximum availability and reliability to minimize unexpected downtime losses
- Fixed and Plug-in versions to fit all sort of applications
- Increased safety with temperature monitoring of critical electrical joints
- Maintenance free for busbars and frame structure to prolong service life and reduce associated costs
- Condition monitoring CMES to provide predictive maintenance and diagnostics to optimize operational costs
- Unlocking your facility’s data increases transparency and reveals opportunities for improving sustainability measures

Marine and Offshore

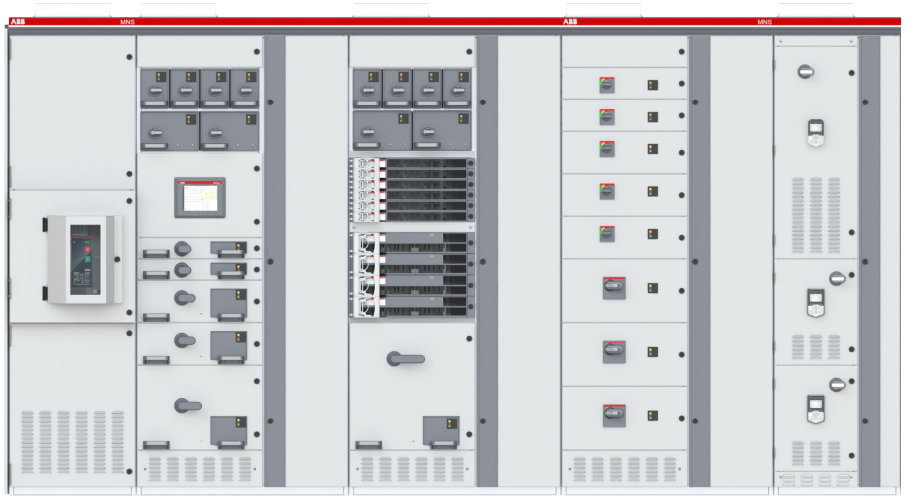
Challenges

- Responding to trends shaping the industry: HVDC offshore links, unmanned platforms and propulsion systems
- Compact Solutions to fit into vessels and platforms
- Unmanned Platforms require remote operation and supervision
- Highest reliability to avoid power interruptions on remote and critical operations

MNS Solution

- Fully tested and Certified for marine applications and harsh environments
- Flexible design provides alternatives to accommodate to reduced spaces
- Increased safety with temperature monitoring of critical electrical joints
- Enabling remote operation with smart control architecture
- Health diagnose with CMES to provide predictive maintenance and remote diagnostics

MNS Low Voltage Switchgear
Power with purpose



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Talk to us

CONTACT


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