Re-inventing the future of MV operations

MC**Set** Active, a new generation
of natively connected MV switchgear

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Life Is On | Schneider Electric

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An innovative solution for customers in the following sectors:

Infrastructure

Utilities

Data Centers

Industry

Oil & Gas

Mining, Minerals, & Metals
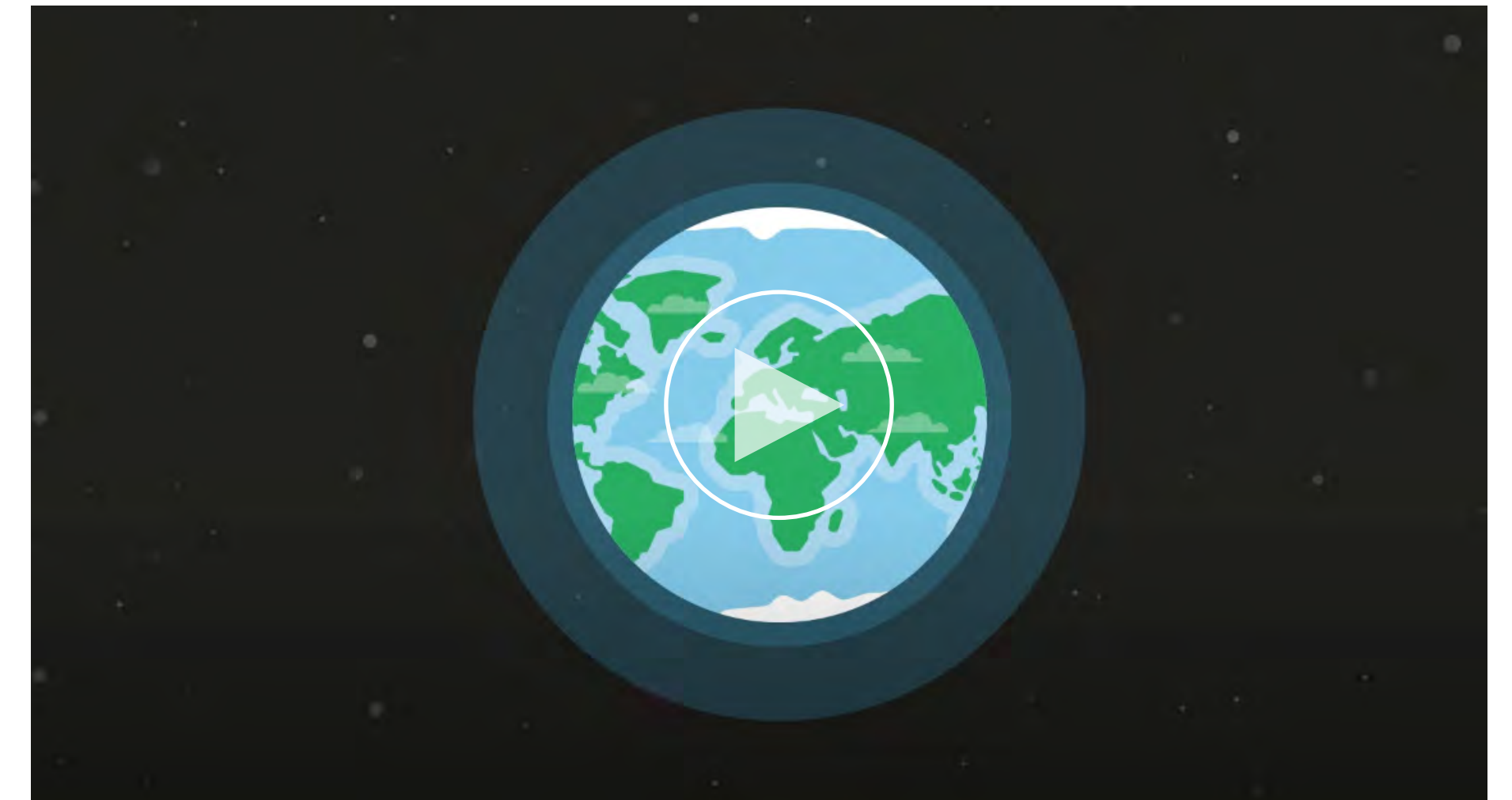
Marine

The future is digital

We are witnessing how digital transformations like the Internet of Things (IoT), the Cloud, and data analytics are making electrical applications more powerful than could have been imagined just a few years ago.

This is an exciting moment, ushering in a new energy world that offers brand-new possibilities.

For power professionals, there is an urgent need to maximize performance of crucial infrastructure. This is why, at Schneider Electric, we are committed to helping customers embrace new technologies.

Our goal?

- Zero electrical safety incidents

- Zero unplanned downtime

- Zero energy waste

- Zero cybersecurity issues

For more information about Digital Transformation, watch this video.

50M$
Lost revenue for 1 Airline due to an electrical fire at an International Airport
read more
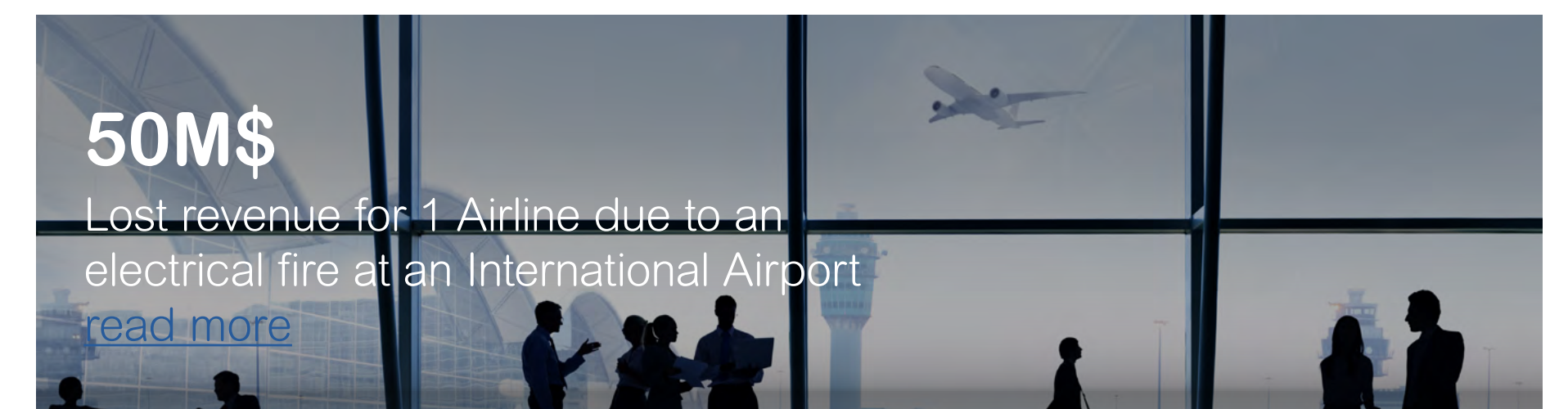
Transforming operations through connected solutions

New generation MV switchgear will help you simplify and transform your operations from day one, with convenient time and cost savings.

How?

It gives you around-the-clock access to product information and the ability to perform actions from anywhere. With paperless asset management you can access drawings, operation manuals, and more, any place, any time.

Digital switchgear with integrated health monitoring helps you move from time-based to condition-based maintenance.

Because maintenance can become predictive, the result is better-maintained equipment that lasts longer. Of course, more durable, longer lasting equipment also reduces Total Ownership Costs (TOC) dramatically.

Designed according to the latest cybersecurity regulations and guidelines, new-generation equipment helps with data security.

Digital operations, meanwhile, give you remote access to live equipment from a greater distance—and that means reduced risks.

Introducing MC**Set** Active

Natively connected for next level reliability

Enhanced safety
MCSet Active now embeds a set of comprehensive features like remote controlled circuit breakers, remote controlled earthing switches and internal arc flash detection, all dedicated to increase the safety of operators.

Resilient
MCSet Active benefits from more than 50 years of experience in medium voltage switchgear and in-house key component design. MCSet Active has been installed worldwide in various environments, still providing proven and reliable power in the harshest of conditions.

Simpler
MCSet Active architecture has been designed to accommodate a diverse range of installation requirements and simplify operations to enable quick actions for service continuity. With the help of the digital logbook, you can get simpler access to all equipment related document in a user-friendly manner.
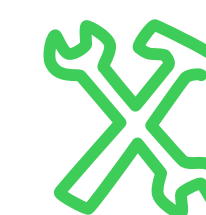
Efficient
Accommodating circuit breakers, contactors, metering or earthing devices in compact cubicles saves space. Combined with native cloud connectivity, you can operate and monitor equipment from a greater distance, with condition-based maintenance and powerful insights, anywhere, anytime.

Digital components and tools

MCSet Active sets a new standard with natively digital features to simplify asset management and daily operations.

Every MCSet Active features a unique digital environment that can be accessed via the QR code link located on the front of the equipment.

Scalable monitoring and control features can be combined with cloud-connected digital services — making sure you get the very best performance from your equipment.

Internal arc detection
Optical sensors allowing the relay to provide fast internal arc clearance decreasing operator and equipment risk, while reducing equipment damage in case of internal arcs.

Thermal monitoring
Wireless thermal sensors to help detect temperature anomalies prompting diagnosis of potential faults, reducing downtime and fire risks.

Environmental monitoring
Wireless humidity sensors to monitor environmental impacts, helping detect accelerated aging and optimizing maintenance costs.

Partial discharge monitoring
Optional expert driven Service to continuously detect abnormal activity in switchgear and cable terminations
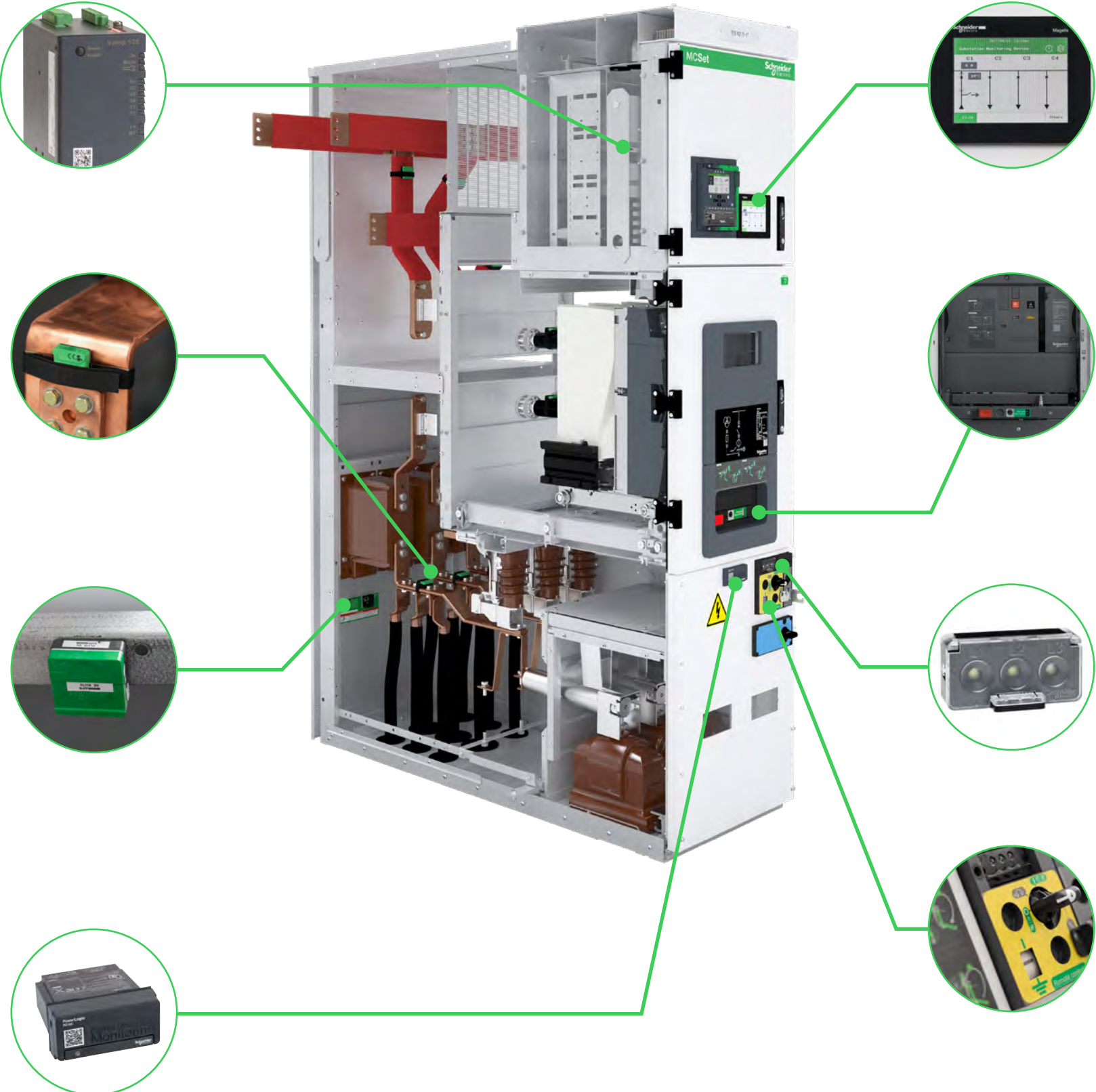
Circuit breaker monitoring
Monitoring of the circuit breaker's wear and tear for preventive maintenance.

Remoted controlled circuit Breaker
Selectable on circuit breaker and auxiliary device compartments. (VT, CPT)

Voltage Detection & Indication
Latest edition self-powered detection of live voltage in MV switchgear

Remoted controlled earthing switch
Operate live equipment from a smart device or HMI to maintain a greater working distance.

The Digital Logbook, every document at your fingertips

MCSet Active gives you access to a Digital Logbook with EcoStruxure™ Facility Expert, where you can find all the documents you'll need during manufacturing, installation, operation, and maintenance—from anywhere.

Using the Digital Logbook, records, product information, and project files can be shared easily with your professional partners for easier organization and collaboration within a paperless environment on one cyber-compliant platform.

Throughout your equipment's life-cycle, your Digital Logbook gives you instant access to view, upload and share many types of product, or project-specific files:

- User manuals
- Design and Single-line diagrams
- Settings files
- Factory and site acceptance tests
- Spare parts lists
- Maintenance records and schedules

For more information about the Digital Logbook with EcoStruxure™ Facility Expert could improve your operations watch this video.

Active connectivity for 24/7 business that stays on

Reduce operational risks with future ready, embedded connectivity

MCSet Active comes with in-built digital tools and smart monitoring capabilities, helping to mitigate both, facility risk and risk to staff.

Digital control features such as remote racking for circuit breakers mean users can revolutionize the way they work with live equipment. Operations and maintenance can be performed through the HMI or smart device from a greater working distance.

Comprehensive status and health reports are provided through a dedicated switchgear HMI, with additional tools and apps which allow users to detect incidents faster. Taking things to the next level, native equipment sensors and technology enable remote inspections including operations without shutdown.

MCSet Active has been designed to help reduce risks. Its compartmentalized design reduces hazards. Proven over many years, the standard product uses a spring-actuated mechanism and vaccum interruption*, meaning no changes to existing operating processes.

* Higher ratings achieved with optional EvoPact LF circuit breaker.

What does this mean for you?

For specifiers: smart features so customers can operate with decreased risks.

For facility managers: help protect personnel and reduce risks.

For site owners and business managers: achieve business continuity.

For panel builders: best-in-class switchgear helps users enhance operations.

Simplify day-to-day operations and reduce operational costs

Any new technology requires change. However, we have designed MCSet Active to be as intuitive as possible in order to simplify your change over process and enhance facility productivity. The digital user experience has been simplified across the board.

For example, embedded sensors provide continuous health information from real-time measurements rather than calculations, enabling users to perform their daily tasks without shutting down the equipment. This represents the start of a powerful transition towards predictive maintenance.

The Digital Logbook tool increases efficiency too, offering digital, paperless delivery and easy access to all project records, including documentation, maintenance reports, drawings, support, etc.

Finally, since space is always at a premium, MCSet panels feature a narrow width of just 570mm, helping customers to optimize their facility footprint and gain back space for business operations.

What does this mean for you?

For specifiers: improve customer satisfaction with more compact designs and embedded condition monitoring.

For facility managers: boost overall productivity and give space back to operations.

For site owners and business managers: enable digital transformation and reduce both operational costs and the costs associated with real estate and E-House.

For panel builders: deliver compact solutions using a modular, partner-ready design with the latest technology.

Embrace more resilient operations

As a professional, you want equipment that you can rely on, equipment that will deliver results while boosting resiliency. With MCSet Active, you can harness a native switchgear model capable of all this and more.

With its robust design and condition monitoring capabilities, MCSet Active helps to lengthen maintenance cycles above industry standards. It is tested to 10,000 breaker open/close operations at rated current and 2,000 breaker racking operations. Circuit breaker operations can be completed remotely or from outside of the arc-flash zone.

MCSet Active provides comprehensive monitoring of circuit breaker health using thermal, environmental and protection relay data. Together this real-time equipment health can be combined with the latest digital services (EcoStruxure Service Plan) to schedule maintenance based on real condition, and reduce unplanned downtime with quicker issue detection and faster resolution.

Lastly, but just as importantly, the modular architecture of MCSet Active allows for easy integration. Upgrading is simple, with sensor connectivity added as needed, and can be delivered fully assembled or ready to customize. Of course, MCSet Active meets industry cybersecurity standards, with all digital components compliant with ISA/IEC 62443-Security Levels 1 and 2.

What does this mean for you?

For specifiers: get the performance and durability you need for more resilient operations.

For facility managers: keep your plant running with less downtime.

For site owners and business managers: operate above industry standards with switchgear designed to last longer than previous generations.

For panel builders: differentiate yourself with our easy-to-integrate solution with up to 5x longer maintenance cycles and 3x more operations than industry standards.

Scalable and modular to meet your needs

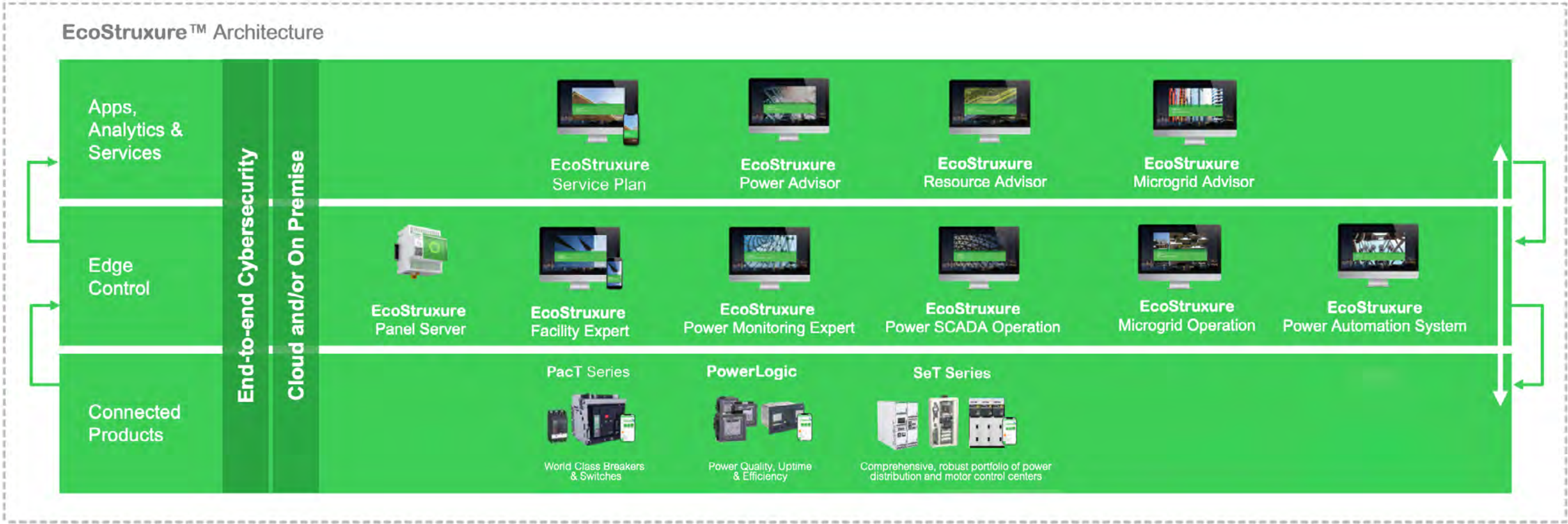# MC**Set** Active and EcoStruxure™ Power

IoT-enabled MCSet Active switchgear is a "Connected Product," part of EcoStruxure™ Power. The open, interoperable IoT-enabled system architecture and platform helps maximize the performance of critical infrastructure. This helps enhance:

Electrical safety. EcoStruxure™ Power enables augmented visibility into the conditions of the electrical distribution, helping facility teams to protect staff and occupants from electric fires, shocks, or arc-flashes.

Power availability. Because business continuity and performance are critical in the digital age, EcoStruxure™ Power enhances operations to avoid downtime and improve the reliability of the electrical system.

Efficiency. Energy and labor represent the largest variable cost for almost all organizations. With EcoStruxure™ Power, you can improve energy performance, operational efficiency, and the sustainability of your facilities.

EcoStruxure™ Power

EcoStruxure™ Architecture

| Apps, Analytics & Services | | EcoStruxure Service Plan | EcoStruxure Power Advisor | EcoStruxure Resource Advisor | EcoStruxure Microgrid Advisor |

| Edge Control | EcoStruxure Panel Server | EcoStruxure Facility Expert | EcoStruxure Power Monitoring Expert | EcoStruxure Power SCADA Operation | EcoStruxure Microgrid Operation | EcoStruxure Power Automation System |

| Connected Products | PacT Series — World Class Breakers & Switches | PowerLogic — Power Quality, Uptime & Efficiency | SeT Series — Comprehensive, robust portfolio of power distribution and motor control centers |

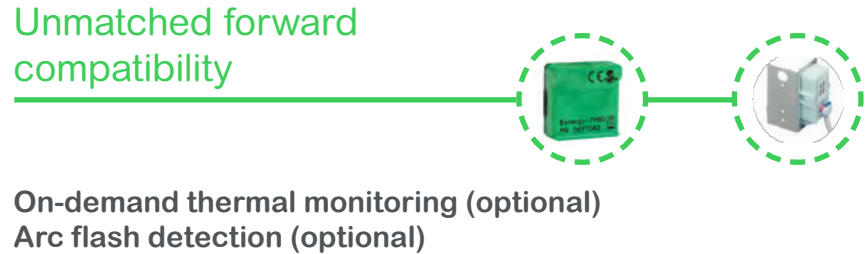End-to-end Cybersecurity — Cloud and/or On Premise

Scalable connectivity for the perfect fit

Designed to be modular, flexible, and easily upgraded, MCSet Active comes in a range of options. From the standard MCSet to MCSet Active, or MCSet Active Plus, sensors, monitoring, and control features are scalable and available according to your facility's needs. Paired with EcoStruxure Service Plan for optimized maintenance of your critical equipment and ultimate visibility of asset health and lifespan.
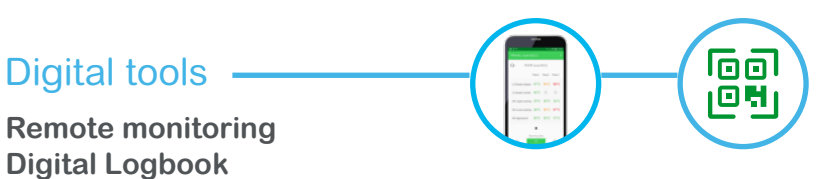
MCSet

Future-ready with optional monitoring using your mobile device, optional arc-flash detection as well as fast access to documentation through the Digital Logbook, accessed via QR code.

Digital tools

Remote monitoring
Digital Logbook

Unmatched forward compatibility

On-demand thermal monitoring (optional)
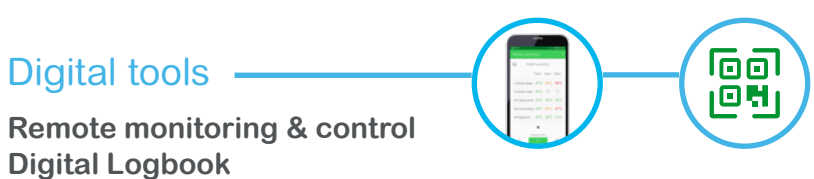Arc flash detection (optional)

MCSet Active

React faster to help prevent unplanned downtime with 24/7 cloud connectivity and **essential condition monitoring** using scalable features.

Digital tools

Remote monitoring
Digital Logbook

Essential monitoring

Arc-flash detection (optional)

Condition monitoring alerts
Thermal monitoring
Environmental monitoring

MCSet Active Plus

Comprehensive monitoring and control of switchgear and breaker. Health diagnosis and remote alerts, as well as digital operation and racking, through your local HMI or mobile device.

Digital tools

Remote monitoring & control
Digital Logbook

Comprehensive monitoring

Arc-flash detection (optional)

Condition monitoring alerts
Thermal monitoring
Environmental monitoring
Partial discharge monitoring
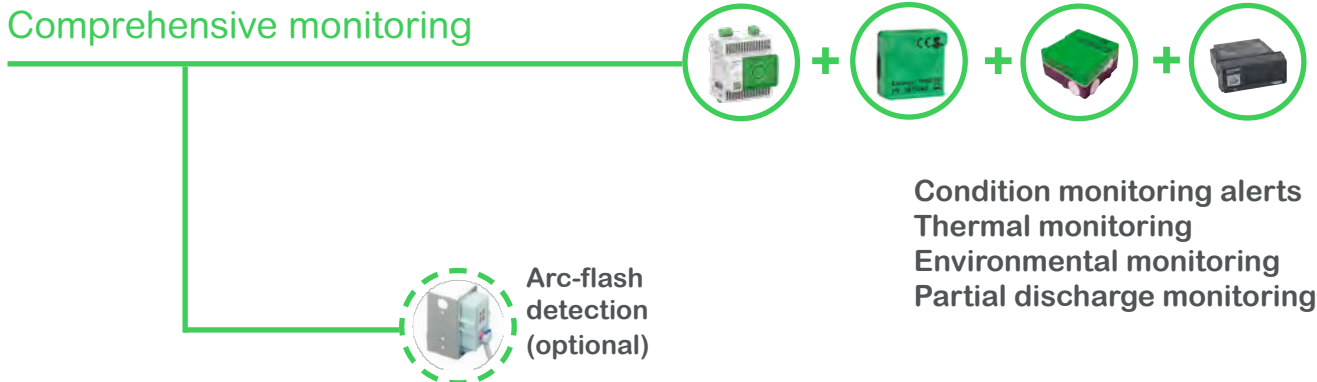
Explore EcoStruxure™ Service Plans

The performance of MCSet Active can be optimized with the right service plan, enabled by condition-based maintenance to further reduce downtime of your facility.

From essential support to the most advanced expertise, EcoStruxure™ Service Plans are tailored service contracts that combine EcoStruxure's™ digital expertise with 24/7 remote and on-site support to provide condition-based and predictive analytics that allow you to perform dynamic maintenance.

Find out more

*These percentages are non-contractual and are based on Schneider Electric's experience and expertise for the main root cause of electrical downtime risks observed and for which Schneider Electric has developed solutions.

EcoCare Services Membership helps you:

Reduce maintenance activities and downtime by up to 40%* by performing dynamic maintenance
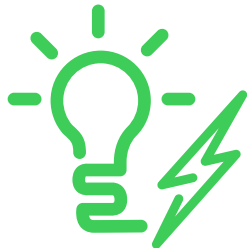
Reduce unplanned downtime probability by up to 75%* by combining environment and thermal monitoring

Extend your asset lifecycle by 25%*, reducing your CO_2 footprint and complying with the latest standards and regulations

Faster response times & exclusive access to best-in-class experts and support, remotely and on-site 24/7

Detect and anticipate potential issues and schedule maintenance when needed with condition-based remote monitoring and analytics

Get maintenance recommendations and insights to optimize your operations while making it more resilient and sustainable

# Enhance your service plan with data

When you couple MCSet Active with EcoStruxure™ Service Plans and their digital capabilities, you also get access to EcoStruxure digital platform.

This allows you to evaluate live data from your critical connected assets and apply advanced analytics to identify potential threats.

With this data, you gain powerful insights on real condition of equipment and the power to take action yourself, or to discuss further. Experts in Schneider Electric's Connected Services Hub can support your critical decision making, or provide on-site expertise to assist with further diagnosis.

Explore how EcoStruxure Service Plans can improve your visibility today.

Learn more
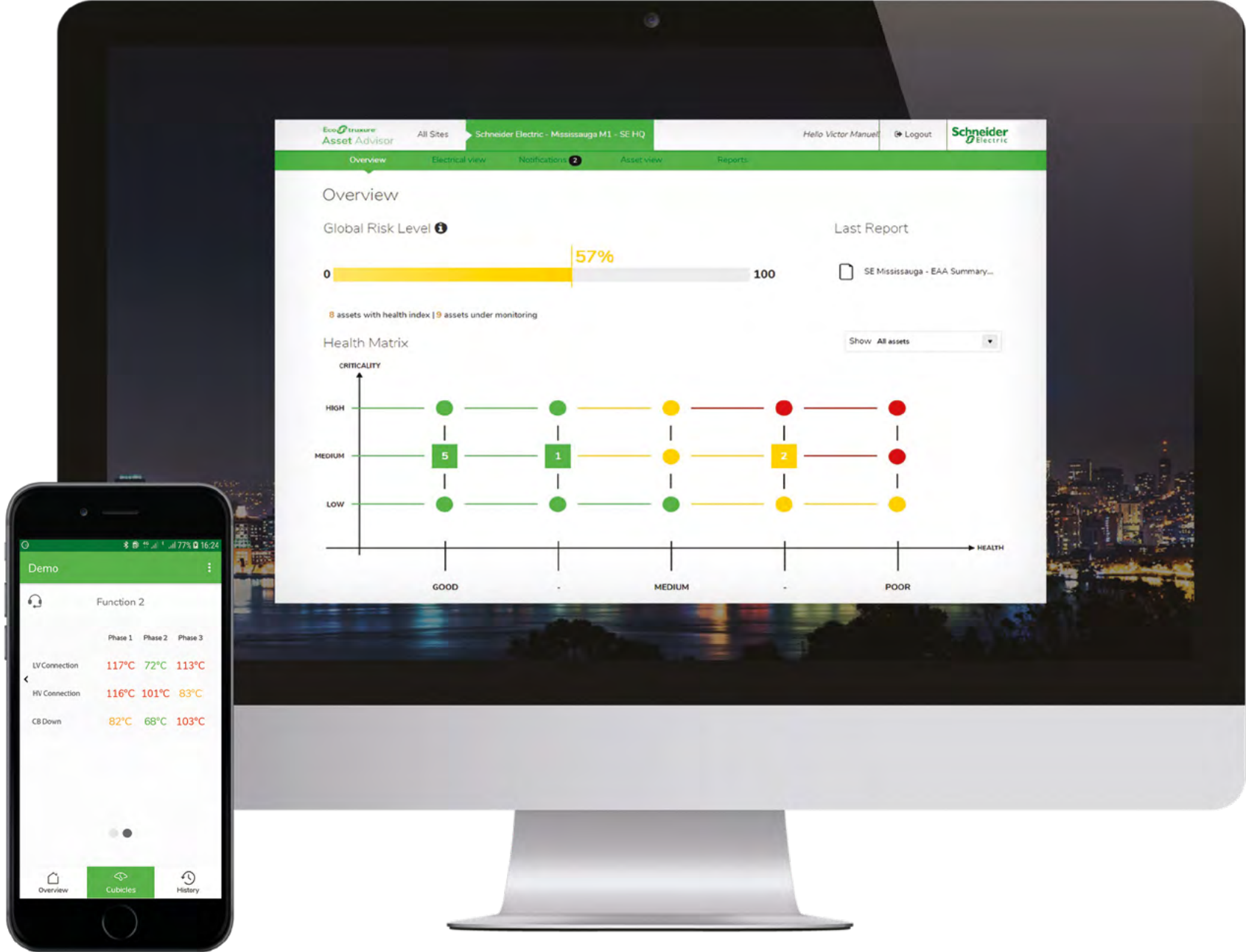
Technical specifications

General characteristics for MCSet Active. Normal MV operating conditions according to IEC 62271-200 and IEC 62271-1

Rated voltage						
	Ur	(kV)	7.2	12	17.5	24
Rated insulation level						
Power frequency withstand voltage 50 Hz - 1 min	Ud	(rms KV)	20	28	38	50
Lightning impulse withstand voltage 1.2/50 µs	Up	(kV peak)	60	75	95	125
Rated normal current and maximum short time withstand current						
Function unit with circuit breaker						
Short time withstand current	Ik max.	Ik/tk (kA/3 s)	25	25	25	25
			31.5	31.5	31.5	31.5
			40*	40*	40*	
			50*	50*		
Rated current	Ir max. busbar Ir	(A)	4000	4000	4000	2500
Rated current	Ir CB Ir	(A)	630	630	630	630
			1250	1250	1250	1250
			2500	2500	2500	2500
			3150*	3150*	3150*	
			4000*	4000*	4000*	
Function unit with fuse-contactor						
Short time withstand current (prospective value)	Ik max	(kA)	50	50		
Rated current	Ik max	(A)	250	200		
Function unit with switch-fuse combination (DI cubicle)						
Rated current according to the fuses installed, see documentation						
Rated current	Ik max ≤	(A)	200	200	200	200
Degree of protection						
IP3X IP4X IPX1 IPX2						

For full specifications and technical information, click here to view the MCSet Active catalog.

[Discover MCSet Active Catalog](#)

* Higher ratings achieved with optional EvoPact LF circuit breaker.

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