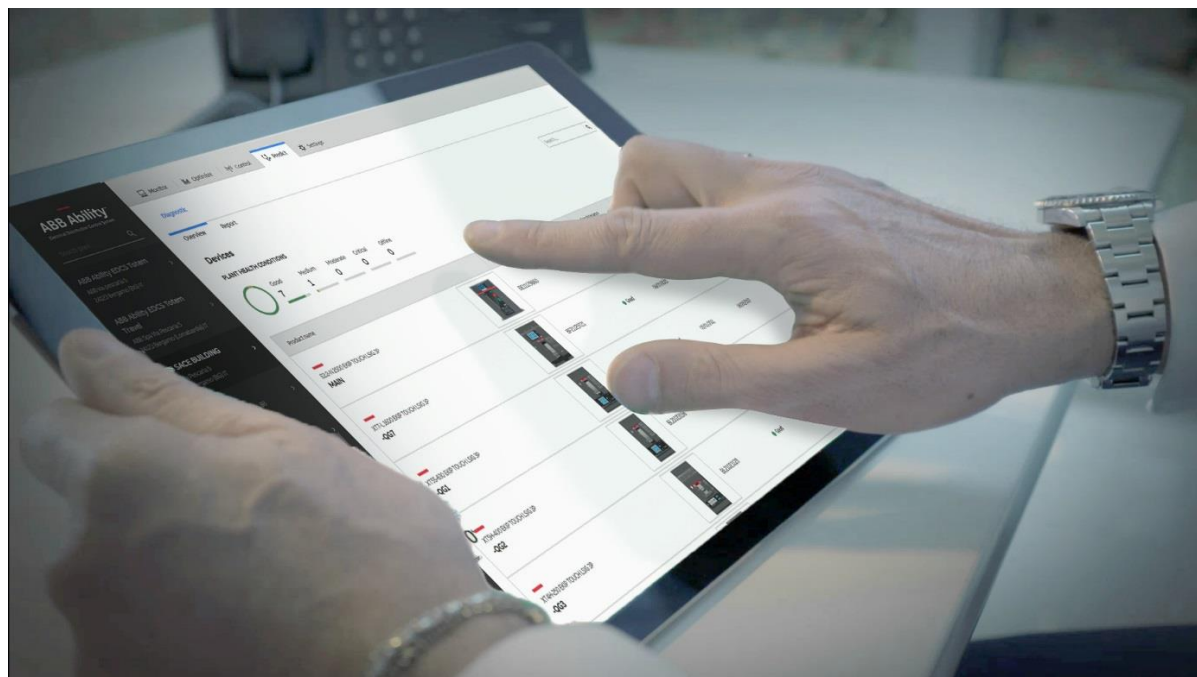

Smart Upgrade & Update.

The digitalization of obsolete electrical systems is now possible thanks to ABB Ability™ digital solutions



It is obvious to everyone that the digital revolution has significantly increased the frequency with which new technologies, new functions and new solutions become available, for any market sector.

For this reason, a switchgear will no doubt be involved in more than one instance of hardware and software modernization in the course of its life cycle – a result of the innovations born of the continuous search for solutions that are ever more affordable, simple and ready for immediate use.

The useful life of a switchgear, understood as a power and mechanical component, is around 35-40 years. Within this most recent timespan, real technological revolutions have occurred, with an impact felt above all in the field of electronic components.

Over the last 10 years, particularly in the electricity sector, we have been witnessing the introduction of equipment with increasingly advanced electronics, cloud platforms for managing plant and energy parameters, as well as tools allowing predictive maintenance to be carried out on devices.

ABB solutions for technological upgrading of low voltage electrical distribution systems are simple to apply on any existing installation, allowing the introduction of new technologies to meet the demands for thorough energy management, as well as the needs of evolving installations, while avoiding the need to invest in totally new switchgears or components and safeguarding the initial investment.

For low voltage, ABB has developed three upgrade methods: Light, Medium and High.

1. Light Solution

The new ABB products feature a design based on the concept of continuous updating. In fact, in the presence of an Emax 2 or Tmax XT series circuit-breaker, it is possible to install the plug & play Ekip modules directly on the appliance, with an intervention that does not require the interruption of the service – in other words: **zero downtime**.

Thanks to these Ekip modules, new digital functions are immediately available and can be activated via the ABB Ability™ Marketplace online platform, including Predictive Maintenance, Automatic Transfer Switching (ATS), and Power Controller, among others.

2. Medium Solution

This solution gives access to the ABB Ability™ Marketplace online platform via Ekip UP, an external digital unit that can be connected to a circuit breaker or a disconnecter – an installation with a **minimal impact on the electrical system**.

Ekip UP features latest generation plug-in sensors and can meet the requirements of the most modern systems through five scalable performance modes: Monitor, Protect, Protect Plus, Control, Control Plus.

The innovative digital unit, compatible with all low voltage devices (whether from ABB or not), ensures power control, protection, energy monitoring and predictive maintenance of existing switchgears via direct connection with the ABB Ability EDCS™ platform.

3. High Solution

This consists of an update of the electromechanical part of the switchgear with a solution allowing for the complete replacement of the circuit-breaker, the introduction of a latest generation electronic component (Emax 2) through the installation of a mechanical interface that can also be adapted to fit older switchgear models. In fact, solutions are available both for ABB switchgears equipped with Otomax, Novomax, Megamax, Emax and New Emax circuit-breakers, and for switchgears equipped with non-ABB components. This digital upgrade can be completed in **fast mode** through two types of procedures ("Direct Replacement" and "Cradle in Cradle") which minimize plant downtime, or through the "High Bus Retrofill" solution involving the complete replacement of the switch.

Maximum flexibility

ABB thus clearly offers – with its wide range of applications for updating obsolete systems – a high degree of flexibility in choosing the most suitable solution for modernizing and digitizing electrical systems. Furthermore, ABB

also offers similar solutions for medium voltage systems and is committed to collaborating with customers in identifying and determining the most appropriate response to meet customer demands and plant requirements. The ABB proposal is defined through an accurate analysis consisting in the acquisition of the system documentation and an on-site inspection for the verification of the technical feasibility of the upgrade.

The result gives access to all the powerful features of ABB Ability™. You can take advantage of all the Ekip certified features, such as the "All-in-One", for example, which includes the Power Management function and access to ABB Ability™ EDCS, the cloud platform for energy and electrical parameter management, which also offers the PREDICT function for predictive maintenance (more information on <https://new.abb.com/low-voltage>).