



ABB ELECTRIFICATION

IIoT for Electrical Installations

Digitally enabled devices enabling software as a service in the cloud

Paul Mimmagh

ABB Ireland

 ENGINEERS
IRELAND

REGISTERED TRAINING PROVIDER 2021



Presentation Overview

Worldwide Megatrends

A Digital and IIoT step change for Electrical Installations

The Global, European & Irish Energy Landscape

Industry 4.0 Technology to enable the Energy Revolution Grid 2.0

Software as a service for Energy & Asset Management (Subscription business model)

Communication, Connectivity and Digital Architecture

Digitise the non-digital !

Predictive Maintenance

Digital Hardware meets e-Commerce

Q&A



Worldwide Megatrends

Megatrends

Shift in global economic power –emerging economies that were growing rapidly are now in recession. Commodity prices have played a considerable role in sending these economies into reverse.

Demographic shifts - By 2030 the world's population is projected to rise by more than 1 billion. Equally significantly, people are living longer and having fewer children.

Accelerating urbanization -Today, more than half the world's population live in urban areas and almost all of the new growth will take place in lesser known medium-sized cities of developing countries.

Rise of technology - The digital revolution has no boundaries or borders. It is changing behavior and expectations as much as the tools used to deliver new services and experiences.

Climate change and resource scarcity - As the world becomes more populous, urbanised and prosperous, demand for energy, food and water will rise. But the Earth has a finite amount of natural resources!

PWC Foresight



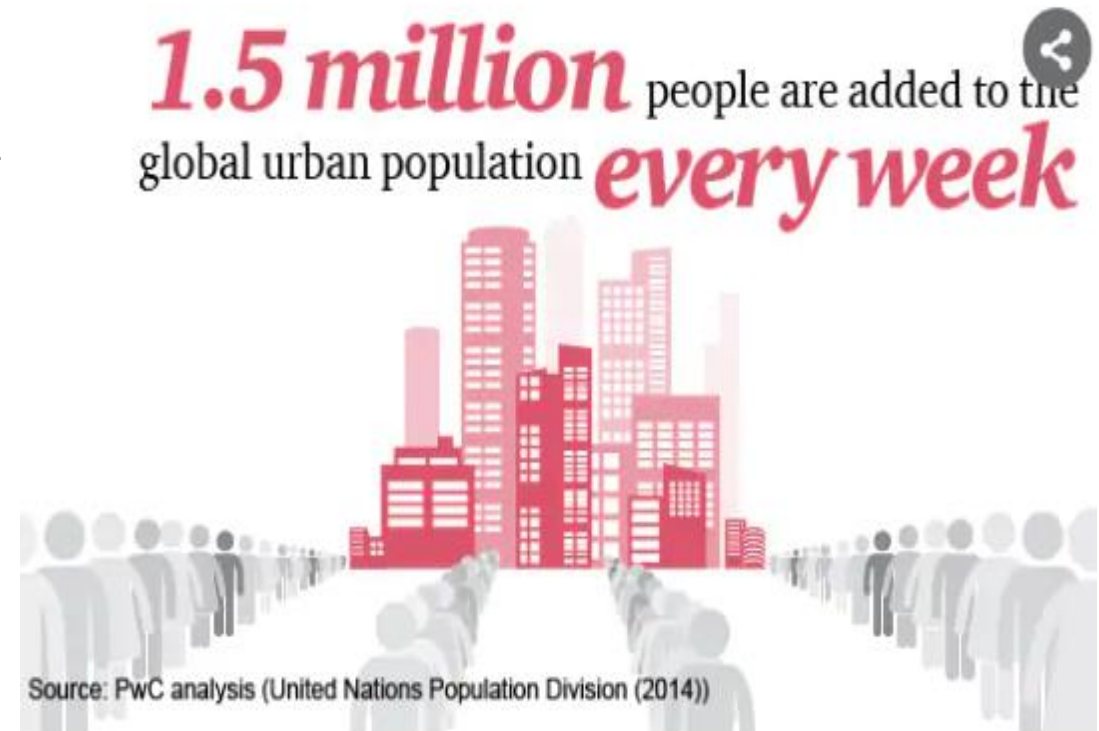
Urbanisation

Global

- Our future is set to be urban. Today, more than half of the population live in urban areas.
- A staggering 90% of this urban population growth will take place in Africa and Asia
- Rapid urbanisation placing huge demands on infrastructure, services, job creation, climate and environment
- Cities are estimated to occupy 2% of the earth's surface

UK & Ireland

- Estimated population of London 8,700,000 = 13% of the UK population
- 81% of people in the UK will be living in urban areas
- 200 million connected devices, and one in four British & Irish citizens will be shopping online – the highest number in the world
- The over 65s will represent 1/5 of the population, becoming one of the largest consumer groups with increasing healthcare needs.
- South East UK region will grow to become the second largest region after London, accounting for 15.3% of total GDP.



Digitalisation

- Digital change is constant, global and fast.
- Emerging technologies and global megatrends are colliding to disrupt both business and society.
- The digital revolution has no boundaries or borders.
- Cloud computing, big data, internet of things (IoT), artificial intelligence (AI), industry 4.0, BIM, E-Commerce are phenomenon which are disrupting how we design, manage and use buildings



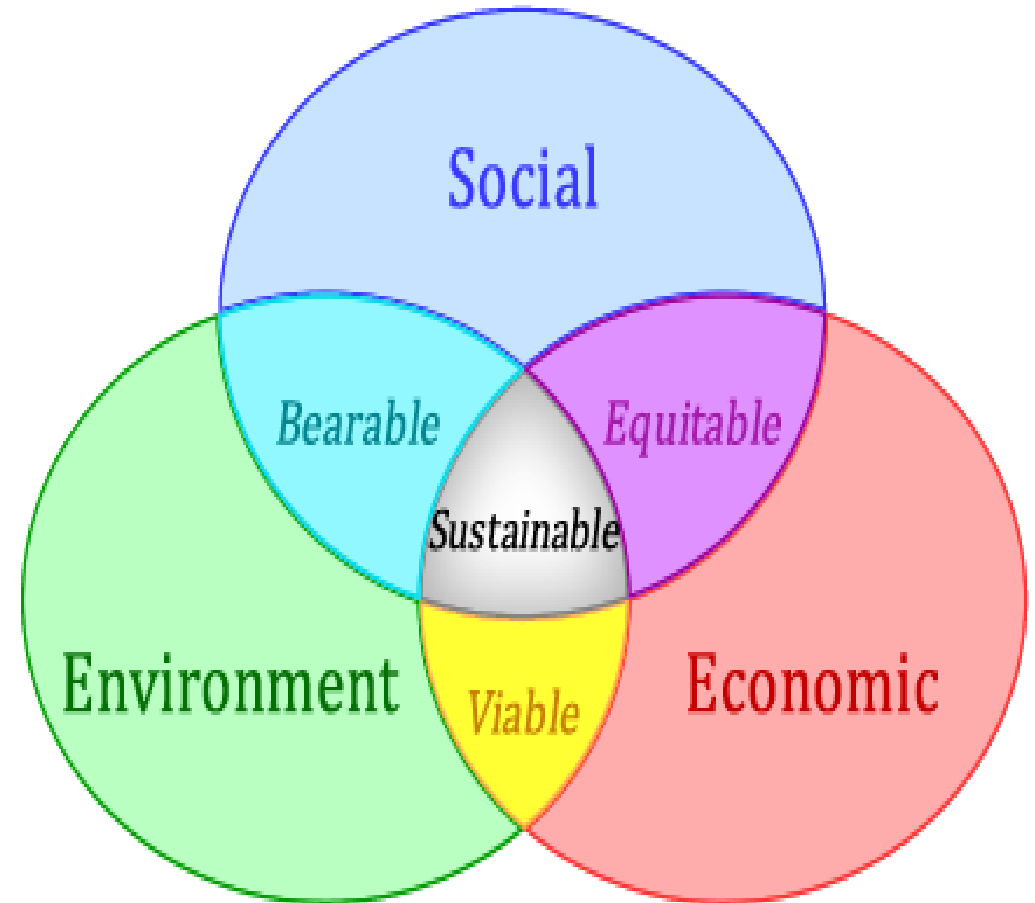
Sustainability

Definition - a process or state that can be maintained at a certain level for as long as is wanted. ...

A sustainable development as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

Sustainable development can be thought of in terms of three spheres, dimensions, domains or pillars:

- Environment
- Economy
- Society



The United Nations Sustainable Development Goals

A Digital and IIoT Step Change

We are becoming increasingly connected with each other and devices

Megatrends

Shape the future of buildings



Urbanization

70% of the world's population
will live in cities by 2050¹

UN study



Sustainability

Reducing Greenhouse Gases
Emissions by at least 40% by 2030

Paris Agreement



Digitalization

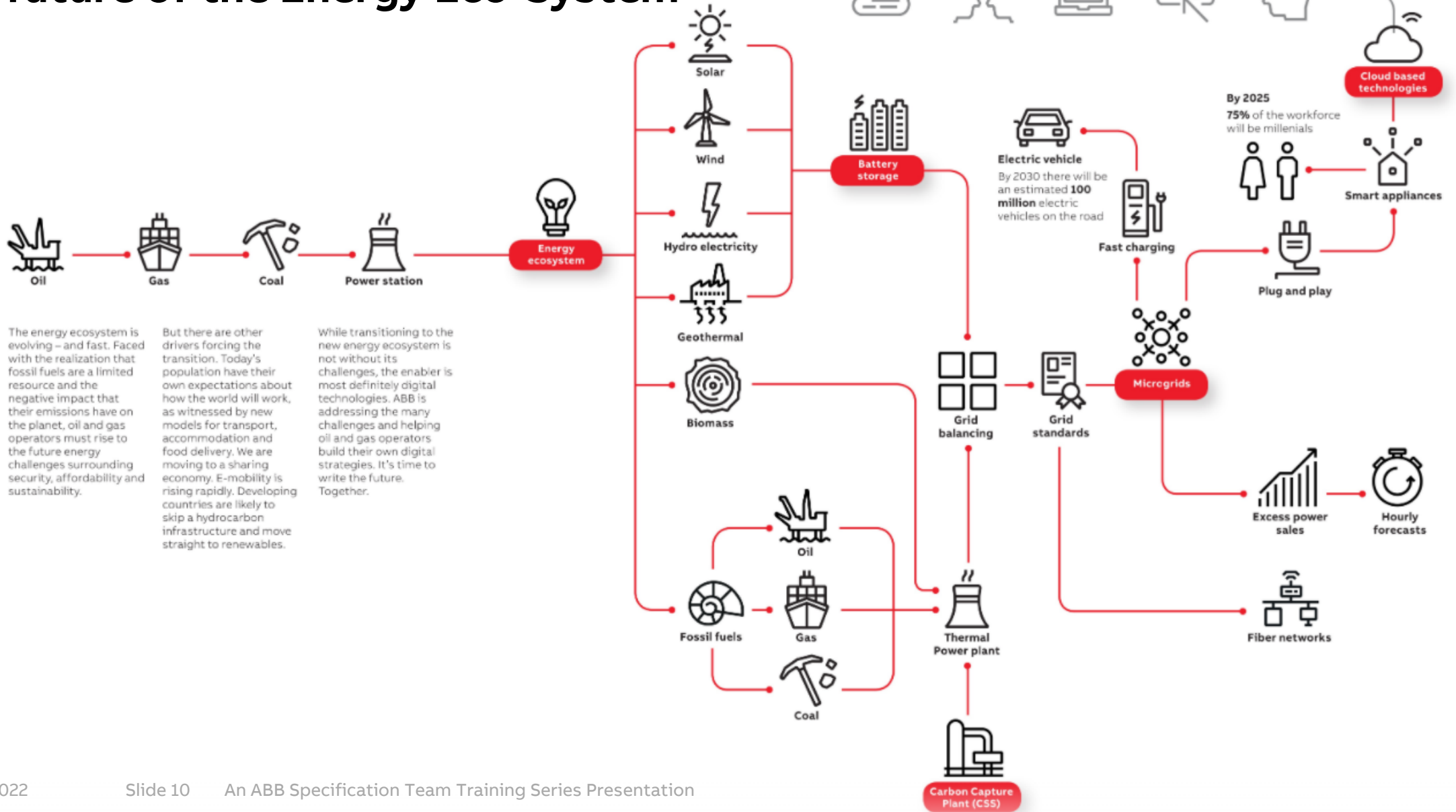
By 2020, 33bn+ internet-connected
devices will be used worldwide

Strategy Analytics study

Today

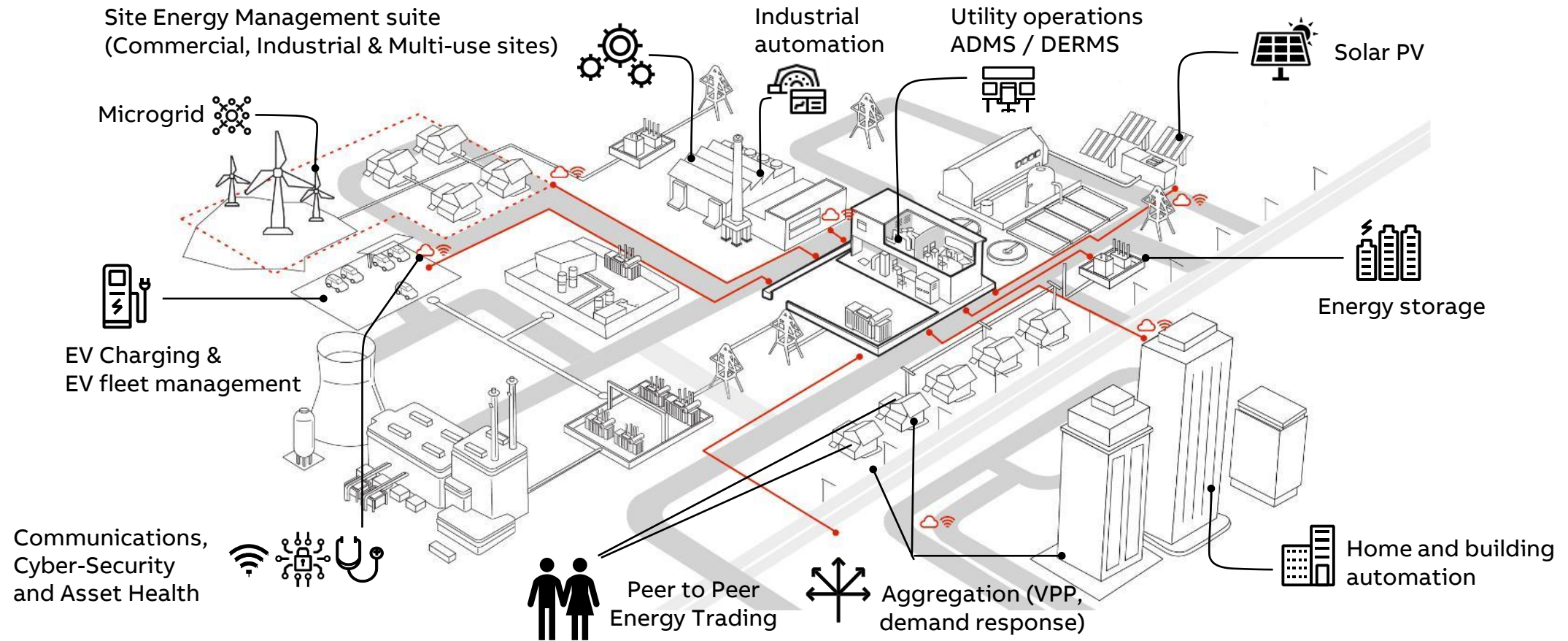
Next 25 years

The future of the Energy Eco-System



Grid 2.0 Edge Technologies enabled by IIoT and Digitally enabled devices

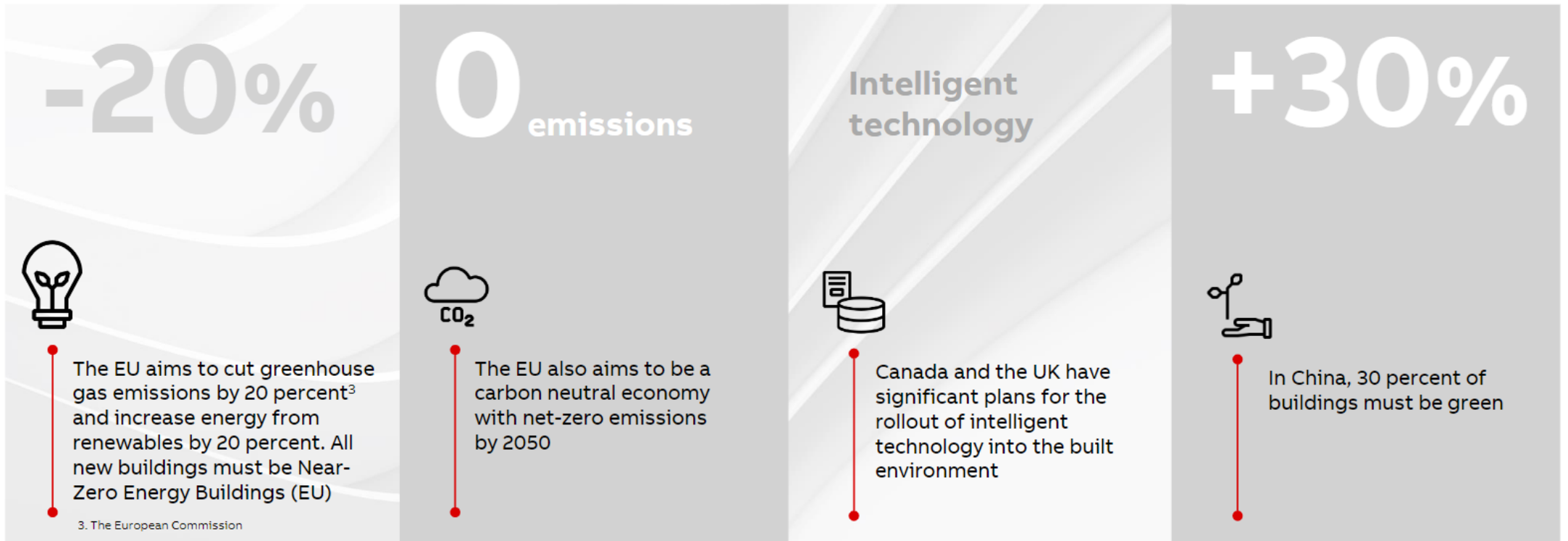
Enabling new economic opportunities while improving reliability and performance



The Global, European & Irish Energy Landscape

Regulations, Certifications, and Standards

Regulations



Certification

ISO 50001:2018 - to enable organisations to establish the system and processes necessary to continually improve energy performance, including energy efficiency, energy use and energy consumption and specifies the energy management system (EnMS) requirements.



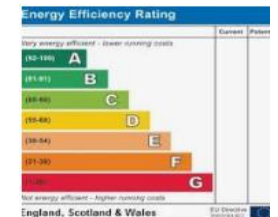
LEED (Leadership in Energy and Environmental Design) – developed by U.S. Green Building Council, an international green building certification system, providing third-party verification that a building or community was designed and built using strategies aimed at improving performance across all the metrics that matter most: energy savings, water efficiency, CO2 emissions reduction, improved indoor environmental quality, and stewardship of resources and sensitivity to their impacts.



BREEAM (Building Research Establishment Environmental Assessment Method) – developed by BRE, a leading international sustainability assessment method for master planning projects, infrastructure and buildings. It recognises and reflects the value in higher performing assets across the built environment lifecycle, from new construction to in-use and refurbishment.



Non-Domestic Energy Performance Certificate (NDEPC) / Energy Performance Certificate (EPC) - indicates the energy efficiency of building fabric and the installed heating, ventilation, cooling and lighting systems (building services). property will be given an energy-efficiency grade between A and G, with A being the best - ie most energy-efficient - and G being the worst.



Certification by Segment

Segments where improved Energy Efficiency and Energy Management is Required

Building



Commercial Building, e.g. hotels, shopping malls, retailers and chain stores

**LEED
Certification**

Public facility



Public or institutional buildings related to the tertiary sector, e.g. medical facility, sport and convention center, school

Industrial



Small-Mid size Industrial plant and Infrastructure

**ISO 50001
Certification**

Standards

IEC 60364-8-1:2019 Low-voltage electrical installations - Part 8-1:

Functional aspects - Energy efficiency - provides requirements, measures and recommendations for the design, erection and verification of all types of low-voltage electrical installation including local production and storage of energy for optimizing the overall efficient use of electricity

18th Edition (BS EN 7671:2018) New Part 8 - Section 801 Energy Efficiency - The requirements of the proposed new section aids in the meeting of requirements of Part L (Conservation of fuel and power) of the Building Regulations of England and of Wales and the conservation requirements of Scotland and of Northern Ireland.

BS EN 15804:2012+A1:2013 - gives guidance around core product category rules relating to Environmental Product Declarations (EPDs) for construction products and services

Part L of the Building Regulations (Ireland) - conservation of fuel and power - raising the energy performance of buildings and ensuring that energy-efficient fixed building services are installed.

2020 Amendment

- Switch from using CO₂ to Primary Power to measure building performance.
- Fabric First Approach, design for energy efficiency from the start.



Conservation of fuel and power	
	L
APPROVED DOCUMENT	
L1A	Conservation of fuel and power in new dwellings
L1B	Conservation of fuel and power in existing dwellings
L2A	Conservation of fuel and power in new buildings other than dwellings
L2B	Conservation of fuel and power in existing buildings other than dwellings

Renovating buildings for greener lifestyles

Delivering the green deal

EU Social Climate Fund

Social Climate Fund will support EU citizens most affected or at risk of energy or mobility poverty. It will help mitigate the costs for those most exposed to changes, to ensure that the transition is fair and leaves no one behind.

It will provide **EUR 72.2 billion over 7 years** in funding for renovation of buildings, access to zero and low emission mobility, or even income support.

In addition to homes, public buildings must also be renovated to use more renewable energy, and to be more energy efficient.

The Commission Proposes to :

- require Member States to renovate at least **3%** of the total floor area of all public buildings annually
- set a benchmark of 49% of renewables in buildings by 2030
- require Member States to increase the use of renewable energy in heating and cooling by +1.1 percentage points each year, until 2030

Ireland has Committed

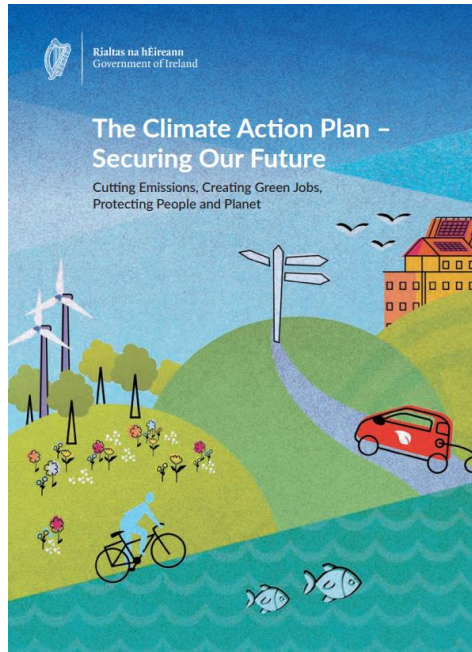
- **€31 million** is for improving energy efficiency and increasing the use of renewable energy in businesses and across the public sector

https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en#renovating-buildings-for-greener-lifestyles

Climate Action Plan

Protecting People and Planet

Irish Plan



Irish Government Targets

To meet the required level of emissions reduction, by 2030 we will:

- Reduce CO₂eq. from the sector by 51%
- Increase the improvement in energy efficiency in the public sector from the 33% target in 2020 to 50% by 2030
- Mandate public sector employers, colleges, and other public sector bodies to move to 20% home and remote working
- Introduce a Sustainable Mobility Policy in the public sector
- Replace all buses with electric vehicles nationally by 2035
- Triple the length of electrified rail on the network by 2030

Irish Government Measures to Deliver Targets

In order to achieve a 51% reduction in GHGs from the public sector by 2030:

- An overall sectoral target for schools of 51% will apply
- Each other public sector body will be assigned an individual target to meet in accordance with the methodology for measuring, accounting, reporting and recording set out below.

<https://www.gov.ie/en/publication/6223e-climate-action-plan-2021/>

Industry 4.0 Technology to enable the Energy Revolution Grid 2.0

A snapshot of industry 4.0 in the Energy Sector

The Distribution System

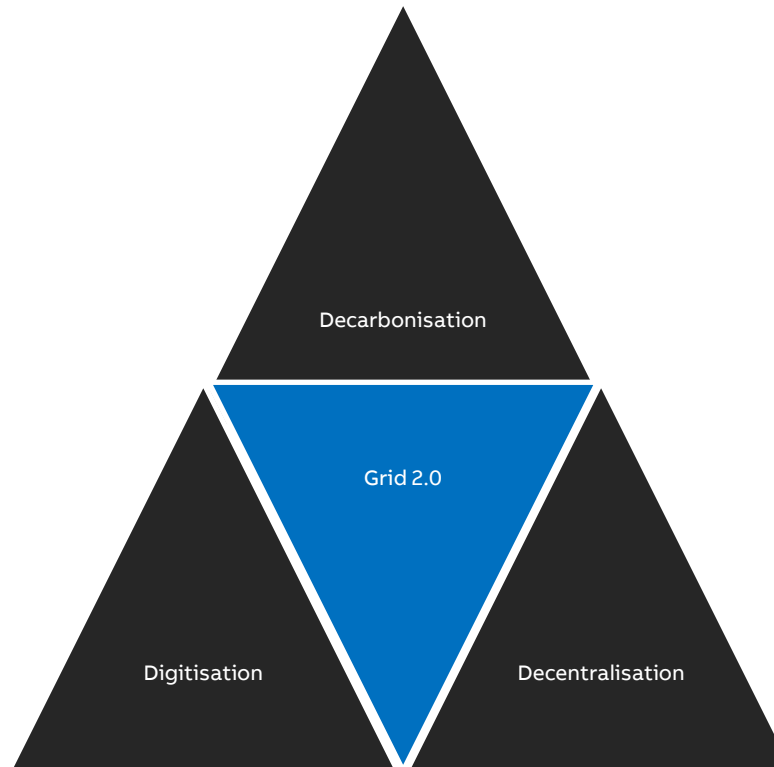
Facilitating an Active Distribution Network

https://www.esbnetworks.ie/docs/default-source/publications/consultation-on-stakeholder-engagement-report-for-2018.pdf?sfvrsn=210c05f0_0
https://www.esbnetworks.ie/docs/default-source/default-document-library/esb-networks-ev-report.pdf?sfvrsn=adf805f0_0

World Leading Distribution System



The Energy Revolution Driven by the 3 D's



Facilitation of the Smart Grid to the End User

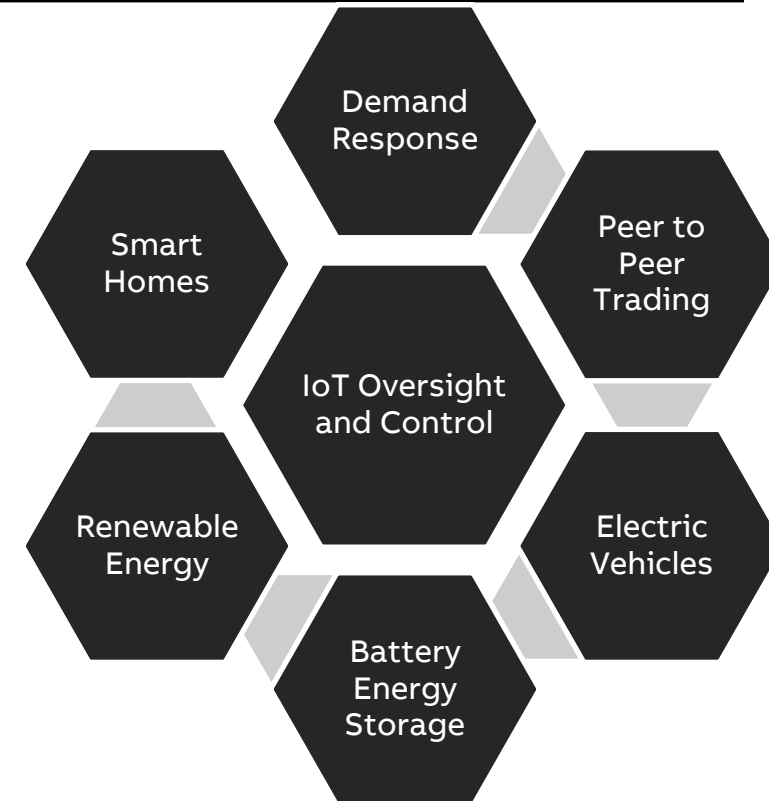
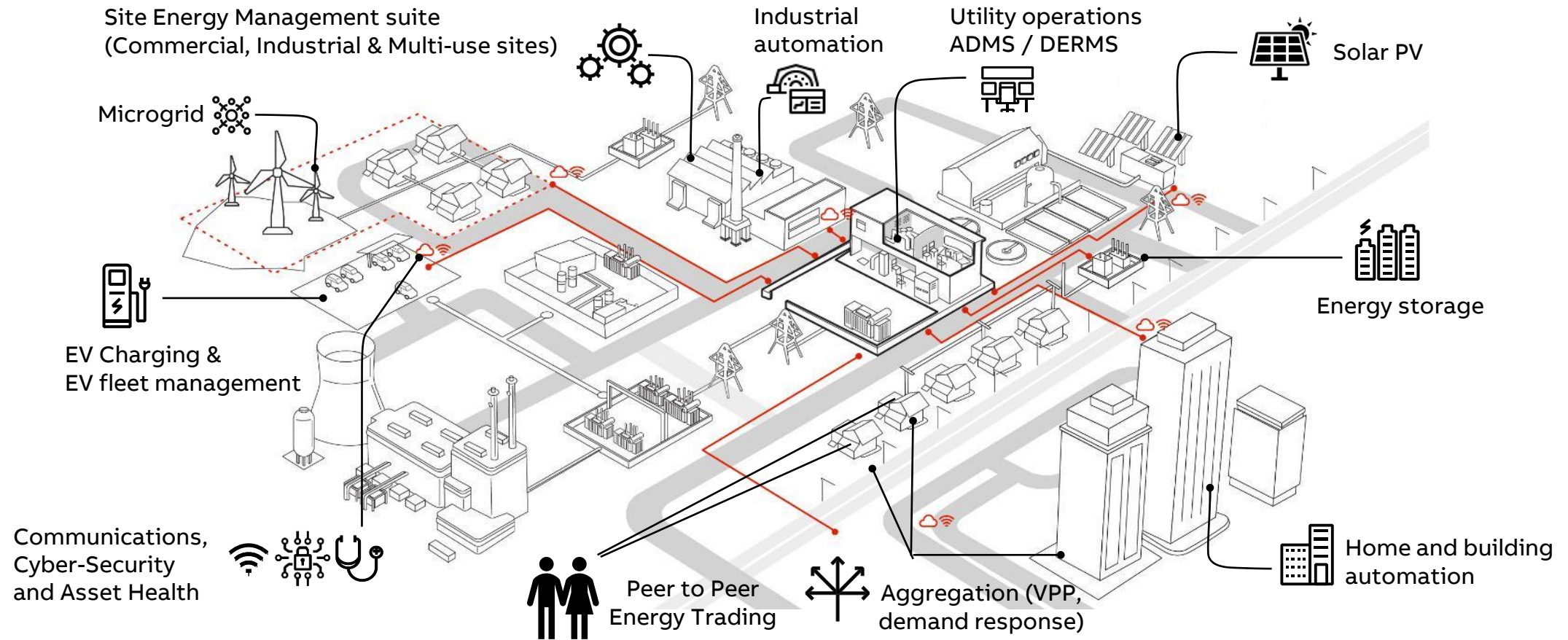


ABB Ability™ in Grid Edge Technologies

Enabling new economic opportunities while improving reliability and performance



Demand Response

Breakers & Enclosures as gateways to Energy Monitoring Systems and taking on the responsibility as site Microgrid Managers

Air Circuit Breakers



Opening Times

E_{max} 2, E₁ 20 ms

E_{max} 2, E₂ – E₆ 35 ms

Moulded Case Circuit Breakers



Opening Times

T_{max} XT 20 ms

Digital Units



Ekip UP Opening Times

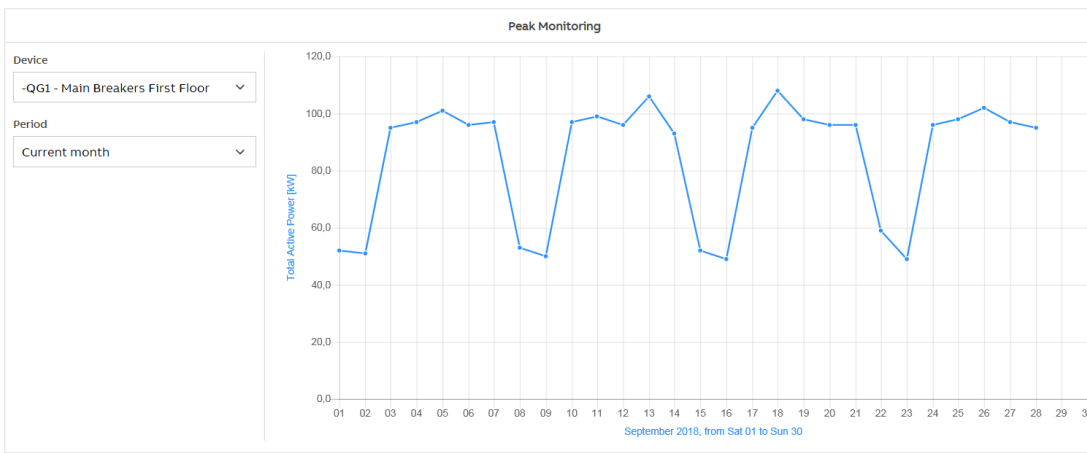
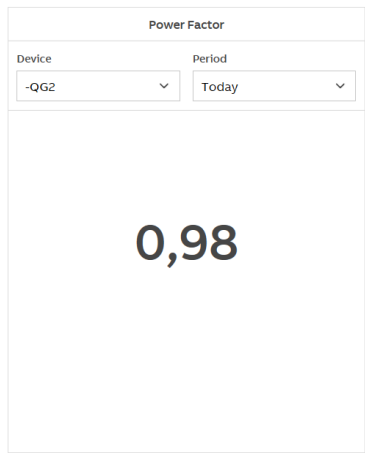
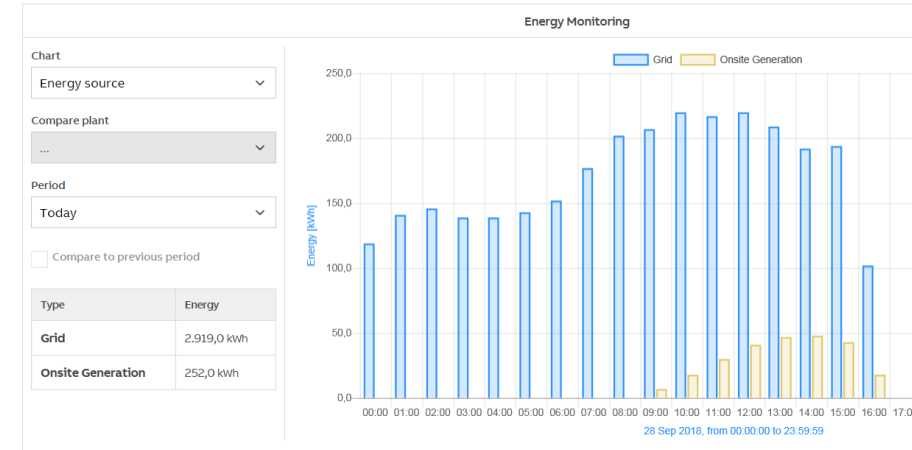
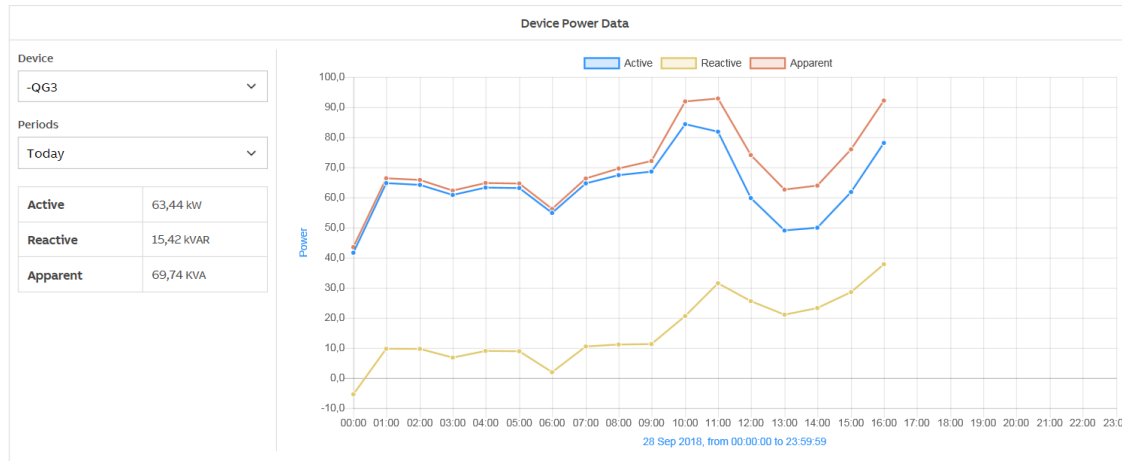
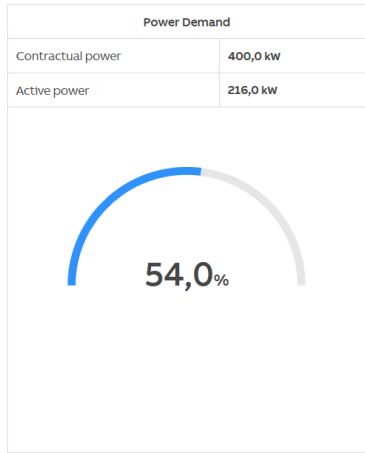
Ekip UP 35 ms

Energy & Asset Management

Software as a Service on the cloud

ABB Ability™ Energy & Asset Manager

Energy Management and oversight from Anywhere



Power Quality

Device: Solar Roof Top

Parameter: THD

THD	L1	L2	L3
Voltage	1,0 %	1,0 %	1,0 %
Current	0,0 %	0,0 %	0,0 %

Energy & Asset Manager add-ons: widgets and main features

Dashboard

Analog Data Monitoring	ATS Parameters	Energy Cost	Energy Monitoring	Group Real Time Currents	Input Data Calculation	Power Demand	Real Time Power	Total Historic Data
Arc Guard	ATS Transfer Time	Energy Cost Comparison	EnPI Monitoring	Group Real Time Power	Latest Events	Power Factor	Real Time Voltage	Meter Data Monitoring ¹
Asset Current Trend	Connectivity Overview	Group Real Time Metering ¹	Environmental Data	Group Real Time Voltage	Local Time	Power Generation	Service Activities	PUE monitor and trend ²
Asset List	Connectivity Trend	Energy Data	Events Overview	Health by Age	Multi-site Locator	Power Quality - THD	Service Activities Overview	
Asset Power Trend	Digital Data Monitoring	Energy Data Comparison	Events Trend	Health Overview	Peak Monitoring	Power Quality - Voltage	Site Locator	
Asset Voltage Trend	Energy Audit Summary	Energy Mix Group	Group Peak Monitoring	Historic Data Metering ¹	Performance Indicator	Real Time Currents	States and Counters	

Explore

- Hierarchical view
- Custom hierarchy
- 2D/3D view
- Connectivity
- All equipment
- Asset details

Data analytics

- Data Groups
- Reports

Events

- All events
- Alert condition

Maintenance

- Maintenance activities

Settings

- Site
- Documents
- Users
- Utility
- Service and environment
- Notification
- Subscription

ABB Ability™ Energy Manager

Energy management made easy

Energy efficiency has become essential to running cost-efficient operations. ABB Ability™ Energy Manager provides real-time understanding of your energy consumption and identifies areas of improvement. And it's scalable, from a single site to a multi-facility system with hundreds of users.

Monitor

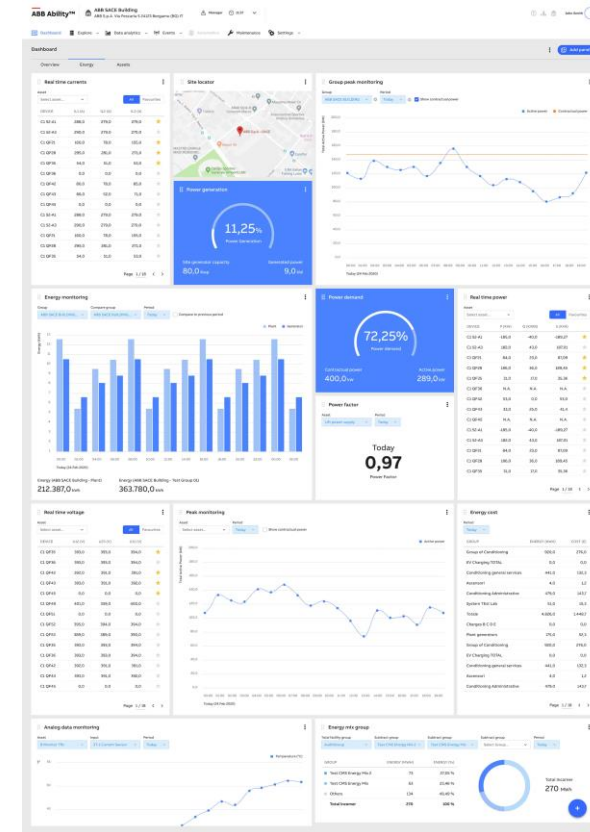
Discover Site performance, supervise the electrical system and allocate costs

Analyze

Schedule automatic data exports, improve the use of assets and take the right business decision

Act

Set up alerts and notify to key personnel and remotely implement an effective efficiency strategy to achieve energy savings in a simple way.



IoT Energy and Asset Management

Harnessing the Computational Power of the Cloud – 4 Key Parameters for all Buildings



Monitor

Discover plant performance, supervise the electrical system and allocate costs

Predict

Supervise the system health conditions and predict next maintenance actions

Optimize

Analyze the relevant information, improve the use of your assets and take the right business decision

Control

Remotely implement an effective power management strategy to simply achieve energy savings

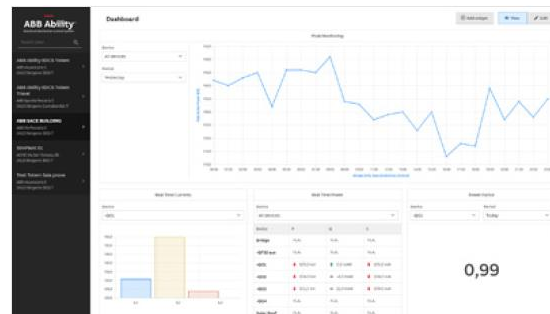


ABB Ability™ Energy Manager

Key features



Monitoring

Visualize your plant data with pre-configured and customizable dashboards and share with your team



Reporting

Get scheduled Excel and PDF reports with relevant site information



Energy audit

Keep your consumptions under control, enhance your efficiency and monitor your Energy Performance Indicators



Alerting

Automatize your alerts to receive immediate feedback on the status of your site via email or SMS



Cost management

Check your energy consumption, customize your cost plan and visualize the relative impact on your energy bill



Multi-utility

Monitor water, gas, heating and power consumption with one single dashboard

ABB Ability™ EAM and LEED certification: what is our contribution?

For a greener and more sustainable world

LEED Category	Title	Credit points
Integrative process	Prerequisite - Integrative process planning and design (Healthcare)	Required
	Integrative process	1
Water efficiency	Prerequisite - Building-Level Water Metering	Required
	Water metering	1
Energy and Atmosphere	Prerequisite - Fundamental Commissioning and Verification	Required
	Prerequisite - Minimum Energy Performance	Required
	Prerequisite - Building-Level Energy Metering	Required
	Enhanced Commissioning and Verification	6
	Optimize Energy Performance	18
	Advanced Energy Metering	1
	Renewable Energy Production	3
Materials and Resources	Prerequisite - Construction and Demolition Waste Management Planning	Required
	Building Product Disclosure and Optimization - Sourcing of Raw Materials	2
	Building Product Disclosure and Optimization - Material Ingredients	2
	Construction and Demolition Waste Management	2
Total potential credit points		36


LEED ranking 	LEED points 
Certified	40-59
Silver	50-59
Gold	60-79
Platinum	>80

ABB Ability™ Energy and Asset Manager

Business value of better performances

20%

savings on energy bills

30%

savings on operational costs

100%

avoid unplanned labor

40%

savings on maintenance costs

Communication, Connectivity and Architectures

ABB Solution for breaker communication

Switchgear Integration: example ABB

Now Available
on the new
TMax XT
MCCB's

Cartridge modules

Modern methods for connection into a fieldbus network require external solutions with either RS485 or RJ45 connection, **ABB** uses embedded modules that slot into place and enable the device which is powered by the standard power supply used to supply the ACB or mccb trip unit.

This technology is available from **40A – 6300A** rated devices.

Available embedded Modules -

- Ekip Com Modbus RTU: Rs485
- Ekip Com modbus TCP: RJ45
- Ethernet / IP: RJ45
- Ekip Com Profibus DP: RJ45
- Ekip Com DeviceNet: RJ45
- Ekip Com 61850 : RJ45



ABB Solution for breaker communication

IEC61850

IEC61850 has been designed with specific characteristics, suitable for the applications related to electrical power (e.g. electrical substations and distribution plants). Two ways of communicating between devices Horizontal (GOOSE) and vertical (MMS) communication.

Due to the advances it makes over current ethernet networking it is gaining interest in MV – LV applications and LV applications.

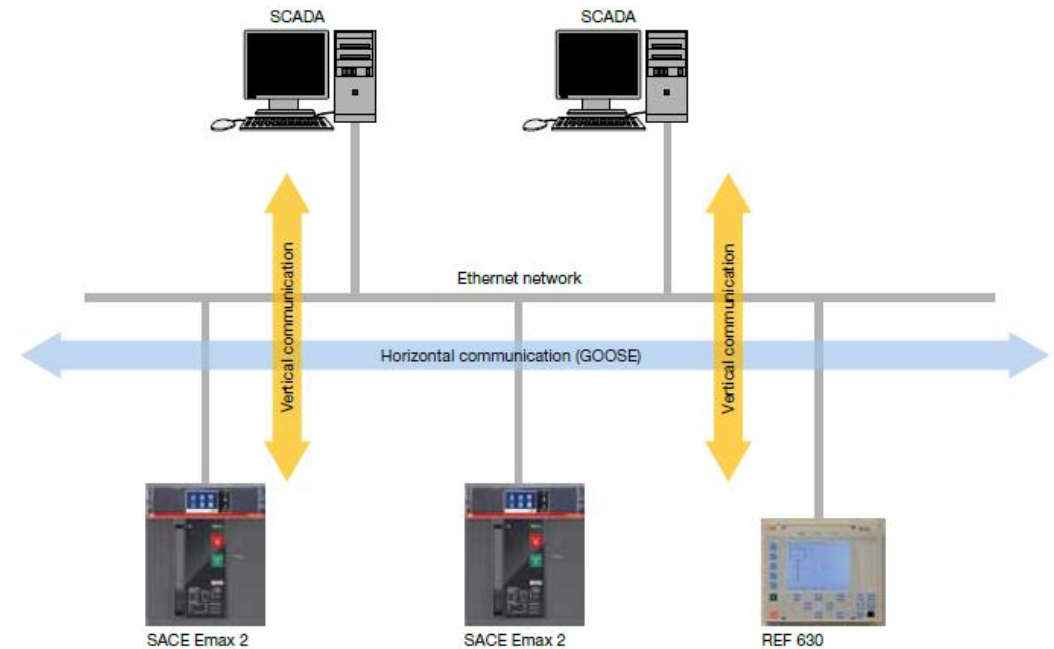


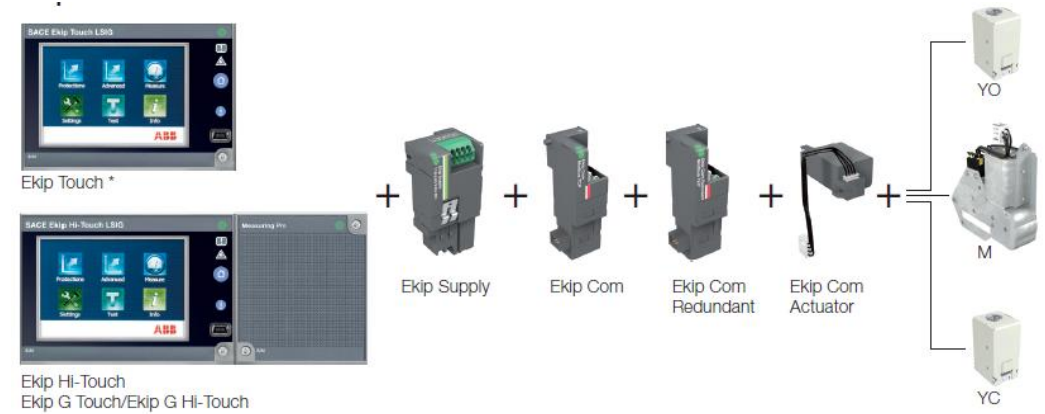
ABB Solution for breaker communication

Control through communication

Supervision

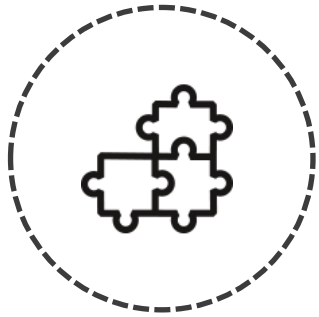


Supervision + Control

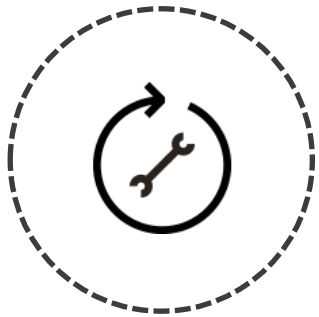


Communication & Connectivity

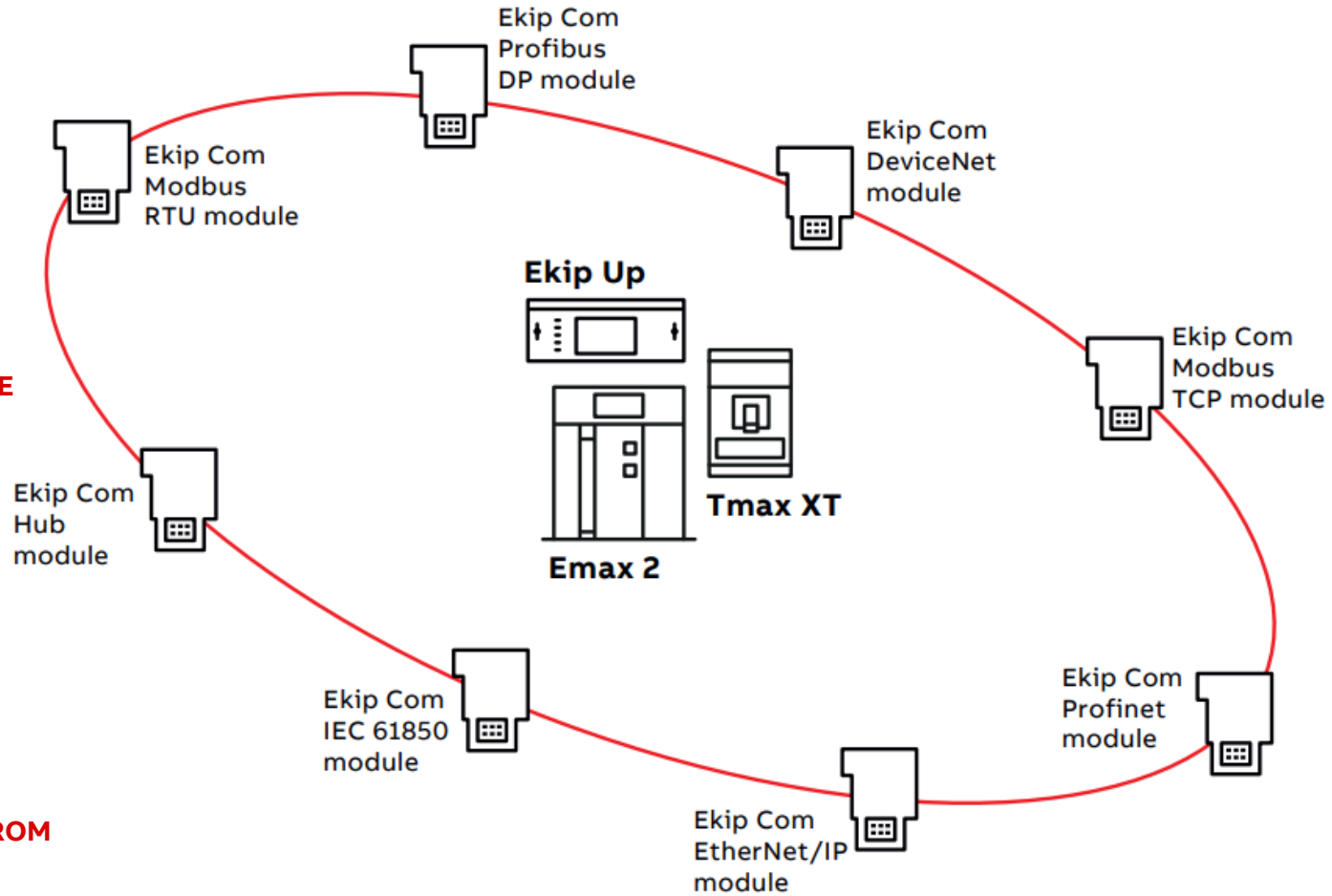
Common for the whole installation



UNIQUE COMMUNICATION ARCHITECTURE AMONG THE WHOLE CIRCUIT BREAKERS GROUP



A UNIQUE SYSTEM INTERFACE MAP FROM 40A UP TO 6000A



SCALABILITY OF ABB ABILITY EAM SOLUTION



QUICK AND SAFER USABILITY OF THE TRIP UNITS WITH THE BLE

Supervision Platforms – ABB Ability [Energy & Asset Manager]

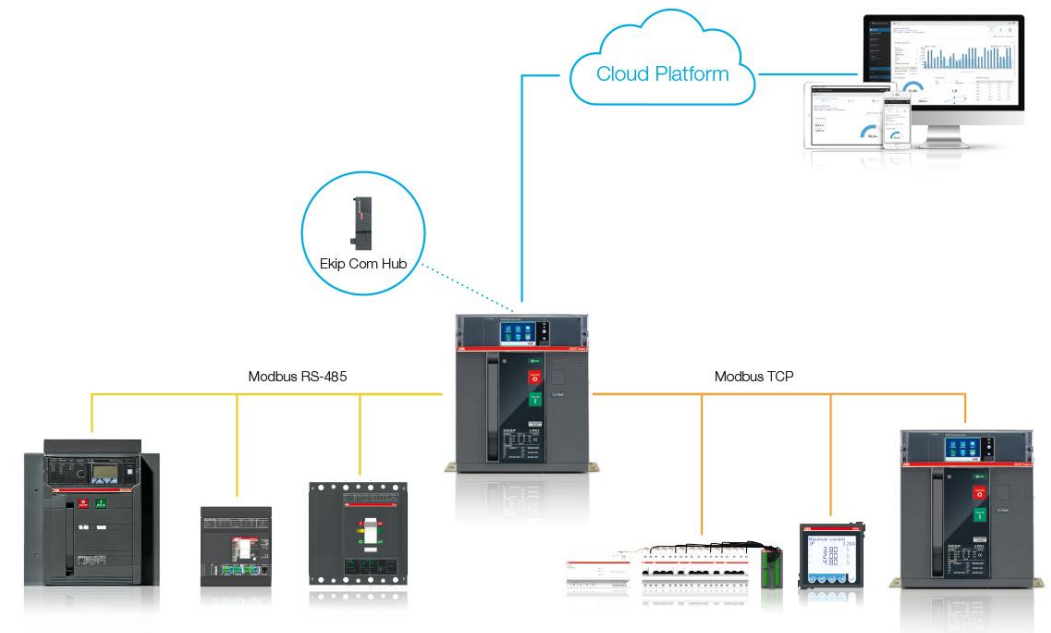
Embedded solution

Plug-in the **Ekip Com Hub** module and start Ekip Connect wizard.

In **less than 10 minutes** the panel is connected to the cloud.

Plug & play:

- ACBs
- MCCBs
- MCBs
- Energy and Power meters



Supervision Platforms – ABB Ability [Energy & Asset Manager]

External Solution

Connect devices to **Edge Industrial Gateway** DIN rail module.

High flexibility and **extended retrofitting**.

Easy and fast configuration via Ekip Connect wizard.

Plug & play:

- ACBs
- MCCBs
- MCBs
- Energy and Power meters
- Analog and Digital meters

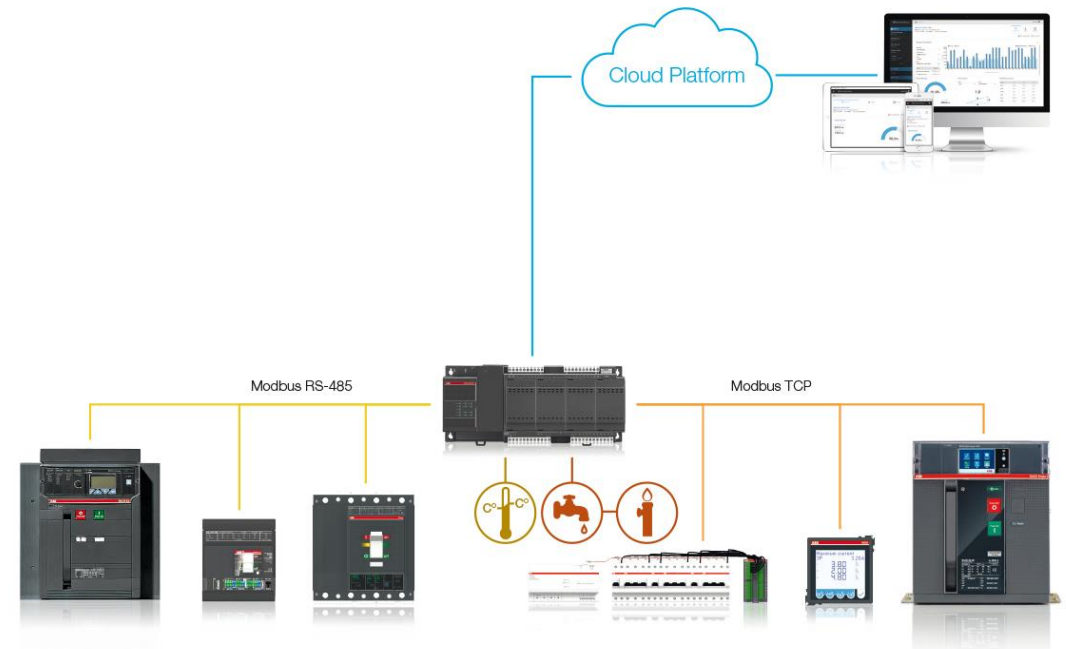


ABB Ability Edge Industrial Gateway

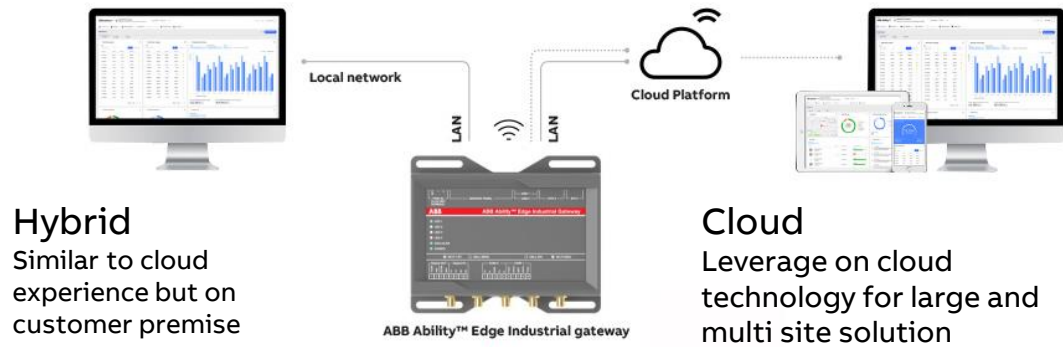


ABB Ability™ Enabled Devices

- Switch disconnecter fuses
- Arc Flash
- Grid feeding monitoring delay
- Energy Meters
- Multi-channel meter CMS 700
- Pro M InSite
- Molded Case Circuit Breakers (TMax-T-XT)
- Network Analyzer M4M
- Air Circuit Breakers (NewEmax, Emax 2)
- Digital Unit Ekip Up
- Energy Analyzer EQMeter
- Protection relay 615 series
- Condition Monitoring SWICOM

3rd Party Devices

Collecting list of devices

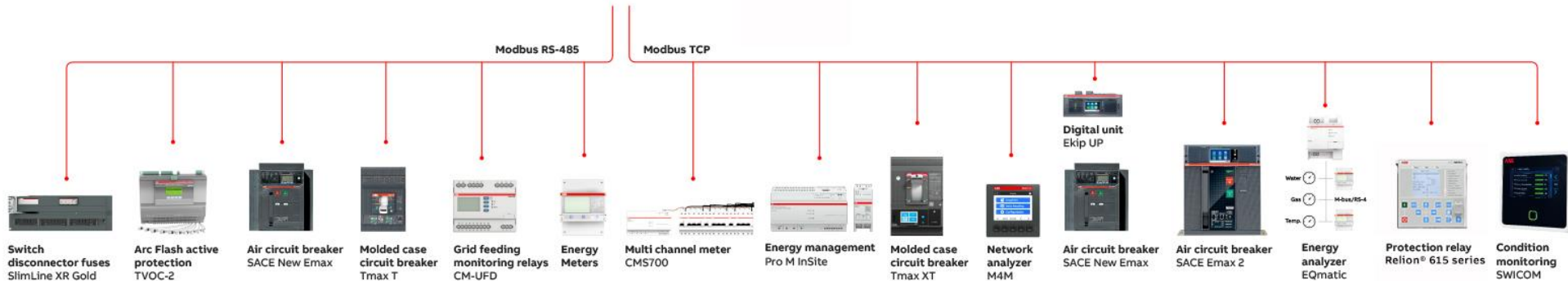


ABB Solution for breaker communication

Example - Ekip Hi-Touch

Alarms – Diagnostic data - Maintenance

- Protection alarms
- Protection timings, protection pre-alarms
- Opening data (latest 40)
- Events log (latest 200)
- Total number of operations
- Total number of trips
- Number of trip tests
- Number of manual operations
- Date of last maintenance done
- Contact wear (%)
- Number of failed trips
- Trip command fail
- Connection alarms (current sensors)
- Trip coil status
- Rating plug status/error

Status - Control – Adjustment functions

- Status of circuit-breaker: open/close/tripped
- Racked-In/Racked-Out
- Control: opening/closing of CB, trip test
- Setting of thresholds and protection parameters
- Reset of alarms

Measurements

- Phases, neutral and ground currents (accuracy 1%)
- Measures history
- Voltage: phase-phase, phase-neutral, residual (accuracy 0.5%)
- Power: active, reactive, apparent (accuracy 2%)
- Energy: active, reactive, apparent (accuracy 2%)
- Frequency (accuracy 0.2%)
- Power factor by phase and total, Peak factor
- Harmonic analysis (THDi, THDv and spectrum up to the 50^o harmonic)



ABB Ability™ – Digitise the non-digital!

Connected and Digital – bring your assets into the 2020s

Brownfield – Monitoring, Analysis and Control



The new Ekip UP product is a first of its kind from ABB. Taking the Ekip Touch / Hi Touch from its flagship ACB range and making it completely loose.

This completely remote unit can provide the below : -

- Remote Protection Relay
- Embedded load shedding
- Embedded ATS logics
- Embedded network analyser
- Plug and play communication protocols
- **Everything that the EMAX 2 EKIP Trip unit can offer.**

Why?

In the last ten years, **more than 350M Circuit Breakers** have been installed worldwide **without advanced features** for monitoring or for resources optimization.

What?

Ekip UP is the new product range of **digital units**, part of ABB Ability™ protection and connection initiative, that **upgrades low voltage systems** in the next-generation electrical distribution plants.

How?

The plug & play device guarantees **monitoring, protection and control** for **existing low voltage switchgear** in a single unit with reduced impact on design and **even zero downtime for installation.**

Digital Retrofits need to deliver!

The requirements for success

Ekip Up has been designed with Brownfield sites in mind. Digital Retrofit projects are crucial to decarbonisation. Brownfield solutions work for existing hardware that have no direct replacement and no spares. They need to be flexible to work with existing environments, minimising downtime and cost It can be mounted either in a **panel cut out** or on **din rail**.

An existing Switchboard could require retrofit for new metering. This unit can be fitted to provide **full energy measurement** and then communicate its data to a **range of available protocols**.

Minimise the number of components to reduce cost, complexity and points of failure

Energy Oversight is required **to achieve ISO 50001 and LEED Certification**

Flexible integration is a necessity not a nice to have. Solutions be used as master gateways to connect downstream connected devices to an existing or new networks. Networks such as **MODBUS RTU, MODBUS TCP, PROFIBUS, IEC61850**



Maximize UP-time



UP-date basic switchgear



UP-grade your facilities



UP-load your electrical system

ABB Ability™ – Predictive Maintenance

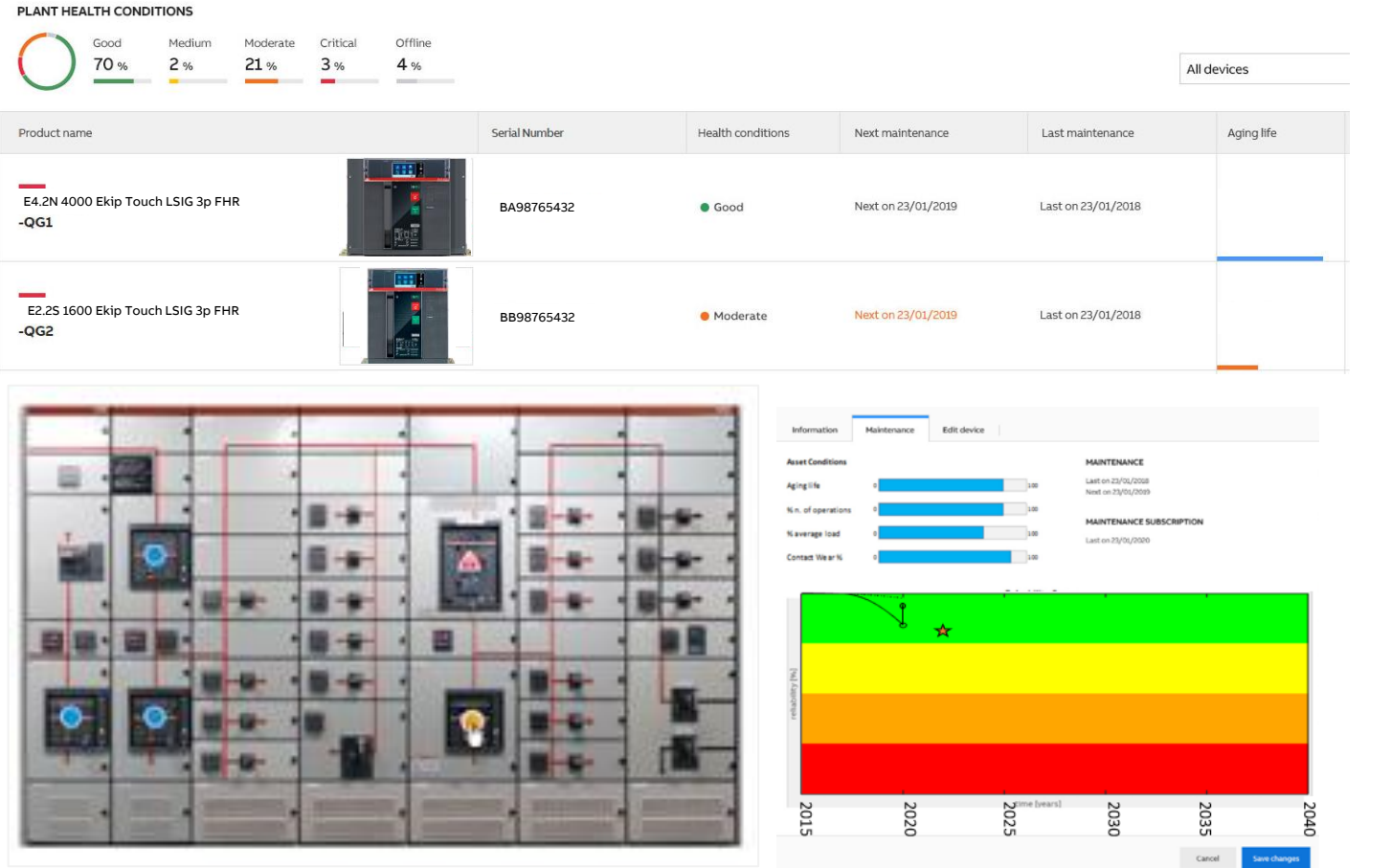
A major competitive advantage over Preventative Maintenance

Organise your services and cut down on down time

Predictive Maintenance (ABB Ability™ Energy and Asset Manager)

Decision Making

- Overall plant health conditions
- Smart visualization (traffic light) to monitor the system at a glance, with proactive alerts
- Operation and Maintenance cost saving thanks to optimized maintenance schedule
- Spare parts management: you know exactly what you need, no waste of time
- Reduced downtime
- Based on an algorithm that considers:
 - Environmental conditions
 - Utilization conditions
 - Circuit breaker aging
 - Measures (Humidity/Vibration/Temperatures)



Asset Management

Predictive Maintenance (Asset Manager)

Essential Maintenance Data

Contact wear

Load profiles Trip/alarm/
maintenance histories

Information on last 30 trips/200
events

Operating times

Circuit breaker I.D.

Milestone dates.



Maintenance indicators		Parameters
Information on last 30 trips		Type of protection, fault values and time-stamping
Information on last 200 events		Type of event, time-stamping
Number of mechanical operations ⁽¹⁾	[no]	Can be associated to alarm
Total number of trips	[no]	
Total operating time	[h]	
Wear of contacts	[%]	Prealarm >80% Alarm = 100%
Date of maintenance operations performed		Last
Indication of maintenance operation needed		
Circuit-breaker I.D.		Type of circuit-breaker, assigned device name, serial number

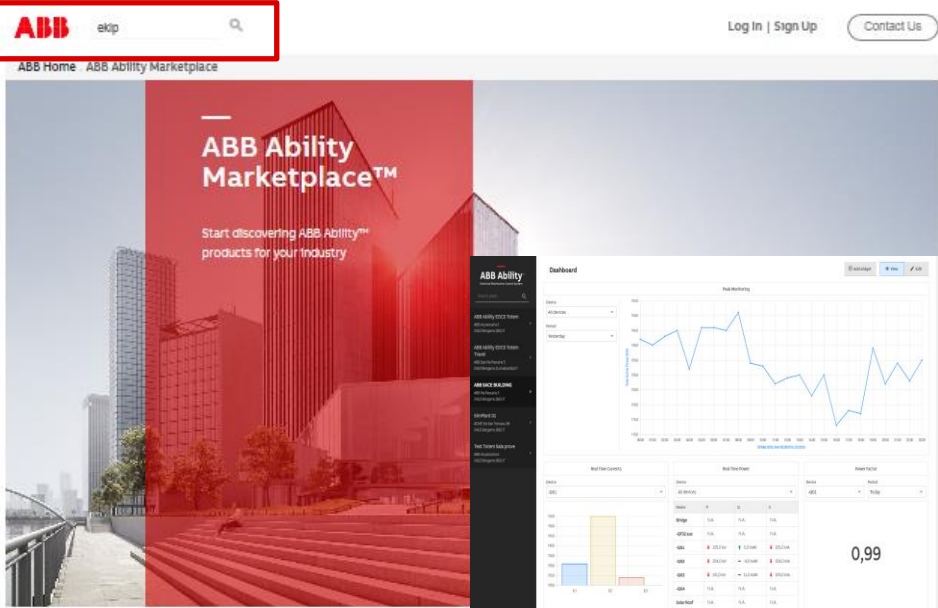
Fault finding time is virtually zero

ABB Ability™ – Digital Hardware meets Ecommerce

All in one Innovation taking the ABB Ability Marketplace as an example

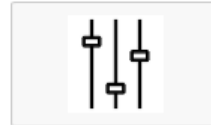
eCommerce to enable customer to scale to requirements

<https://eu.marketplace.ability.abb/en-US/listing>



Network Analyser for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge Ekip...



ROCOF Protections for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge Ekip...



Adaptive Protections for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge...



Power Protections for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge Ekip...



Advanced Voltage Protections for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge Ekip...



Frequency Protections for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge Ekip...



Upgrade in-field product functionalities



Sign up for free-trials



Purchase, extend and cancel cloud-based features and service



Configure add-on features such as analytics and remote power metering

Add-ons & Analytics

Control logics

Measurement package

Protection Functions

Electrical Distribution Control Systems

Showing 14 results for "ekip" | Sort By: Relevance

Customer Segment

- Automotive
- Buildings
- Data Centres
- EV charging
- Food & Beverage
- Manufacturing
- Marine & Ports
- Mining, Metals & Cement
- Oil, Gas & Chemicals
- Power Distribution
- Power Generation
- Power Transmission
- Pulp & Paper
- Renewables
- Transportation
- Water & Wastewater

Measuring Package for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge Ekip...

On Sale | Learn more →

Data Logger for Ekip

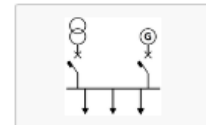
ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge...

Learn more →

Voltage Protections for Ekip

ABB low-voltage circuit breakers offer a unique user experience from 160 to 6300 A. The cutting-edge Ekip...

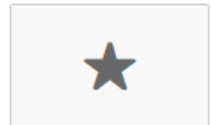
On Sale | Learn more →



Embedded ATS Main-Gen for Ekip

Embedded automatic transfer switching logic for Main-Gen applications

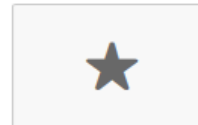
Coming Soon | Learn more →



Diagnostics Bundle XT5-XT7

Simplify features selection with a dedicated bundle grouping different Ekip Packages. Customize your...

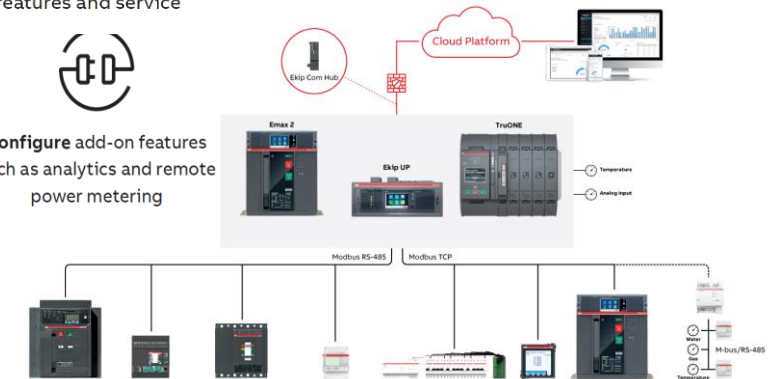
Coming Soon | Learn more →



Measure Advanced Bundle XT5-XT7

Simplify features selection with a dedicated bundle grouping different Ekip Packages. Customize your...

Coming Soon | Learn more →



The entitled user can activate SW-based functionalities on hardware components via **Ekip Connect** commissioning and configuration tool, upon **one-off purchase** of the specific license via the marketplace:

- Automatic Transfer Switching logics
- Load Shedding
- Data Logger

Emax 2 - New Trip Unit

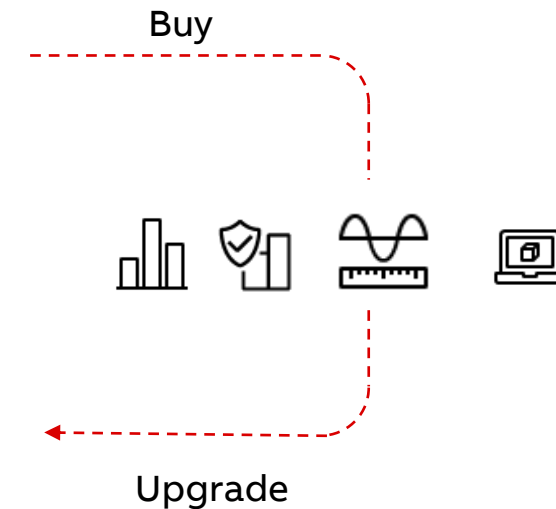
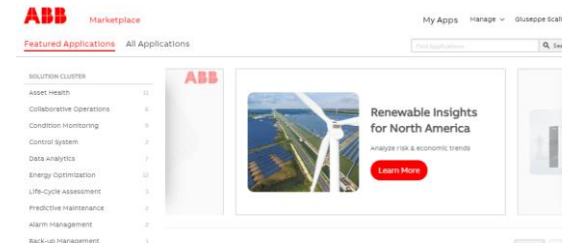
Upgradable solution

Emax 2 is able to evolve during its lifecycle

It is possible to fully customize the circuit breaker by purchasing dedicated software packages via ABB Marketplace™.

BLE connectivity enables for upgrading circuit breakers on the field using the power and user-friendliness of a smartphone.

- Measurements
- Protections
- Network analyzer
- Datalogger



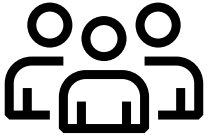
Customized and scalable solutions

Thank you for attending today's CPD

Q&A

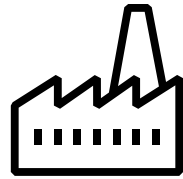
ABB in Ireland

At a glance



180

People work for ABB in Ireland



5

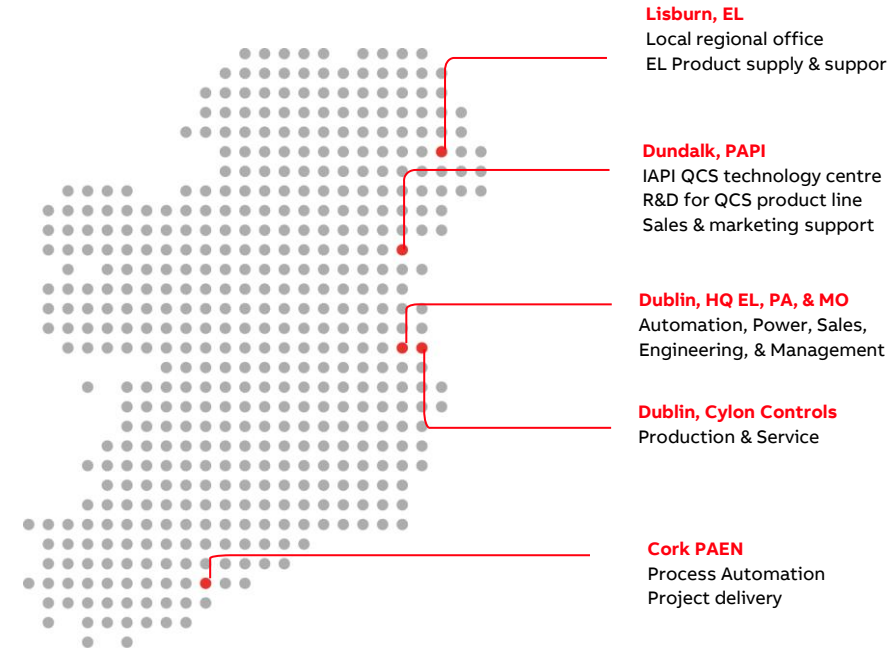
Sites where products are sold, serviced or engineered



Want to know more?

marketing@ie.abb.com

www.abb.ie



Skilled and experienced Irish team, backed by global networks

ABB Ireland

Registered Training Provider with Engineers Ireland



ABB Electrification

1. Technical overview of LV Switchgear and Panel Selection.
2. LV Selectivity / Discrimination
3. IEC61439 Standard for Circuit Breakers & Assemblies
4. Arc Fault Detection Devices (New MCBs & RCBOs)
5. Electric Vehicle Charging Infrastructure
6. The Fundamentals & Principles of Building Energy Management Systems
7. Introduction to MV Switchgear
8. Building Services Integration BACnet and other options
9. IIoT for Electrical installations
10. Building Automation – KNX universal protocol & DALI

ABB Motion

1. Harmonics, VSDs & Mitigation technologies
2. IE5 Synchronous Reluctance Drive and Motor Package

[Click here to view ABB offering on Engineers Ireland](#)

Contact Information

Paul Mimmagh

Phone: +353 (0) 1 405 7300

Mobile: +353 (0) 87 738 6716

paul.mimmagh@ie.abb.com

