

DRINKTEC, 11-15 SEPTEMBER 2017

Solutions for F&B Factory

Electrification Products and Solutions

— Our solutions for the F&B factory

Solutions for the F&B factory

Plant-wide solutions to optimize productivity, efficiency and uptime

Process/machine area:

Power supply. Sustainable, efficient and reliable power

Energy distribution & installation. For all your power needs

Energy distribution. For machines and processing lines

Motor control & protection. Assure quality and reliability of electrical systems

Machine safety. Single solutions to complete safety systems

Electrification:

Switchgear. Arc and non-arc resistant switchgear, controls, sensors and communication

Transformers. High efficiency liquid-filled and dry type transformers

UPS. Protection against downtime

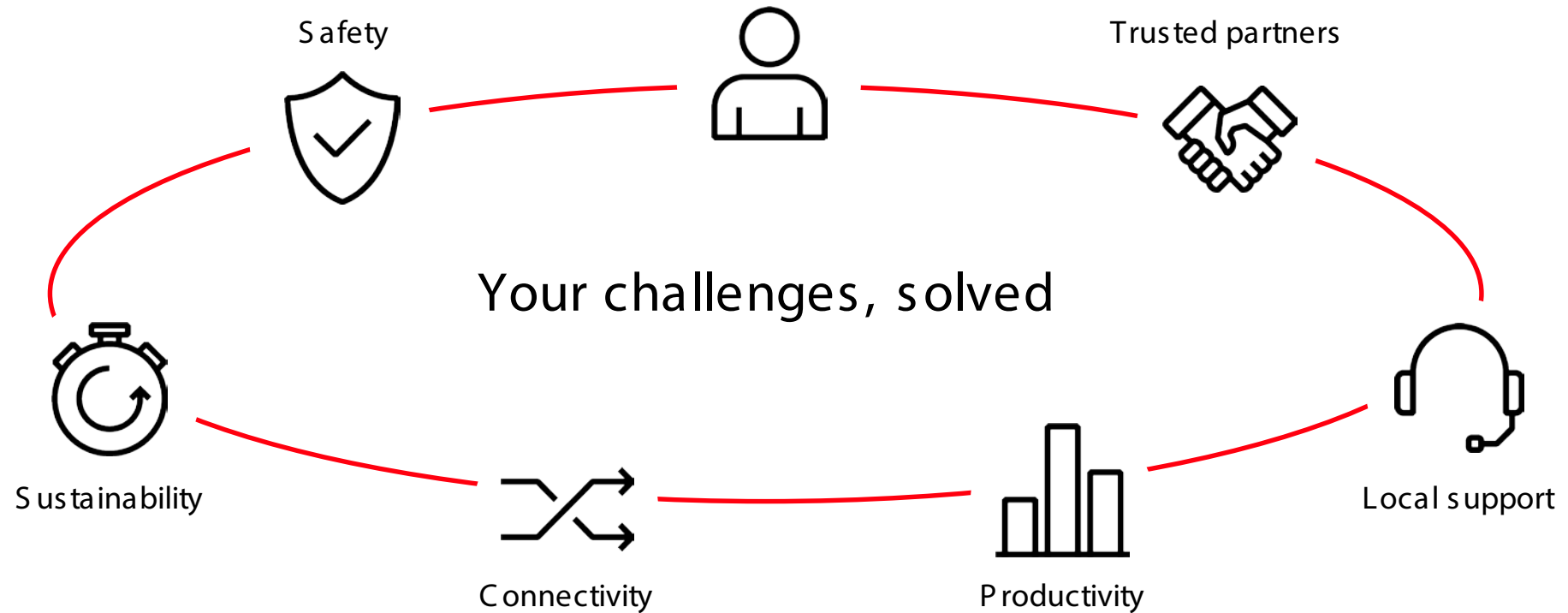




Your challenges, solved

We're here to help you build a better business

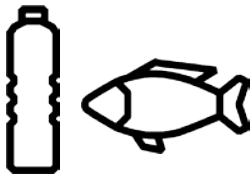
Meeting your needs and exceeding expectations



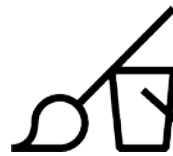
Safety

Your challenges, solved

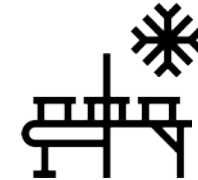
We understand the critical nature of food safety for your business. Our products ensure uncompromising safety and hygiene, and are built to perform reliably, even if exposed to heat, dust or humidity.



Designed specifically for
the F&B industry



Compliant with hygiene
standards

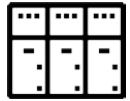


Built to withstand harsh
conditions

Safety

Your challenges, solved

We offer a range of intelligent safety solutions to protect your personnel across a wide range of actions.



Switchgear:
fast internal arc protection



Reliable protection
against unsafe actions



Remotely controlled
operations



Well known and proven
technology, approved by
local and global authorities



Ester filled and dry type transformers:
non-flammable, non-combustible, no
flash point

Productivity

Your challenges, solved

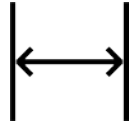
By optimizing space and centralizing production data, we enable plants to maximize their productivity and lower TCO.



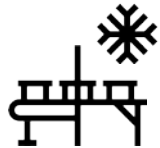
Preventive maintenance
based on factory data
reduces downtime



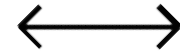
Retrofit solutions allow for
easy upgrades



Compact solutions maximize
space



Products are built to withstand
harsh environments



Goose technology reduces the cost
of engineering, wiring and
maintenance



Energy efficient transformers
reduce cost of operation

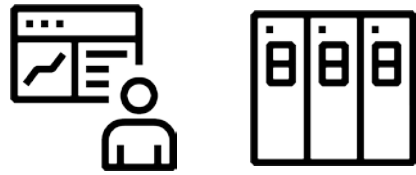
Sustainability

Your challenges, solved

By making our solutions greener and more energy efficient, we enable our customers to make considerable energy savings within their factories.



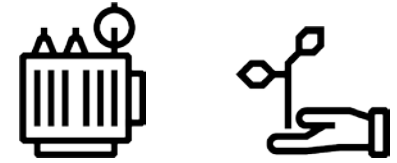
Continuous monitoring,
load shedding and network
management



Innovative and digital
switchgear technologies
enable greener operations



Digital solutions with sensors
enable energy optimization

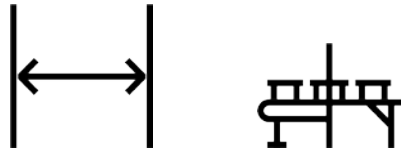


Efficient transformers
minimize environmental
footprint

Connectivity

Your challenges, solved

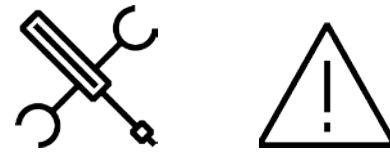
Our broad range of intelligent, next-generation solutions enable you to benefit from the efficiency gains of Industry 4.0.



Flexible, scalable solutions fit any system or production line



Increased operational visibility



Preventative maintenance



Find and solve inefficiencies

Global and local support

Your challenges, solved

We're never far away. We pride ourselves on our local support, offering the assistance you require, in your language.



Access to project financing



Downtime minimized



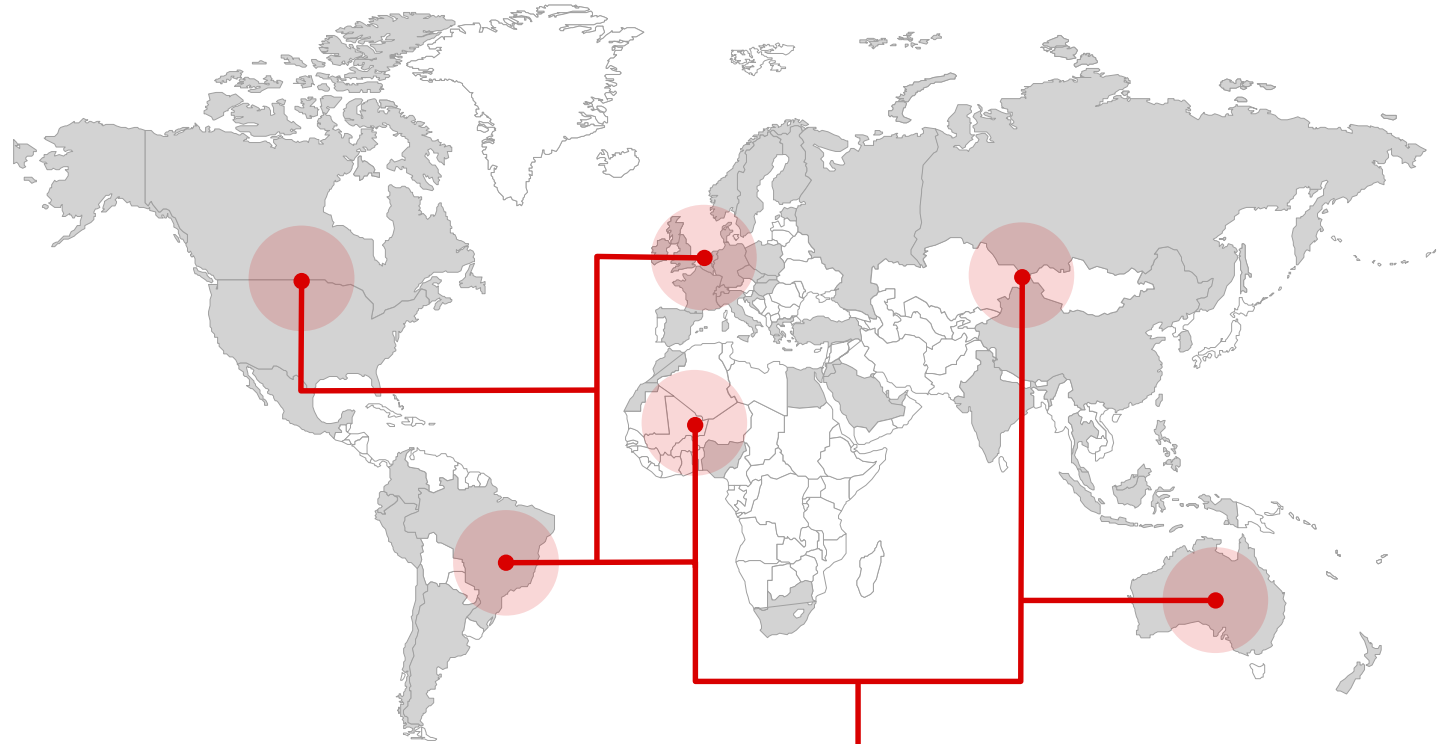
Parts and maintenance services delivered quickly, in your language



Optimized transportation costs



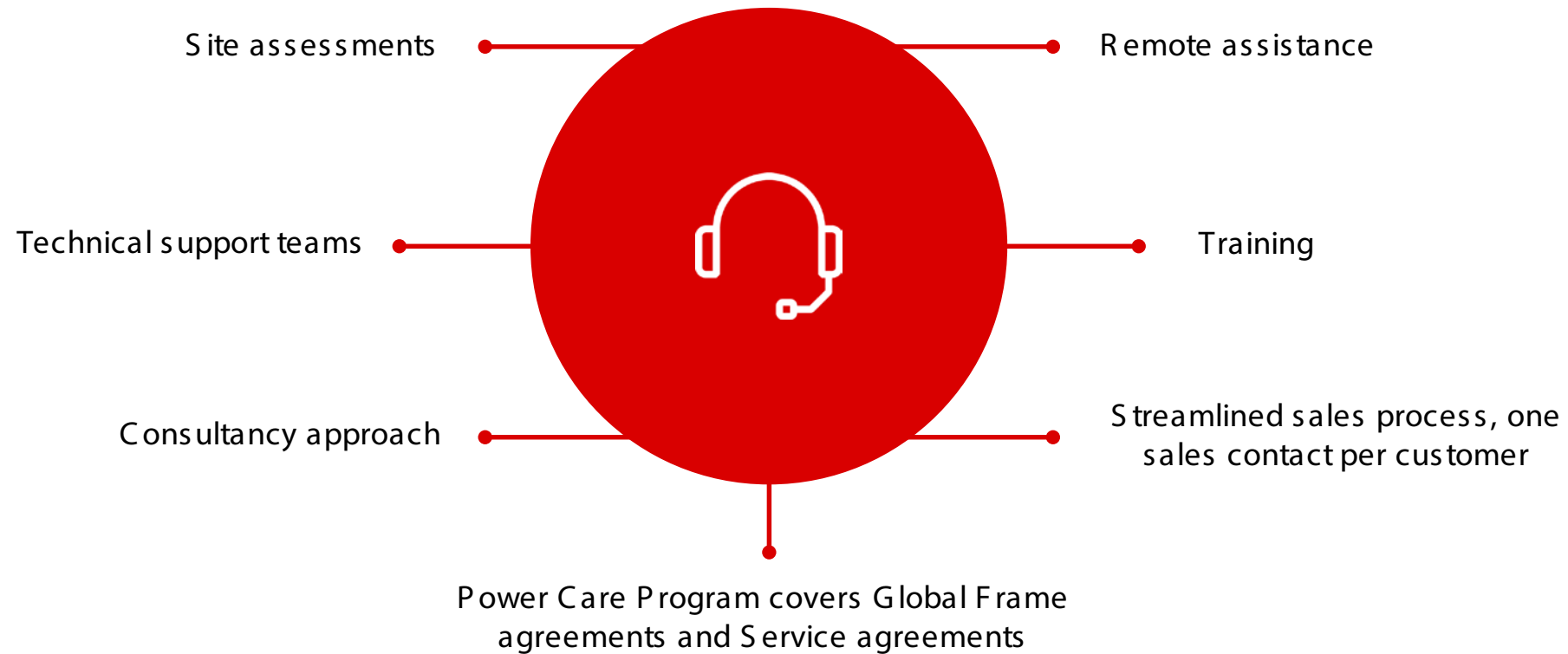
Service centers across 6 continents



Trusted partners

Your challenges, solved

With our site assessments, technical promotion teams and consultancy approach, we ensure that you get the best of our expertise, not just our products.



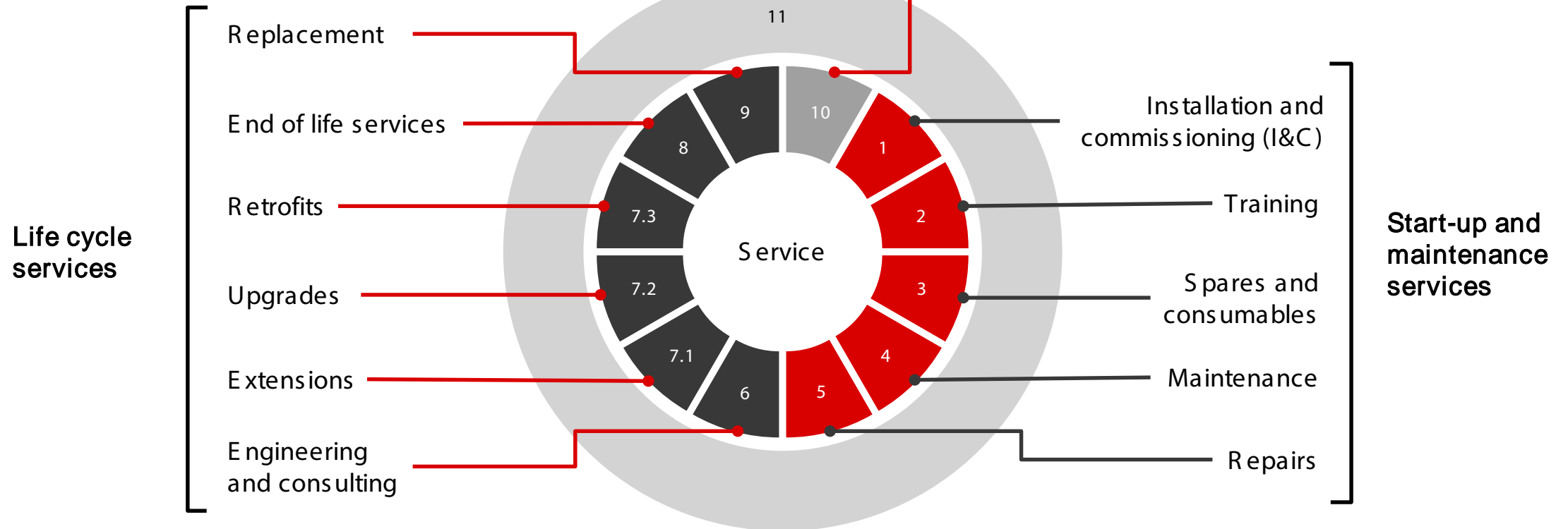
— First-class service offering

Our service offering

Start-up and maintenance, life cycle, customer support

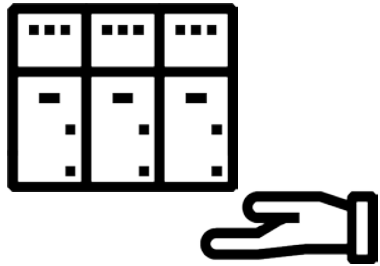
Customer support
agreements (Power Care)

Advanced services – part of ABB Ability™
(Smart Asset Management)



Our service offering

Keeping your business running effectively



Availability

- Installation & commissioning
- Certified spare parts and packages
- Training on ABB products, systems, processes and technology
- Maintenance on site by service technicians
- Service agreements



Reliability

- Retrofit of complete SWG, intelligent motor protection and communication
- Improved safety with an active arc-fault protection system
- Retrofit of protection and communication technologies
- Extensions and reproduction



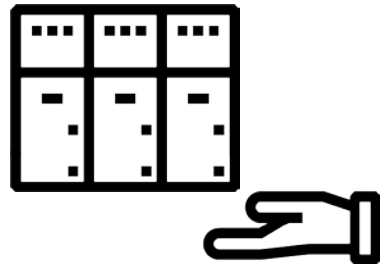
Predictability

- Engineering & consulting
- Monitoring & diagnosis
- Asset assessments
- Remote monitoring of electrification systems

— Providing customers with a single interface

Integrated project delivery

Making your job easier



What is it?

- A single project delivery plan
- A single project manager to coordinate all the project deliverables
- Manufacturing approval documentation managed across all product line items
- Interface engineering to optimize cable sizing, reduce cable lengths, assure mechanical and electrical connections



What are the benefits?

- Single commercial contract with common terms and conditions
- Harmonized payment terms
- Single set of delivery and warranty bonds
- **Reduced contract management time and complexity**

Don't just take our word for it

Our experience

We've helped them, now let us help you

“Our brand has been characterized by quality and reliability since the outset, and these high standards must be maintained and promoted by our production background as well. We owe special thanks to both É M Á S Z and ABB for their quick assistance in addressing our needs. We are entirely satisfied with the great job they have done.”

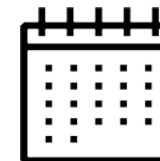
Szabolcs Béres, Director of HELL production facility, Hungary



300 million
cans of energy drink
produced annually



ABB supplied an
UPS solution
to ensure a clean and
reliable power supply



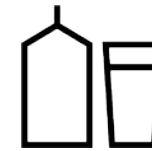
9 weeks
from signing the contract
to system switch on

Our experience

We've helped them, now let us help you

"We are looking at using this solution at other UHT sites, just to guarantee the power supply stability we need. Our mission is to become the world's most trusted source of nutrition and ABB's product is a crucial part of that process."

Peter Williams, Fonterra's Brand Group Automation and Control Manager, New Zealand



Producer

of fresh milk, UHT milk
and cultured dairy food

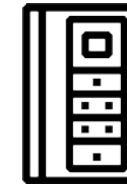


ABB supplied a power
protection solution to

prevent downtime



Saving an estimated

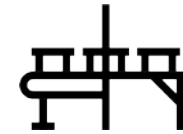
\$200,000 per year

Our experience

We've helped them, now let us help you

“ABB's power factor correction equipment has played a key role in our energy efficiency programme that enables the line to draw all the power it needs from our existing power network – without the need for significant capital expenditure on a new substation and power lines.”

Bill Bartlett, Corporate Affairs Director of McCain Foods, UK



New Home Fries

production line

planned – but power network was operating at capacity

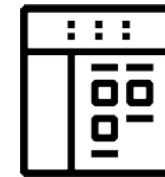


ABB supplied power factor correction equipment to

improve network efficiency



Production line

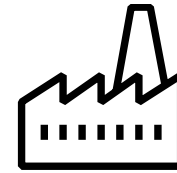
able to go ahead

without the need for a new substation

Our experience

We've helped them, now let us help you

“To operate an energy efficient and environment friendly plant, a high level of automation and electrification are key enablers, so Tisza TK looked for vendors able to deliver that. As the main automation and electrification contractor, ABB was selected to deliver the electrification products and systems on high voltage and medium voltage levels with the latest fully integrated System 800xA Version 6.0.”



The Tisza-TK Projekt Ltd. factory aimed to be a **major contributor** to Hungary's food export growth



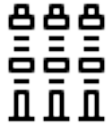
ABB delivered integrated electrification products to **increase efficiency**



Enabled them to **maximize competitiveness** within the market

— Our leading products & solutions

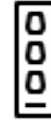
Power supply and energy distribution for the plant



HV Substation



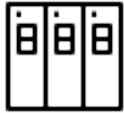
Power Transformer



Medium Voltage Switchgears



Dry Type Transformers



LV Switchgears type MNS



LV Switchgears type System ProE Power



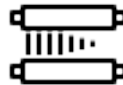
UPS



Capacitor Banks



RPC panels

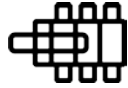


Harmonic Filters

Energy distribution & installation for the process area



Control &
automation boards



Switches



Fuse switch
disconnectors



Earthing, grounding,
lighting



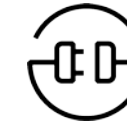
Conduit and fitting



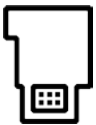
Cable ties, tools
& accessories



Industrial plugs
& sockets IP69



Connection devices



Miniature Circuit
Breakers



Emax 2 – LV circuit
breakers

Energy distribution for machines & processing lines



Control &
automation boards



Enclosed Switches



Molded Case Circuit
Breakers



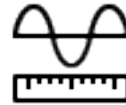
Switches



Fuse switch
disconnectors



Miniature Circuit
Breakers



Measurement products



Power supply and buffer
modules



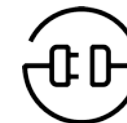
Conduit and fitting



Cable ties, tools and
accessories

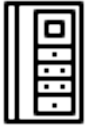


Industrial plugs and
sockets IP69



Connection devices and
power blocks

Motor control & protection



Enclosed switches



Molded Case Circuit Breakers



Switches



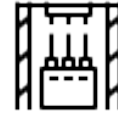
Fuse switch disconnectors



Contactors and Contactor Relays



Motor Protection



Power supply



Interface relays



Connection devices



Emergency stops

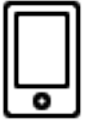


Pilot devices



Timers and Monitoring Relays

Machine safety



Emergency stops
and pilot devices



Safety Controllers



Sensors



Actuators



Optical safety devices



Locks



Fence



Control devices



Conduit and fitting



Cable ties, tools and
accessories

Medium-voltage switchgears

Gas-insulated technology

- Extensive global portfolio of compact gas-insulated switchgear - insensitive to external influences such as humidity and dust
- Network security and reliability from fully type tested designs, and minimal maintenance needs and maximum safety for personnel
- High altitude applications and high availability even in extreme service conditions
- Single or double busbar design – double bus can operate in single bus mode for high currents
- Advanced grid and substation automation solutions available with integrated sensors and IEC 61850 based control and protection

Primary distribution: ZX product family

- Conventional and digital versions, ratings up to 42kV
- IEC, ANSI and specific designs for local market standards e.g. CSA, GB

Secondary distribution: SafeRing/SafePlus product family

- Compact and modular, indoor/outdoor versions, ratings up to 40,5 kV

SafeLink product family

- Indoor/outdoor versions, most compact, ratings up to 17kV



Medium-voltage switchgears

Air-insulated technology

- Extensive portfolio: product versions, ratings and applications
- Advanced grid and substation automation solutions available with integrated sensors and IEC 61850 based control and protection
- High reliability and personnel safety
- Standard, compact or customized panels. Compact panel solution available for even the most stringent space requirements
- Specific designs for local market standards, e.g. GOST, GB

Primary distribution:

- Specific versions for all applications, ratings up to 46 kV
- UniGear product family (IEC), includes UniGear ZS 1, the global market leader, which is available up to 24kV
- Dedicated designs for specific markets, e.g., LeanGear ZN1 and ZS 9
- ANSI (UL labelled) switchgear, arc resistant and non-arc resistant versions, up to 15 kV, also as motor control center (MCC)

Secondary distribution:

- UniSec product family (IEC), ratings up to 24kV



Medium-voltage switchgears

AirPlus™ technology - an innovative alternative for users with a green focus

- The new AirPlus™ technology is used in ABB's eco-efficient GIS
- Compared to SF₆, the use of AirPlus reduces the global warming potential (GWP) of the insulation gas by over 99.99%
- AirPlus switchgear keeps all the advantages known from MV GIS switchgears, but the without the climate impact known from SF₆
- Same compact dimensions as the known and proven switchgear
- AirPlus with a GWP < 1, avoids all regulations known for SF₆

Primary distribution: ZX2 AirPlus

- First AirPlus product available within the ZX product family
- Ratings available today: up to 36 kV voltage, up to 31.5 kA short-circuit current, and up to 2000 A nominal current

Secondary distribution: SafeRing AirPlus

- First AirPlus product available within the SafeRing/SafePlus family
- Ratings available today: up to 24 kV voltage, 16 kA short-circuit current, 630 A nominal current
- For voltages up to 12kV, also available with Dry Air insulation, which is the most eco-efficient insulation gas with a GWP of zero.



Dry-type transformers

Global footprint to follow international accounts everywhere

The largest portfolio of dry-type transformers

- “one stop shop” for transformers
- Vacuum cast coil VSD units with low to no maintenance depending on the installation environment and the low voltage portfolio

The “cleanliness” of dry-type transformers (no oil)

Global supplier, “make your local initiatives global ones”

Safety for people and property



Ecological and environmentally friendly



Easy connectivity to any system



Reliable, high quality, and low maintenance



Dry-type transformers

Customized technologies for special needs

Vacuum cast coil

Encapsulation process under the most rigorous quality controls to ensure optimum insulation and mechanical characteristics.

Windings with the lowest partial discharges level guaranteed.



Solutions for factory electrification

Low Voltage Power Center and Motor Control Center type MNS

- Power Center and Motor Control Center application manufactured in ABB owned factories
- Arc proof execution for personnel safety
- Fully type tested by certified independent laboratories
- Front and rear access configuration to better fit in the installation room
- Withdrawable breakers and feeders to guarantee reduced downtime
- MNS Digital with ABB Ability guarantees to our customers project cost reduction, simple network connection, scalability, continuous operation, energy efficiency, increase productivity.
- New E max 2 breakers with E kip control unit offering features like: grid connection functions (embedded ATS, load shedding, ..), Full communication options included IEC 6185
- Tmax breakers for outgoing feeders, motor feeder protection; a compact and versatile solutions with embedded metering options



Solutions for factory electrification

Low Voltage distribution Switchgear type System Pro E power

- Energy distribution application
- Segregation form from 1 to 4 to match customer specifications
- Fully type tested by certified laboratories
- Fix, Plug-in or withdrawable feeder execution to optimize costing
- Degree of protection up to IP65 for installation in critical areas
- Glassed door with lock to prevent any operation from unauthorized personnel
- E max2 breakers for main incoming
- Tmax breakers for outgoing feeders, motor feeder protection; a compact and versatile solutions with embedded metering options
- Digital multimeter like M2M for measurement of electrical parameters and power quality analysis in order to make equipment as efficient as possible

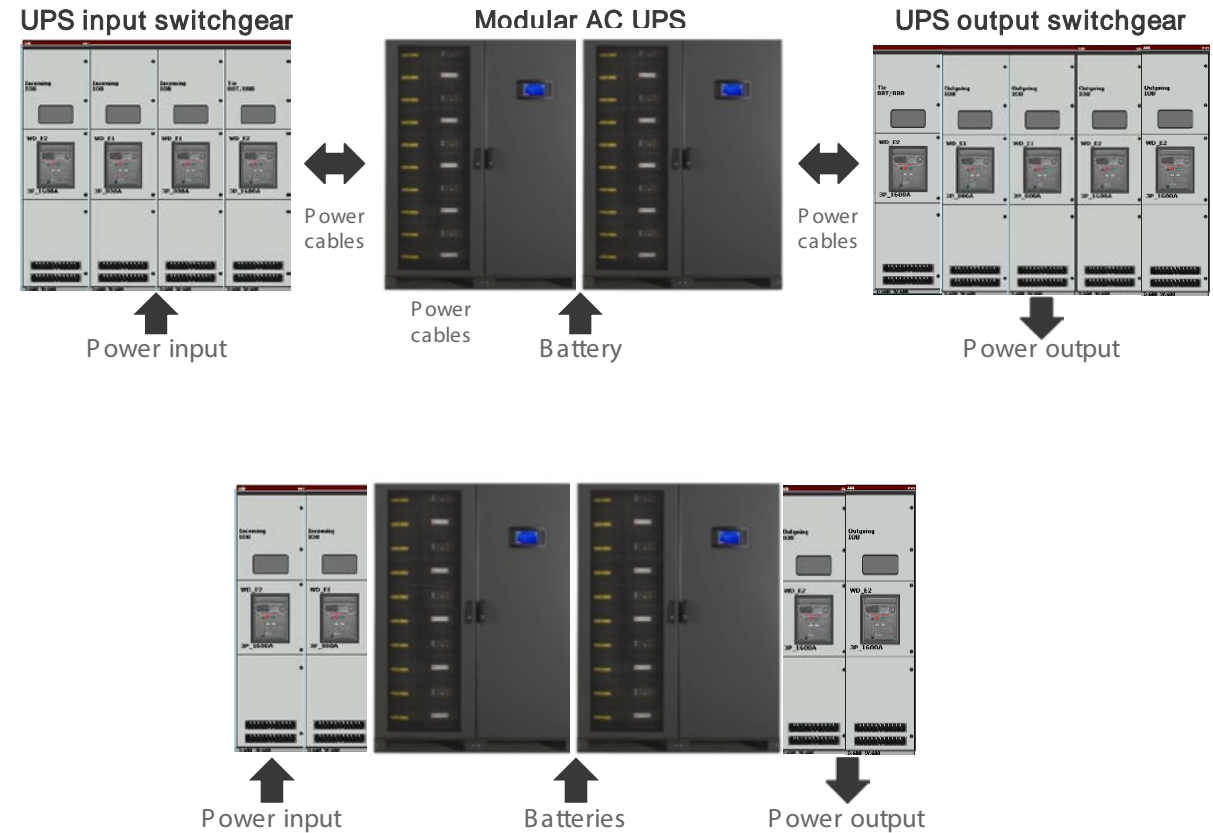


Solutions for factory electrification – Critical power application

Low Voltage Switchgear type MNS -up

- Integrated, modular and scalable AC UPS withdrawable modules and circuit breakers in one single lineup
- Hot swappable modules (UPS & switchgear)
- N+1 topology on module level
- Extremely compact
- Highest safety and reliability
- 100 kW rated power modules, scalable up to 3 MW

[Link to product website](#)



Solutions for factory electrification

ABB Power Protection

ABB power protection ensures reliable power:

- to prevent “out of stock”
- to improve OEE (overall equipment effectiveness)
- to maximize utilization of the production facility ensuring continuous operation 24/7

ABB offers:

- engineered products to optimize overall solution
- innovative solution decreasing energy costs
- standardized product to reduce TCO - inventory level and maintenance cost

Power Conditioning

Mitigation of voltage disturbances, harmonics and correction of power factors for production lines



UPS

Mitigation of voltage, frequency disturbances for digital control system (DCS), IT equipment, communication and security systems



Solar (PV) Inverters portfolio

A comprehensive portfolio enabling the digital grid

- A wide and effective portfolio from 1.2kW inverter up to MWs S tations
- All segments suitable, from small Residential up to Utility scale via Commercial and Industrial
- Global coverage with compliances with all relevant standards

Key features on all products

- Simplified installation procedure and reduced installation and O&M costs thanks to built-in and monitored PV plant and AC side protection devices
- Real-time power tracking and improved energy harvesting even with not uniform PV installation
- Simplified integration with smart environments through the use of embedded communication lines and standard devices, enabling the energy management oriented to self-consumption
- Reduced constraints in the design phase of the plant adapting the configuration to get the maximum energy harvesting





ABB