



Safe, smart and sustainable airports

Let's get your airport future-ready together

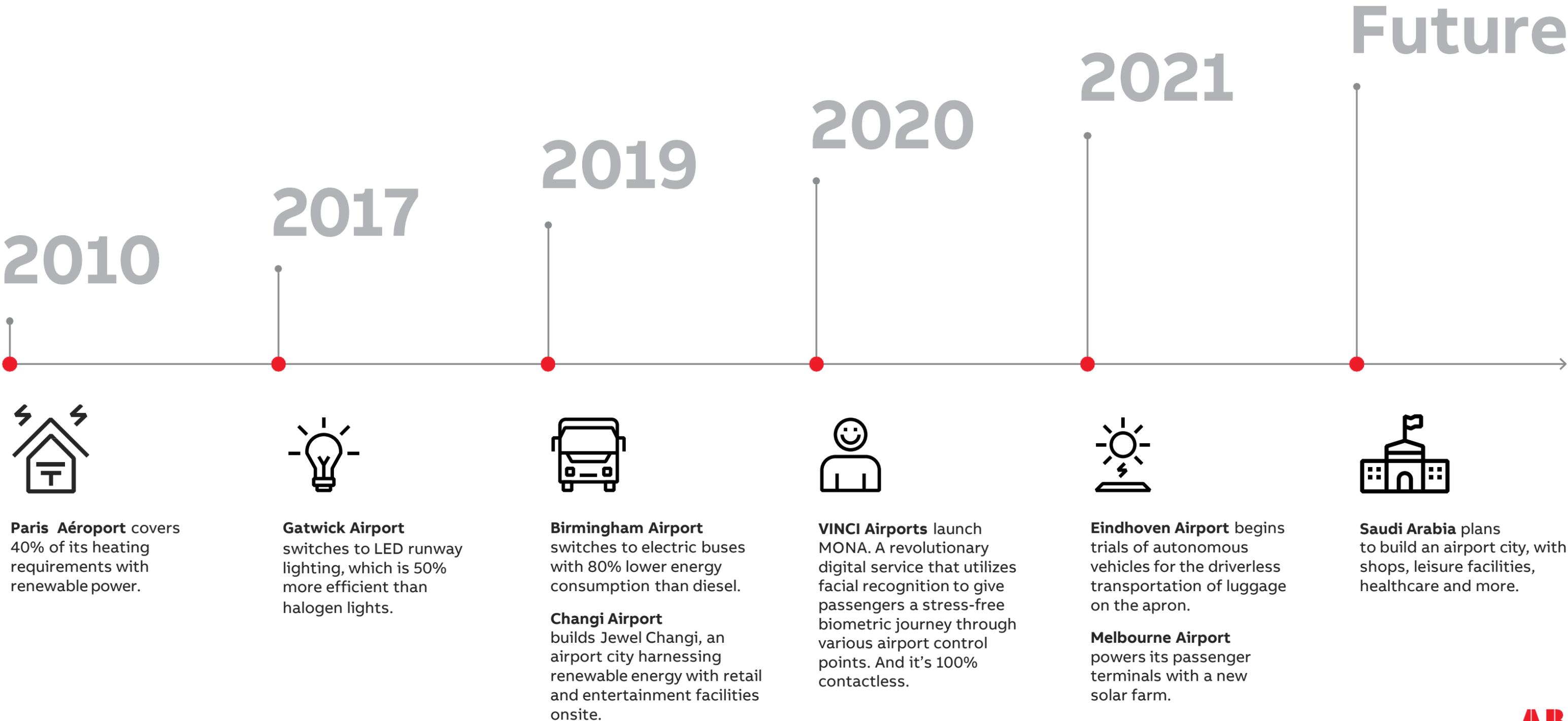
ABB

—
**Airports of the future will
be safe, smart and
sustainable**

综合服务
Comprehensive Service

? 问讯
Enquiry

Evolution of technology in airports



Where are you on this journey?



Airport

1.0

Manual and analogical processes, long lag-times between resource solicitation and airport response

Airport

2.0

Implementation of self-service with automation of key flow processing tasks (bag-drop, passport check)

Airport

3.0

Focused initiatives to leverage digitalization, optimize flow monitoring and passenger processing

Airport

4.0

Fully-connected, proactive and able to adapt to real-time requirements in operations and customer requests



**Digitalization will power
the future**

Delivering far-reaching benefits

Smart infrastructure backed by cutting edge technology is enabling improvement in all areas



Sustainability

Energy-efficient and climate-friendly operations



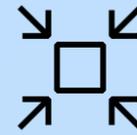
Safety

Increased safety, flexibility and reliability



Savings

Reductions of up to 40% (OPEX)



Space

Reduced footprint by 10%



Speed

25% faster installation and commissioning
30% faster delivery times



Systems

Reductions in weight up to 15%



Creating a new world of opportunity for airports



Ensuring safety and security for passengers, visitors and employees has been the primary focus of airports, traditionally.

Digitalization is creating the opportunity to focus more on operational outcomes.



Operational excellence



Seamless passenger experience



Sustainable operations

Taking operations to the next level

Meet your strategic goals with digital innovations. Digitalization can help deliver improved operations and tangible results.



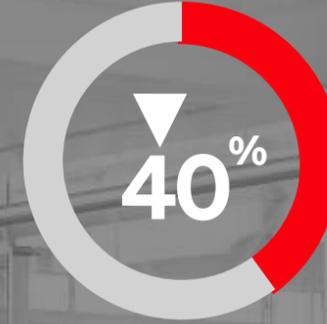
Operational excellence



Increase operational efficiency and save up to 30% on operational costs



Seamless passenger experience



Minimize unplanned downtime and save up to 40% on maintenance costs



Sustainable operations



Increase energy efficiency and save up to 20% on energy bills

Impact of digitalization

Smart airports



Digitalization is driving:

- Enhanced capacity
- Improved operational efficiency
- Cost-efficiency (reduction in CAPEX and OPEX)
- Better passenger experience
- Revenue generation
- Enhanced value propositions
- Ability to attract and retain airlines
- Regulatory compliance

Conventional airports

Failure to digitalize is putting some airports at a disadvantage:



Inferior operational and business performance



Long-term structural cost disadvantages



Ill-equipped to comply with legislative and environmental regulation



Non-competitive operating model



Sunk costs, losses, failed investments



What a digitalized smart airport looks like

Interconnected airport infrastructure with complete visibility of airside and landside operations at the central command center enabling pro-active decision making





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**Arrive at a safe, smart and
sustainable airport with ABB**

ABB can help you take a step closer to the airport of the future

With more than **130 years of innovation** and experience behind us, ABB is a trusted partner and enabler of digital solutions for airport operations.



Broad portfolio of products and solutions



Flexible and modular solutions to scale at your pace



Expert consultative team to guide you through the complexities of digitalization



Local service and support backed by global resources and expertise

ABB delivers value across the project lifecycle for all stakeholders

ABB acts as a collaborative partner providing the expertise, tools and solutions to help drive digital transformation.



Planning

Thought partner
Energy blueprints
Cost estimations



Engineering

Tools
Solution design
Product/solution whitepapers



Procurement

Solution package
Product offers
Global supply footprint



Construction

Factory and integration testing
Quick adaption to project changes
Commissioning

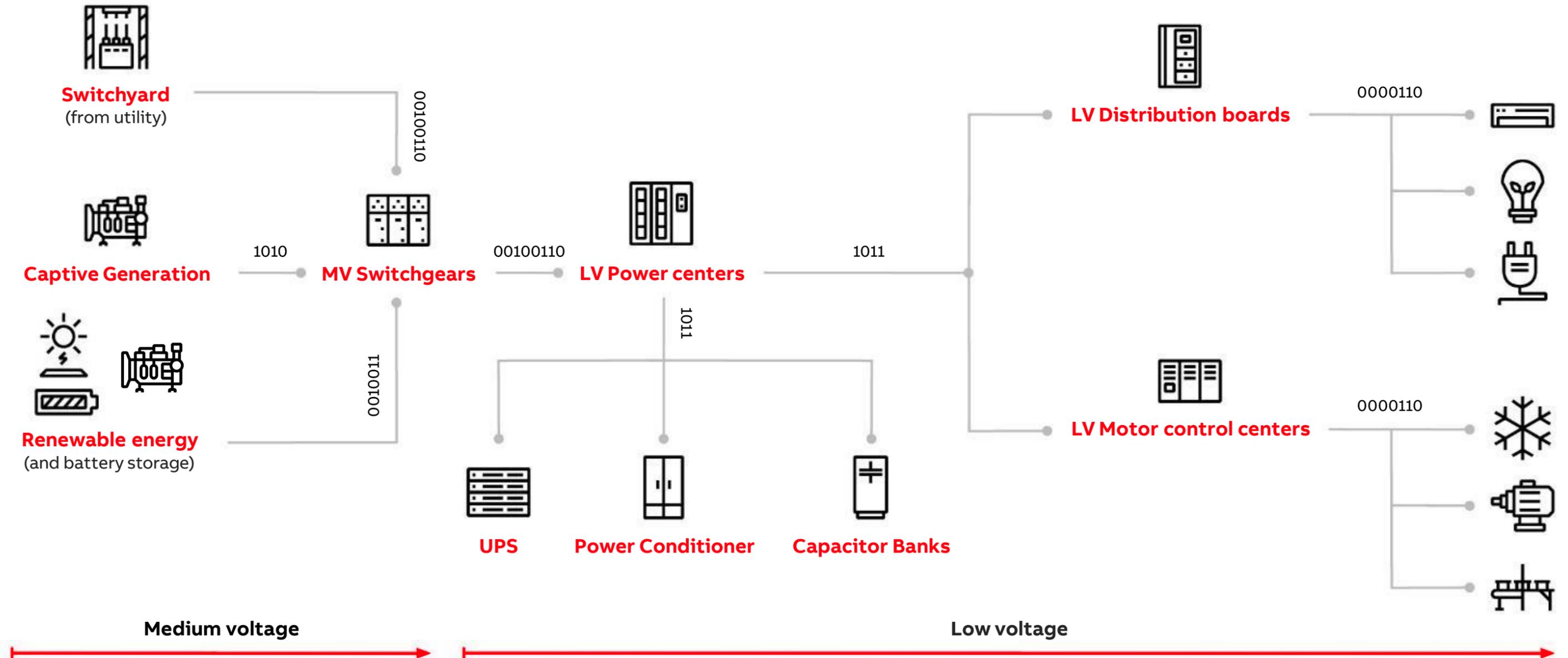


Operation

Training
Spares availability
Maintenance contracts
Upgrades, retrofits

Solutions at all levels

Digitalized electrification landscape.



How can ABB help?

ABB solutions are designed for important applications across the airport landscape



Make power distribution smarter

Delivering value



Optimize your site's energy efficiency for more sustainable operations



Improve your system's reliability for maximum uptime



Benefit from long term costs savings



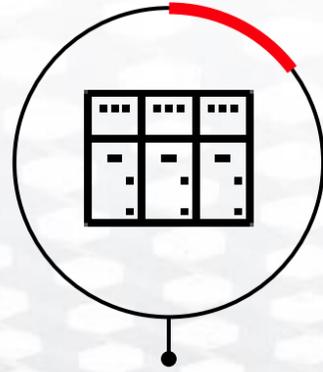
Ensure the safety of people, equipment and buildings



Meet your targets and comply with local aviation authority and government stipulated environmental standards

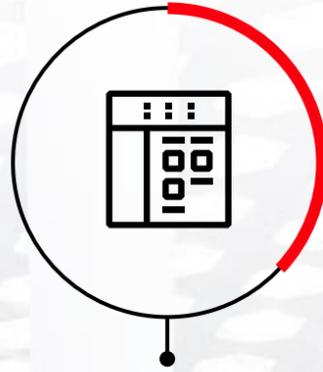


Smart Power Distribution Solutions



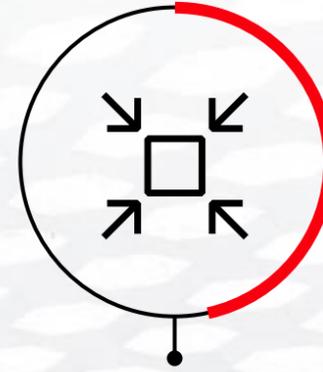
MV Distribution

Gas Insulated switchgear
Air insulated switchgear
Ring Main Units
Indoor/Outdoor vacuum
circuit breakers



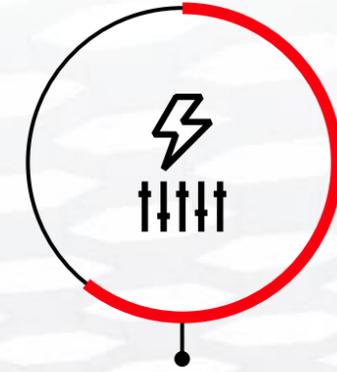
LV Distribution

Main Distribution
Motor Control Center
Sub main distribution
Final distribution
Feeder pillars
Circuit breakers
Switch Disconnectors
Uninterrupted Power Supply



Packaged Solutions

E Houses
Compact substation
Skid mounted solutions
Energy storage solutions



Safety solutions

Lightening and
grounding protection
Arc guard and
protection
Surge protection
devices



Manage energy more efficiently

Delivering value



Understand your energy consumption



Gain insights that help you make more informed decisions about your energy usage



Reduce wastage and meet your sustainability goals

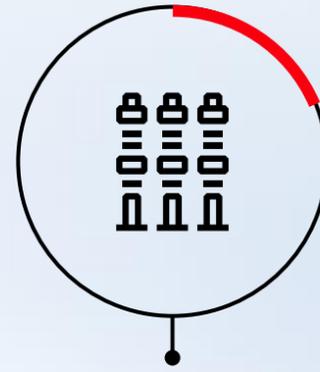


Increase operational efficiency and achieve cost savings



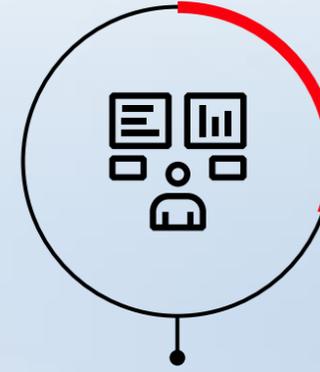
Energy Management Solutions

Powered by ABB Ability™



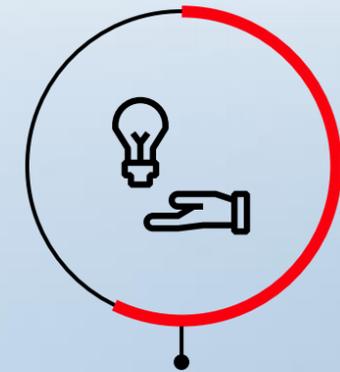
Grid automation and substation management

Centralized protection and control
Substation controller and gateways
Renewable integration
High speed bus transfer



Solutions to view, analyze and manage energy usage

Energy & Asset manager
Edge gateway
Intelligent relays
Smart sensors



Solutions to monitor & control energy

Zenon energy management solution
Relion series relays
System automation

Get the most from your systems and equipment

Delivering value



Understand your system and how efficiently it is operating



Ensure maximum uptime with more efficient maintenance

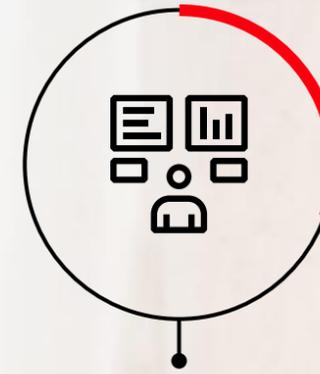
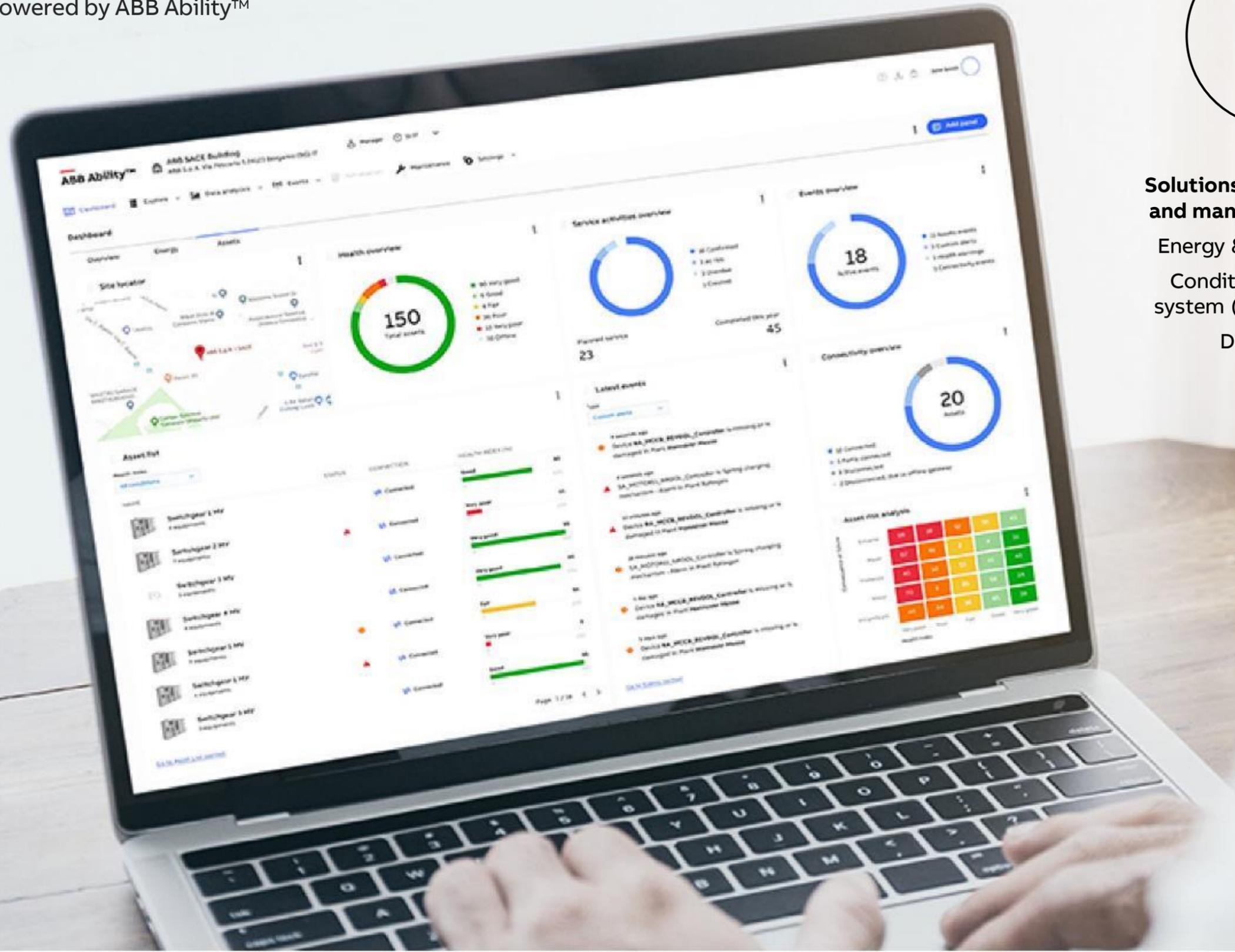


Achieve higher systems reliability with less downtime and reduced costs



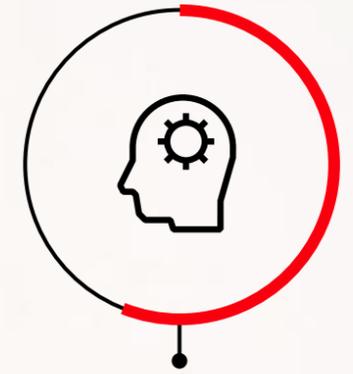
Asset Management Solutions

Powered by ABB Ability™



Solutions to view, analyze and manage asset health

Energy & Asset Manager
Condition monitoring system (SWICOM, CMES)
Digital twin



Predictive maintenance solutions

Predictive analytics
Events & Alarms
APIs to integrate other systems



Backup management
Electrical backup solutions

Make your building smarter

Delivering value



Understand your utility usage in real-time



Increase efficiency and reduce costs with automation



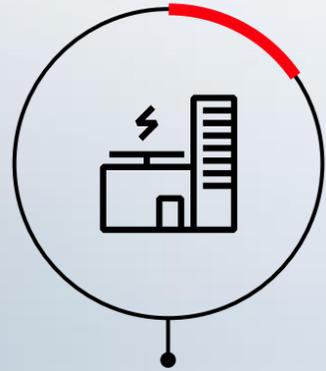
Ensure the safety of people, equipment and buildings



ABB

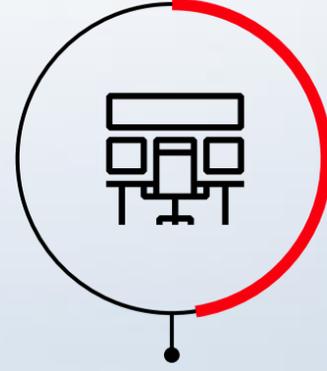
Building Management Solutions

Powered by ABB Ability™



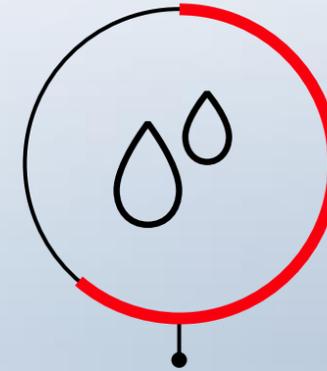
Building automation

- Lighting control
- Multifunction control
- Shading control
- Motion & presence detection
- Door entry solutions



Utility management solutions

- ABB i-bus KNX based solutions
- Heating, ventilation and air conditioning solutions



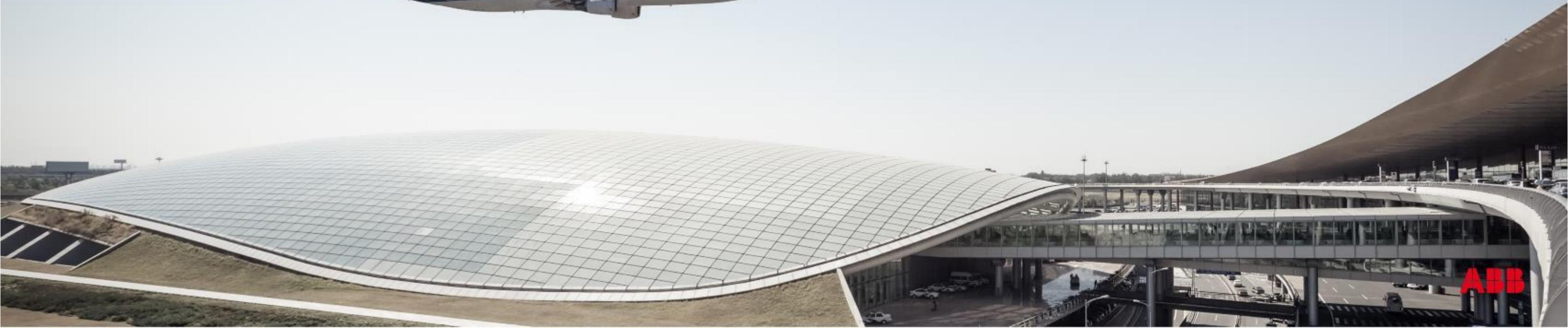
Water and wastewater systems

- High efficiency motors
- Variable Frequency Drives
- Softstarters
- Smart Relays



Landside security and passenger flow solutions

- Emergency Lighting
- Arc and surge protection



Prepare for the future of electric vehicles

Delivering value



Prepare your infrastructure for the future demand of electric vehicles



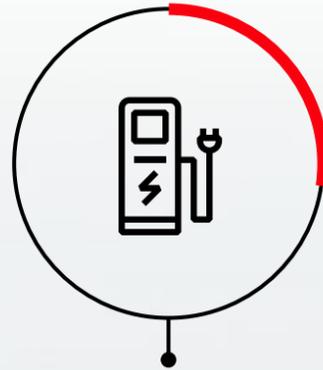
Optimize energy storage and distribution for greater efficiency and cost saving



Connected charging infrastructure for onsite load management, consumer functionality & maximize charger availability

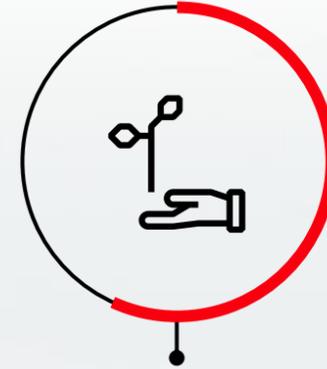


EV Infrastructure Solutions



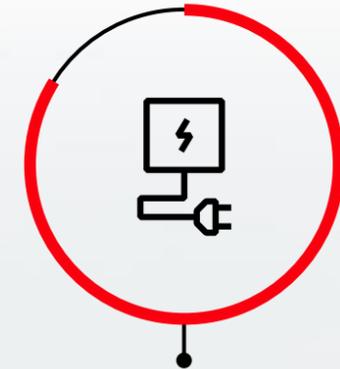
EV Charging Infrastructure

DC fast chargers
Pantograph chargers



Energy distribution & storage

MV & LV Power distribution
Battery storage solutions for substations



Solutions to manage EV charging infrastructure

Remote management solutions to view and analyze charging systems





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Support at every stage of your digital journey

Services

ABB are here to help as a trusted partner with services to support you at every stage of your project. Our global expertise, backed by a wide network of local authorized value providers, ensures that we can quickly respond to your needs.



Planning and design

- System design and calculation support
- Engineering and consultation
- Product information and whitepapers



Construction

- Installation and commissioning
- On-site testing



Operation

- Access to ABB services and support
- Maintenance and repairs
- Spares and Consumables
- Training



Upgrading

- Extensions, upgrades and retrofits
- Expert consultation

Support where you need it

Our global footprint helps us to support you locally, where you are.



53,000
talented employees



Working at over
200
manufacturing
sites



In more than
100
countries

Secure data management made simple

Airports have always been trusted to protect data and ensure the privacy of information.

ABB has the expertise you need to help you manage emerging risks in data security with:



Options for on-premise or in cloud



Secure data management powered
by Microsoft



A company-wide data manifesto at ABB
that guarantees we won't use your airport's
proprietary data without your permission



An aerial photograph of a large airport terminal building under construction, featuring a prominent curved roof structure. Several construction cranes are visible on the ground in front of the terminal. In the background, a city skyline is visible under a clear sky, with a commercial airplane flying overhead. The entire image is overlaid with a semi-transparent red filter.

— **Real-world success stories**

Dubai International Airport Concourse



Challenge:

The construction of Concourse D comprising additional space of 675000 mm² to enhance capacity to handle over 90 million passengers a year.



Solution:

ABB delivered:

- End-to-end electrification solution
- 1km+ Switchgear Cubicles
- Cutting-edge electrical automation
- Energy-efficient drives
- Building automation



Outcome:

A world class airport terminal with state of the art electrical & automation system driving productivity, energy efficiency and passenger experience.



Los Angeles International Airport



Challenge:

Design and supply an energy storage system providing backup power to the airport's new automated people mover (APM), carrying up to 87 million passengers a year.



Solution:

ABB delivered:

- Three Enviline™ ESS – Energy Storage System units with a combined power of 7MW and 2.1MWh of energy. This traction solution stores and recycles surplus braking energy, reducing energy consumption and peak demand.



Outcome:

A reliable, energy-efficient source of backup power that enables timely connections between terminals, even during an outage, resulting in 117,000 less vehicle miles travelled.



Chengdu Tianfu International Airport



Challenge:

To drive energy efficiency and performance by installing intelligent building control systems at Chengdu's new greenfield airport ahead of its June 2021 grand opening.



Solution:

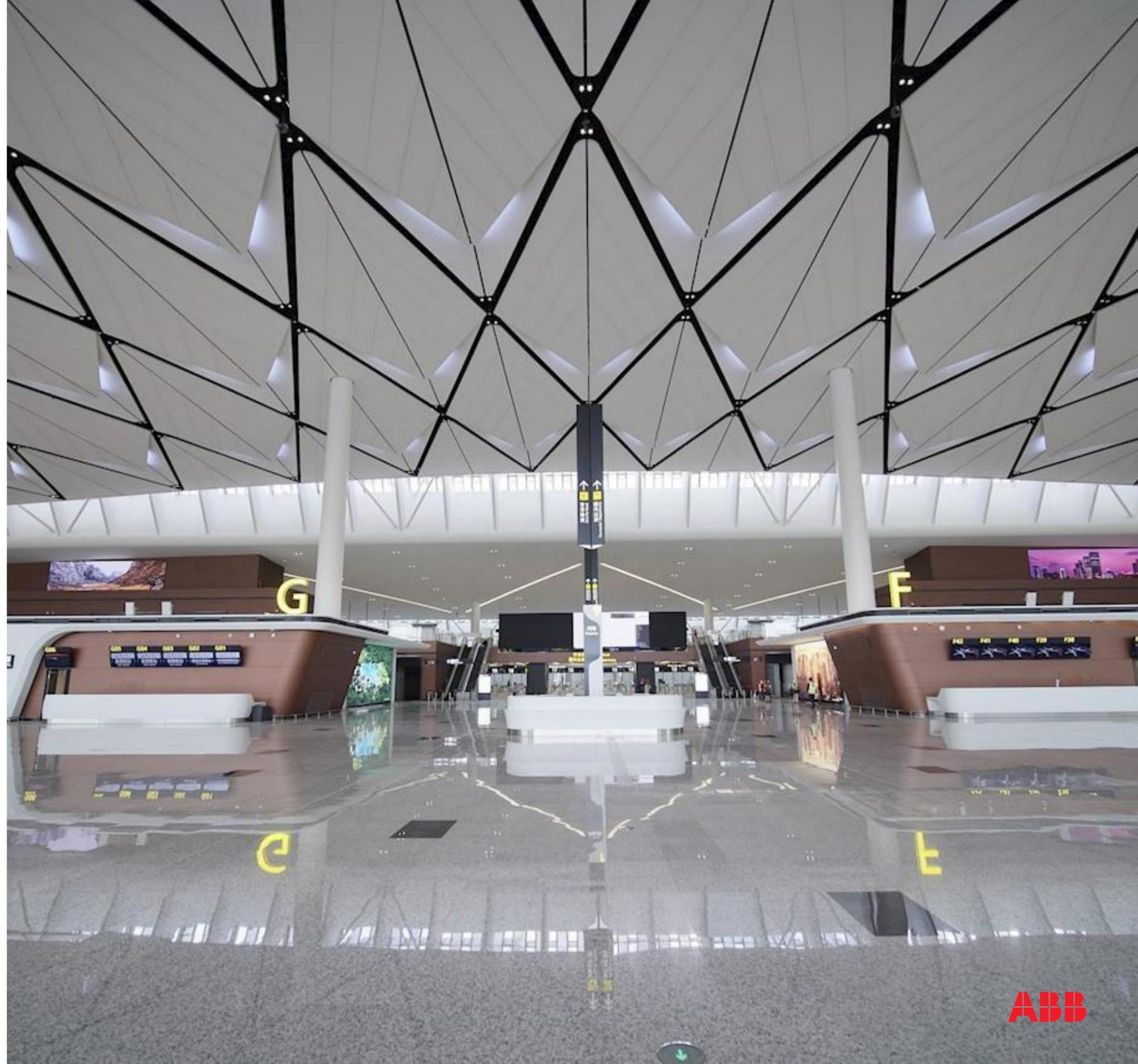
ABB delivered:

- The ABB i-bus® KNX building control system, i-HD panel, VD4 vacuum circuit breaker, Relion® 615 series protection relay, Emax 2 air circuit breakers, Tmax XT molded case circuit breakers and other products.



Outcome:

An intelligent and efficient solution for building management and power distribution. ABB's technology also provides data insights that support decision making and potential energy savings of up to 30 percent.



Birmingham Airport



Challenge:

Work in close partnership with Volvo Bus to develop electric bus solutions for improved urban mobility in and around Birmingham Airport.



Solution:

ABB delivered:

- Installation of the ABB 'OppCharge' opportunity charging pantograph system to recharge six Volvo 7900e fully electric, low emission single deck buses (a full charge achieved within just two to six minutes).



Outcome:

An environmentally-friendly, 24/7 passenger transport service, that went live in November 2019 and is now available as a Green, e-mobility travel option for the airport's 13 million annual passengers, retail staff and airline crew.





Let's get your next project off the ground

How can we help you?

A B B