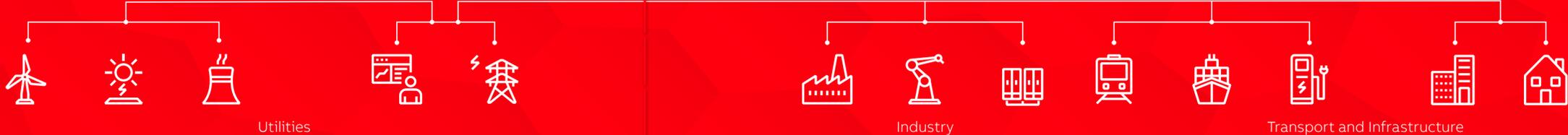

ELECTRIFICATION PRODUCTS, SERVICE AND SOLUTIONS

**Creating a smarter, safer and
more reliable flow of electricity.**



For everyone.

From substation to the point of consumption, innovating for a smarter, safer and more reliable flow of electricity, today and tomorrow.



Pioneering technology leadership.

The fourth industrial and energy revolutions are resulting in technology advances that drive greener and more efficient energy management solutions. At ABB, we drive progress, ensuring that people and equipment are protected and that the flow of electricity to all points of consumption is managed in the smartest way possible – in homes, factories, stadia and for transport. For everyone.

The connected and software-enabled portfolio of ABB Ability™ means that we can sense, analyze and act in a way that helps customers to do more and do better.

With 500,000 solar panels being installed each day and photo-voltaic capacity set to triple by 2020; two million electric vehicles on the road now and expectations that 35 percent of new car sales will be electric by 2040; and the world's demand for electricity growing by 60 percent by that date, the need for reliable and efficient power has never been greater.

We believe in a tomorrow where we can do more with less. We can power the world, sustainably. With our technology, tomorrow is here.

Let's write the future. Together.



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For those who dare to challenge what's possible.

The Gotthard Base Tunnel is the longest, deepest railway tunnel in the world. ABB provides its 'heart' and 'lungs', ensuring reliable electrical power and a constant supply of clean air. Built to excel in extreme environments, ABB products connect and protect essential equipment and cables, keeping the tunnel operational 24/7.

Gotthard Base Tunnel:



Air temperatures
> 40 °C



Humidity
up to 70%



Over 21 km
of cable protection
solutions



899
medium-voltage
switchgears

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For those who trust us to keep them safe.

The University Hospital of Basel is the biggest healthcare facility in north-west Switzerland. All patient information is stored digitally in the hospital's data center. It is essential that the hospital's electrical infrastructure is the best that it can be – lives depend on it. With the number of patients increasing every year, but limited space to expand, the hospital decided to implement ABB's MNS-Up solution, providing the data center with power distribution and uninterruptible power supply in a modular, compact system. The data center can increase in power, but not in size, at any time, and reliable back-up power ensures hospital staff are able to deliver the best patient care.

MNS-Up offers:



Cost savings of **up to 10%** for electrical infrastructure



Space savings of **up to 30%**



Time savings of **up to 20%** for installation



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For those who want to leave a better world behind them.

We're building the cities of the future, today. Dubai's first city to be powered completely by solar energy relies on ABB string inverters. We supplied 400 string inverters to harvest solar energy for 400 villas in the Sustainable City, the region's first fully integrated sustainable community. As well as supplying the inverters, we provided training so that the client's own engineers could install and maintain them. We also supplied inverters for a 1.4 megawatt (MW) parking lot solar roof project. This will charge electric cars, which are the only powered vehicles allowed within the city limits.

The Sustainable City:



Home to **2,000 people**

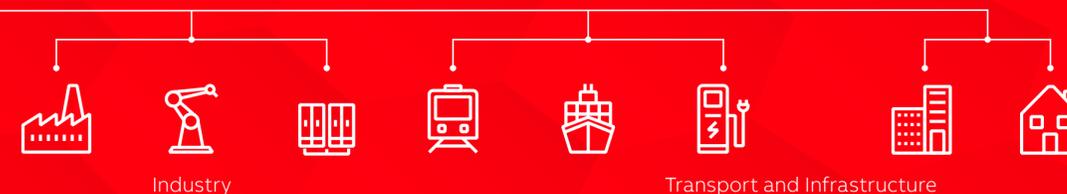


500,000 square meters



10 MWp (megawatt-peak) of power generated from solar panels

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For those who never settle even when they succeed.

Delicious ice cream is synonymous with Italy. The Nestlé plant in Ferentino produces some of the best-known brands in Italy. A power outage would result in an industrial-scale meltdown. Low- and medium-voltage switchgear from ABB ensures a reliable power supply. If a short circuit occurs, the intelligent system limits unnecessary loss of power to the rest of the plant.

Nestlé's Ferentino factory:



Producing more than **26,000 tonnes** of ice cream per year



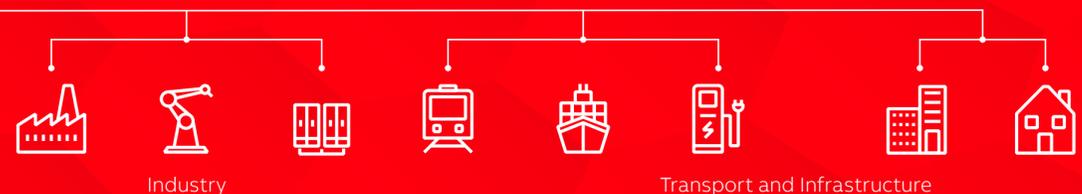
A photovoltaic plant supplies the factory with **2,000 KW** of power



This equals **around 14%** of the factory's electricity, the same as for 750 homes



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For those who don't even realize it.

In homes, offices, buildings and factories all over the world, ABB products keep us safe. More than one billion miniature circuit breakers have been manufactured by ABB since their invention over 90 years ago. If there is a surge of electrical current or a fault is detected, the circuit breaker will cut off the power within 10 milliseconds, faster than the blink of an eye.

The miniature circuit breaker:



More than **1 billion** manufactured

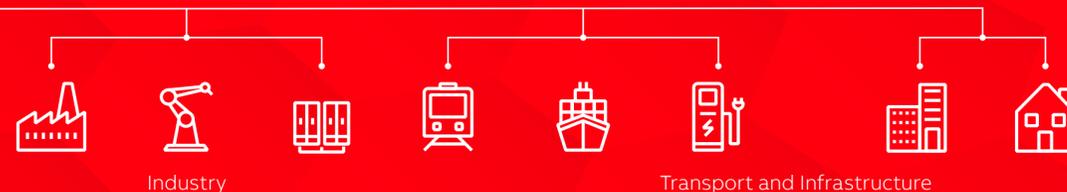


Power cut off **within 10 milliseconds**



Invented more than **90 years ago**

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**For him. For her. For them.
For everyone.**

Known as ‘Las Vegas on the Amstel’, the Ziggo Dome is the Netherlands’ premier entertainment venue. Behind the scenes, the building consumes a huge amount of power, especially during a concert. It is essential that the arena’s electrical infrastructure is reliable – a power failure would ruin the experience for the Ziggo Dome’s 17,000 visitors and high profile artists. ABB was chosen to provide switchgear and enclosures for the arena, plus an intelligent building system to control all the lights – from offices to backstage areas to public spaces – at the touch of a button.

“When people come to see a show they all think about the costumes, the dancers, the fancy stuff, but one of the most crucial things that you need to make a show happen is a reliable power supply.”

Ruud Bongers, Facilities Manager

Ziggo Dome:



More than
1.2 million
visitors per year



More than
100 shows
per year



3 million watts
(comparable with 1,000 households) 100% safe thanks to a reliable emergency system



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Electrification Products division

An overview

 **~48,000**
employees

 **\$9.3 billion**
(In revenue 2016)

 Present in
+100 countries

 **+100**
manufacturing sites
Delivering more than 1.5 million
products a day

Well positioned in attractive markets

Utilities

- Renewable power
- Smart distribution

Industry

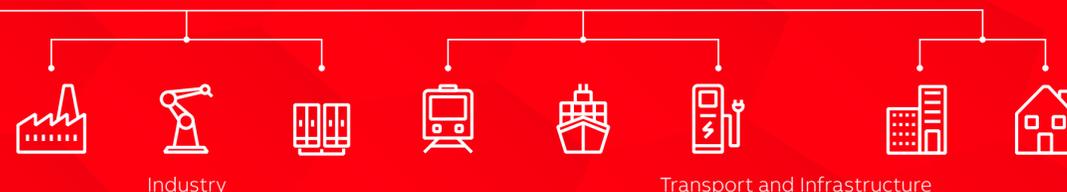
- Power distribution
- Power quality and reliability
- Safety and protection

Transport and Infrastructure

- Building electrification and automation
- Transport electrification
- Data centers

Delivering the broadest portfolio of low- and medium-voltage solutions and services in the industry; connecting, protecting and managing electrical power.

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abb.com/solar
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