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Sustainable Food and Beverage

Virtual event

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Presenter

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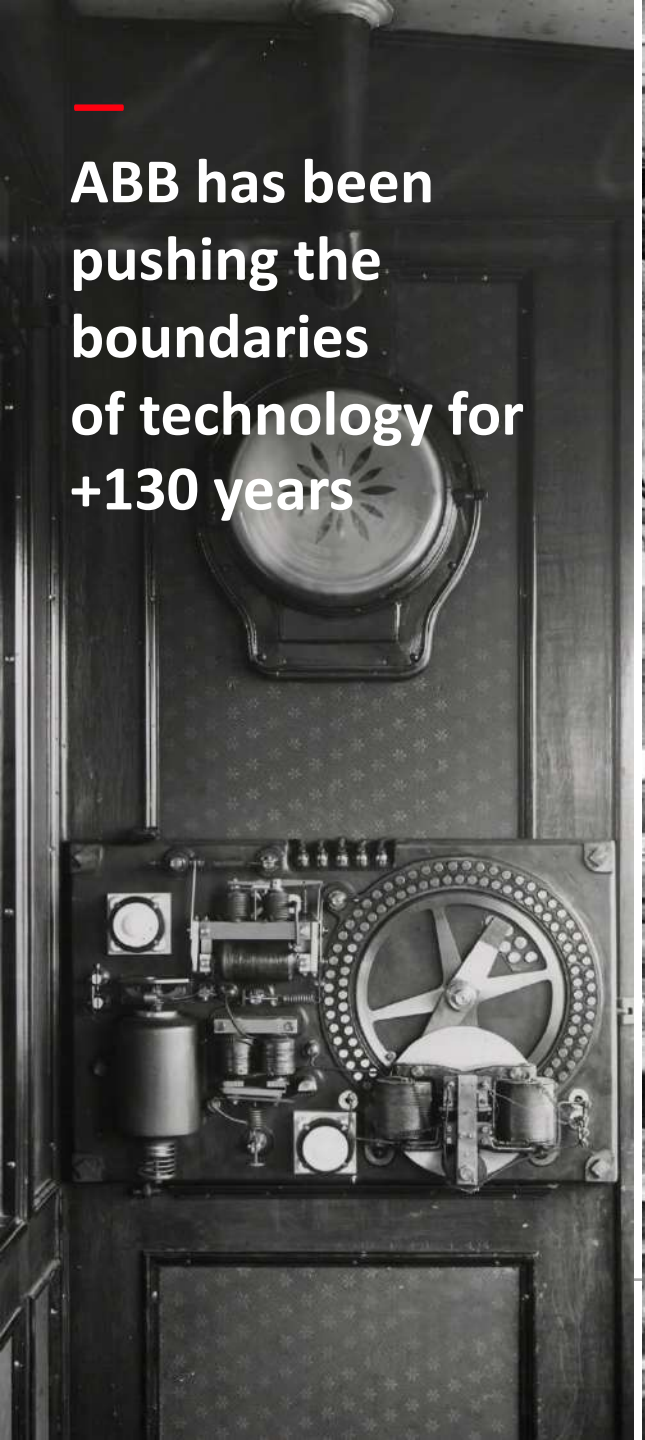
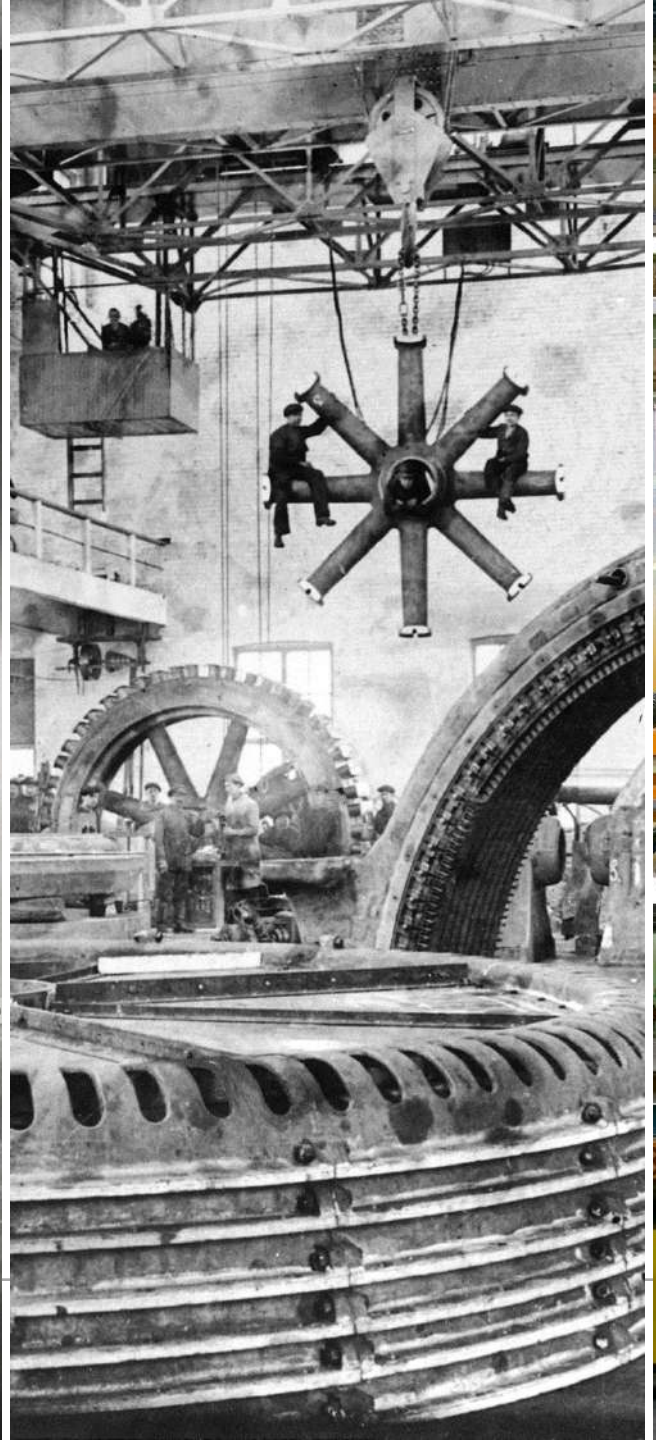


ABB has been pushing the boundaries of technology for +130 years



Our Business Areas

Electrification

Motion

Process Automation

Robotics & Discrete Automation

Building the case for Sustainability in Food & Beverage

The world's population is expected to rise to **9.7 billion** by 2050

30-40% of global food production are lost or goes to waste

Guidelines, standards, and society expectations gets stronger and stronger

~90% of global food and beverage companies have set targets related to CO_2 neutrality

The food sector currently accounts for around ~30 percent of the world's total energy consumption

1. ENERGY EFFICIENCY

SUSTAINABILITY

2. REDUCING FOOD WASTE

CASE #1

Minimising energy consumption

ABB technology contributes to achieving sustainability target

Situation | **Solution** | **Impact**

Campbell's Australia has been a producer of soups, stocks and meals for more than 60 years

- Campbell's set a Sustainability Target to **reduce energy consumption** at their Shepparton, Victoria site by **20% by 2025**.
- Amidst a backdrop of soaring energy prices.
- A refrigeration plant that **operates 24 hours a day / 7 days a week** was identified as a major consumer of energy.

- On-site energy assessment conducted – cost-benefit analysis, savings and payback.
- Induction motor was replaced on a refrigeration compressor with a **72kW high-efficiency SynRM motor and ACS580 variable speed drive** package. Three compressors later retrofitted with SynRM motors.
- Unlike induction and permanent magnet motors, SynRM motors have no rotor windings or magnets - no induced current, so no losses.

- **14% reduction** in energy consumption.
- Annual reduction of **~131 tonnes of CO2 emissions.***
- Savings of **USD 10k per annum, payback period < 12 months.**

SynRM = Synchronous reluctance motor

*Based on Electricity Emission Factor for Victoria of 1.16kg CO2e/kWh. (Source: National Greenhouse Accounts Factor - July 2018)

Case Study: Campbell's Australia cuts costs with SynRM

ABB Conversations: How motor technology drives energy efficiency for Campbell's Australia

CASE #2

Eliminating food waste

Reducing food waste in the dairy industry

Fonterra Dairy for life

Situation | **Solution** | **Impact**

Fonterra's packaging line

Fonterra's processing line protected by PCS100 AVC

- **Application**
  7 x UHT milk packaging lines, Takanini, New Zealand.
- Produces 90% of UHT milk and cream to be exported to Pacific and Asia regions by packing 750,000 liters of fresh milk each day.

- **Challenge**
  ~6-8 events/year cause production interrupt.
- **~4 hrs/event/line (28hrs)** to sterilise and restart.
- Productivity loss approx. **USD 25k+per event**

ABB Active Voltage Conditioning (AVC) technology protects industrial and large commercial operations in environments where an unstable network or utility voltage affects productivity.

- ABB's technology solution eliminates power disturbances, providing estimated **cost savings of ~USD 130k+ per year**

- **Payback** achieved within several months of commissioning.

- **Minimises unwanted downtime** and **eliminates wasted milk product.**

- Intelligent **remote monitoring solutions** can also be deployed via the cloud to

Source: ABB Australia Pty Ltd
VSD = Variable Speed Drive
PLC = Programmable Logic Controller
UHT = Ultra heat-treated

ABB

We are the partner who can drive sustainability within your food and beverage operations


ABB