



Pekka Tiitinen and Veli-Matti Reinikkala, Capital Markets Day, London, September 9, 2014

ABB – Next Level

Pushing the boundaries of automation

Agenda

Next Level in robotics

Next Level in mining

Discrete Automation and Motion

A leading automation player

Industrial motion



#1 in industrial motion motors and drives
Complementary mechanical power transmission offering

Discrete automation



A leading robotics player
Uniquely integrated robotic, motor, drive and control offering

Renewables



#2 in solar inverters with more than 1,000,000 inverters installed
A leading independent supplier of wind converters and generators

Power control and quality



#1 in excitation systems for power generation and high power rectifiers
Comprehensive power protection portfolio for data centers and industries

Transport



#1 in fast charging for electrical vehicles
#1 in drives and motors for marine. Strong in traction propulsion

Robotics is a key growth opportunity for us

Development of the industrial robotics markets

Massive opportunities: new applications, new industries, new markets

Worldwide annual supply of industrial robots in 1'000 robots p.a.¹

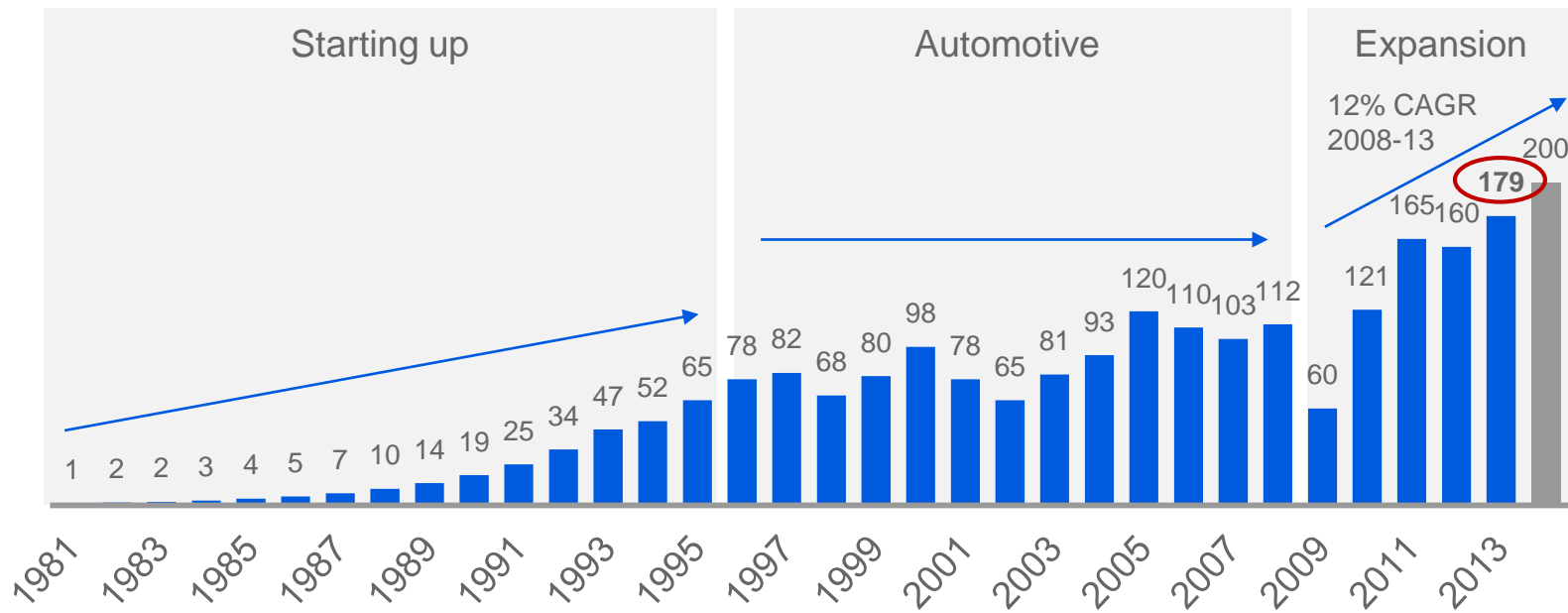


ABB has developed the first industrial robot in 1974

We have supplied 250,000 robots worldwide since then

We have grown above the markets in the last five years

Industry 4.0 / Internet of things, people and services

ABB present in ~100 countries, Robotics in ~50 countries, 100+ locations and 700+ system integrators

Drivers for future robotics expansion

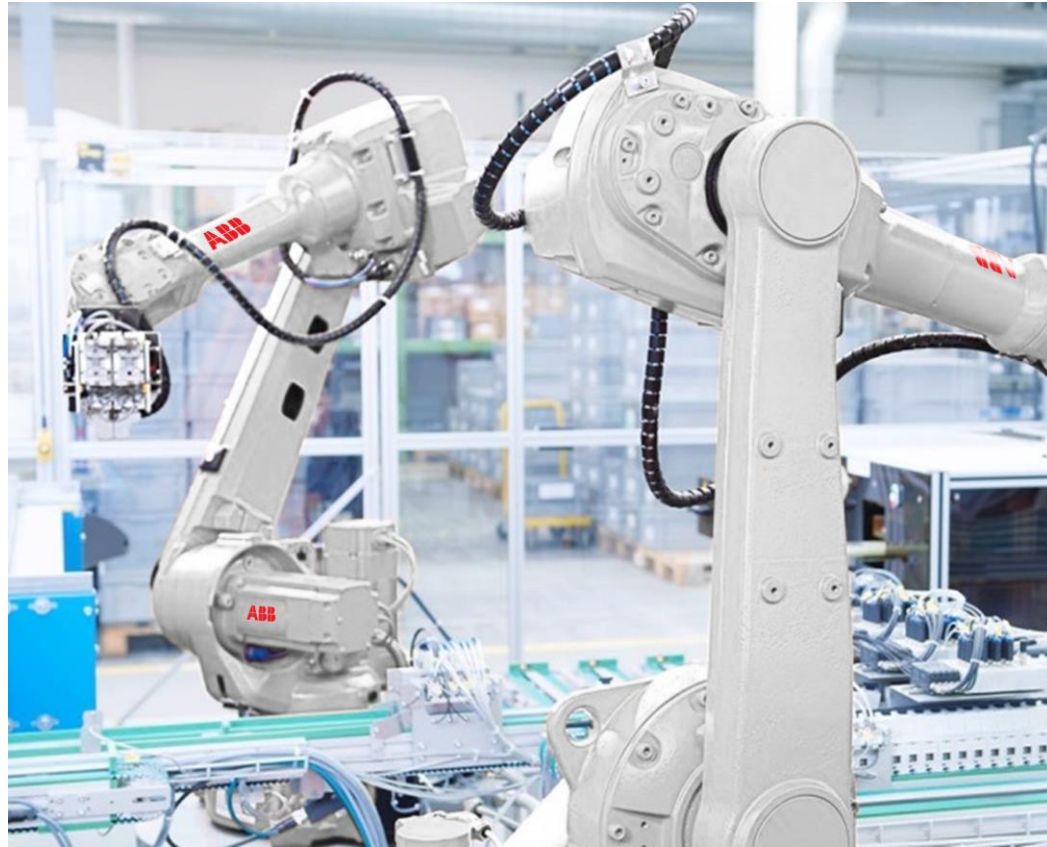
Ease of programming, higher productivity, lower operating costs

Traditional value drivers

Output quality

Productivity and costs

Health and safety



New value drivers

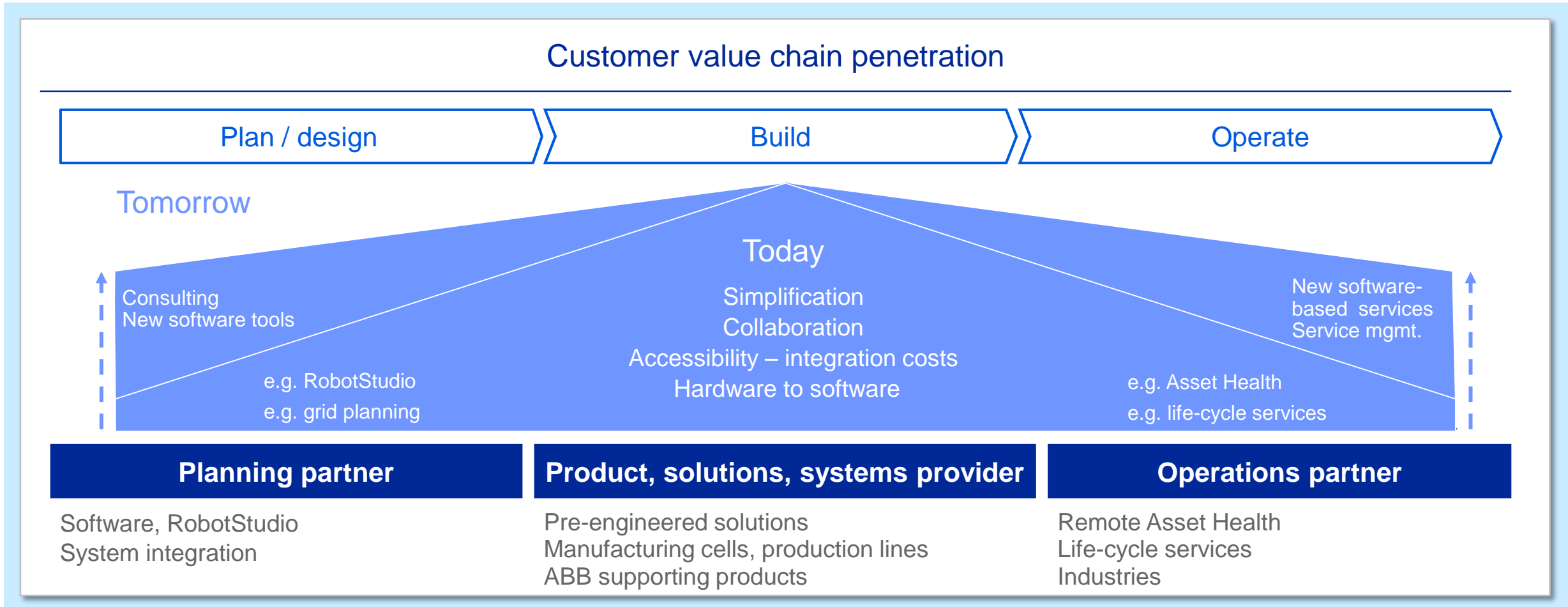
Total cost reduction

Simplified programming

Flexible and collaborative automation

ABB Robotics enabling new robotics applications

We make it easy to deploy and use robotics



Building new solutions and robot concepts

Modular manufacturing cells and function packages

Food and beverage



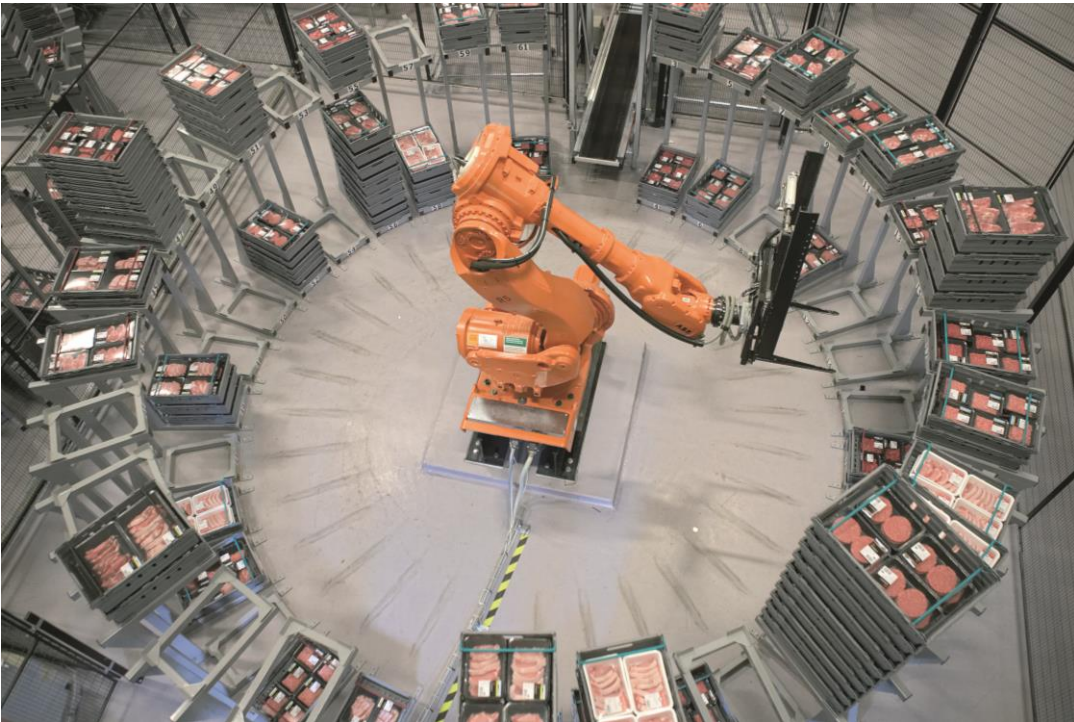
Electronics assembly



Building new solutions and robot concepts

New applications – tomorrow's collaborative robots

Logistics



Side-by-side collaboration



ABB well positioned for growth in Robotics

Broad offering, deep expertise, and global reach

Expanding market

Robots more accessible, total cost of ownership falling
Simpler programming, more robust, proactive, software
Robots expanding into new industries and applications

ABB position

Offering – a complete robot offering and supporting products
Expertise – 250,000+ robots worldwide, pre-engineered applications and solutions. Thousands of applications and service engineers
Global reach – ABB Robotics present in ~50 countries. A strong footprint in China, world's largest robotics market, and a global network of over 700 system integration partners

We are perfectly positioned to capture strong industry growth

Agenda

Next Level in robotics

Next Level in mining

Process Automation business

A leading automation player

#1 in DCS

Pioneer of integrated power & automation control

Process application software

A leading service player

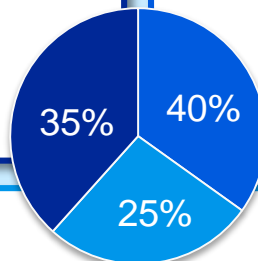
Key deliverables / products, systems, and solutions

Fully engineered products, systems, and solutions for process control, safety, instrumentation, plant electrification, and energy management

Service



Systems



Domain generic products

- Control systems
- Measurement products



Domain specific products



Key industries served

Oil, gas, and petro-chemicals

Metals

Mining and minerals

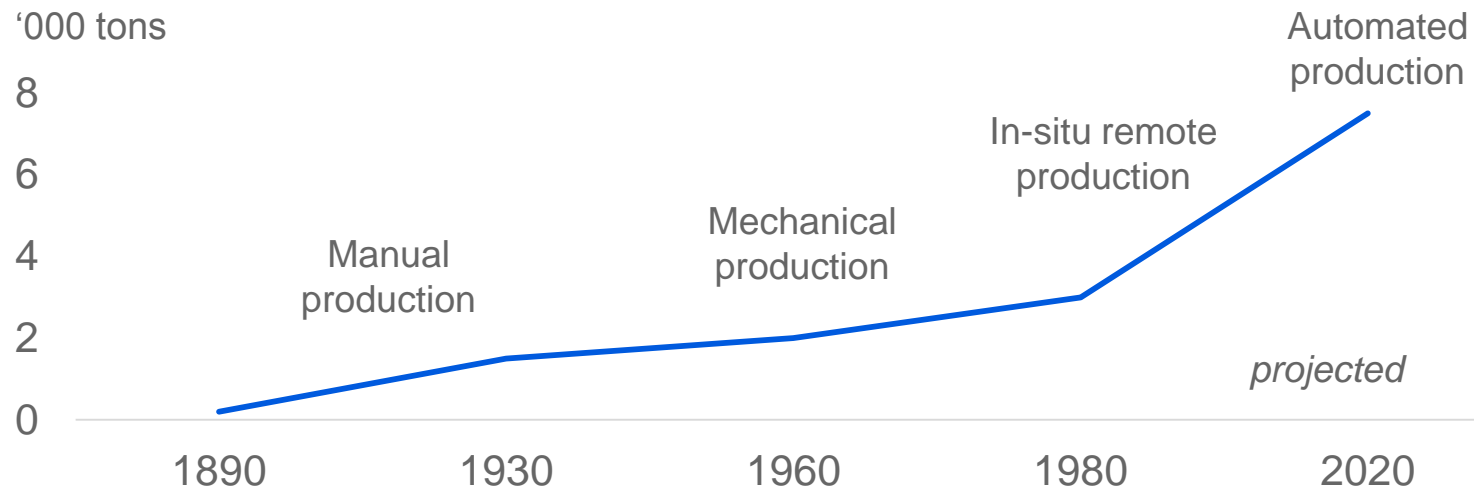
Pulp and paper

Marine

Others

Mining: transformational productivity shift underway

Productivity in tons / person / year



Why now?

- Scaling opportunities at final limits
- Need to make significant investments more efficient and productive
- Regulatory framework

Four key industry requirements

- Productivity
- Safety
- Environmental sustainability
- Reliability

Mining 2.0 – attractive growth moving forward

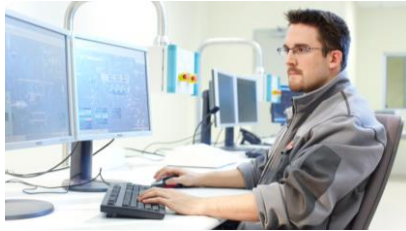
Mines of the future will have...

... people further away from processes

Reduce cost, increase productivity, and safety by remote monitoring, diagnostics and interventions



The old way



Remote monitoring of equipment, preventive maintenance

... equipment closer to processes

Move automation and electricity to where the ore is extracted, minimize haulage, and transport



The old way



Underground electricals and autonomous equipment

... enabled by integrated operations from pit to port, fully automated, and remotely controlled

Key features of future mining operations

- Limited human presence in production area
- Continuous production and mechanical excavation
- Central control room
- Continuous of ore, people, and equipment

We provide the offering for complete mine automation Safer, leaner, greener...and more productive



What are the benefits

- Higher productivity, enhanced collaboration
- Holistic commercial view of the whole enterprise
- Increased energy efficiency
- Improved safety

We are implementing the mine of the future today

Integrated solution for underground mine expansion

BOLIDEN

Sweden



Underground mine expansion
from 1.5 mn ton / year to 2.5
mn ton / year

ABB delivered

Integrated power & automation control system across the value chain from mine to mill

- IT / OT integration, advanced process control
- Remote monitoring capabilities
- High-, medium- and low-voltage electrification, motors, and drives

Energy efficiency solutions

- Ventilation on demand, smart switchgear
- Mining specific drive-motor packages

We are the ideal partner for our mining customers

Mining represents a high-growth opportunity for ABB

Unique solutions, differentiation through technology and software

Future growth opportunities

Transformational productivity shift underway

Mining is among the least penetrated industrial sectors for automation

Automation key to improve safety, product quality, cost competitiveness

Service and software can increase productivity of existing mining equipment

Penetration

Go with our customers to “new” mining regions, i.e. Central and West Africa

Innovation

Drive integration and automation along the value chain – Mining 2.0

Expansion

Complement offering of key products (e.g., underground mining, explosion proof products)

Delivering power & automation solutions together is a competitive advantage

Power and productivity
for a better world™

