



**For a plant assessment that improves processes
and reduces costs...**

Talk to us



The challenge

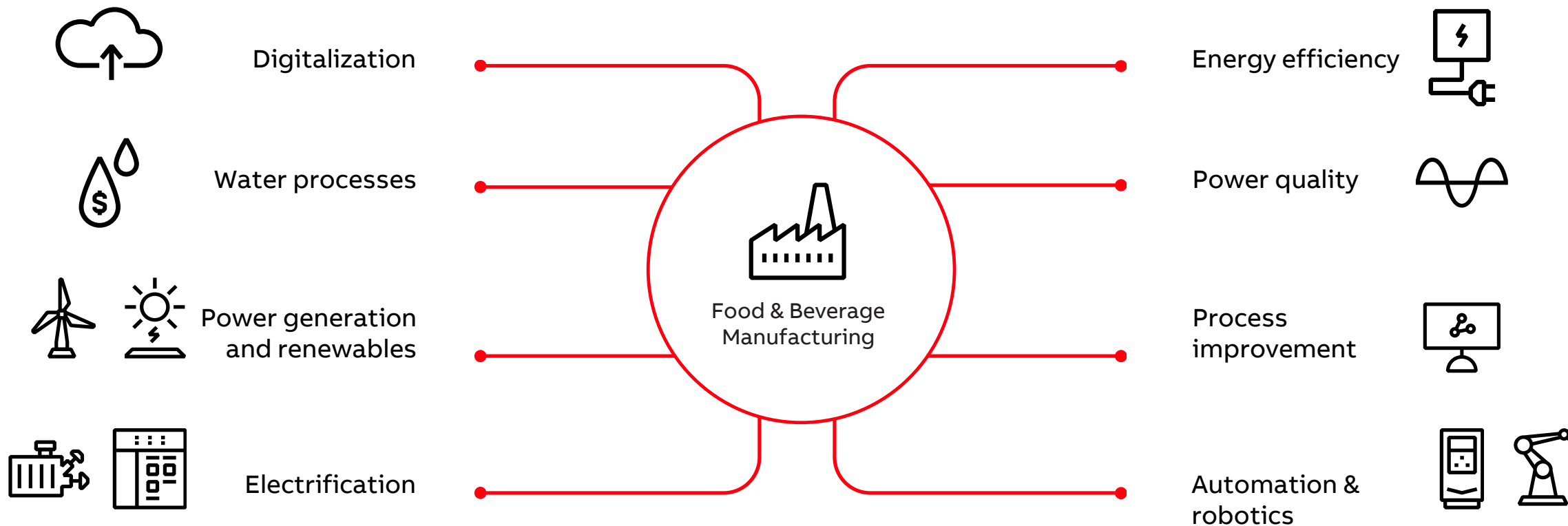
Competing in the F&B market requires productivity improvement and cost reduction

- Maintenance is the largest single controllable expenditure, with budgets equalling 66% of annual net profit (DuPont)
- Tyson Foods' commitment to sustainability, from top down, with goals to reduce water use and greenhouse gases by 25% each
- At Unilever, factory improvements costs are too high and need to be reduced 15% by 2020
- The cost of unnecessary maintenance is about the same as total plant profit loss for one day of no production



The partner

Competing in the F&B market ABB's cross-disciplinary expertise helps you meet industry challenges productivity improvement and cost reduction



The goal

A plant assessment can help you power, automate and digitalize your future

Efficiency



A plant with infinite possibilities

Digitalization



A plant that connects to everything

Sustainability



A plant that's truly sustainable

The goal

A plant assessment can help you power, automate and digitalize your future

Safety



A plant that safeguards product integrity

Reliability



A plant that maximizes reliability

Quality



A plant that creates certainty

The goal

Every plant has its own successes and areas for improvement

If you experience...

- Personnel safety and repetitive motion/risk of injury
- Food quality and safety concerns
- Loss of productivity due to unplanned outages/maintenance
- High plant operating costs
- Failure to meet strict quality/energy compliance requirements
- High energy/resource use

ABB can help you assess...

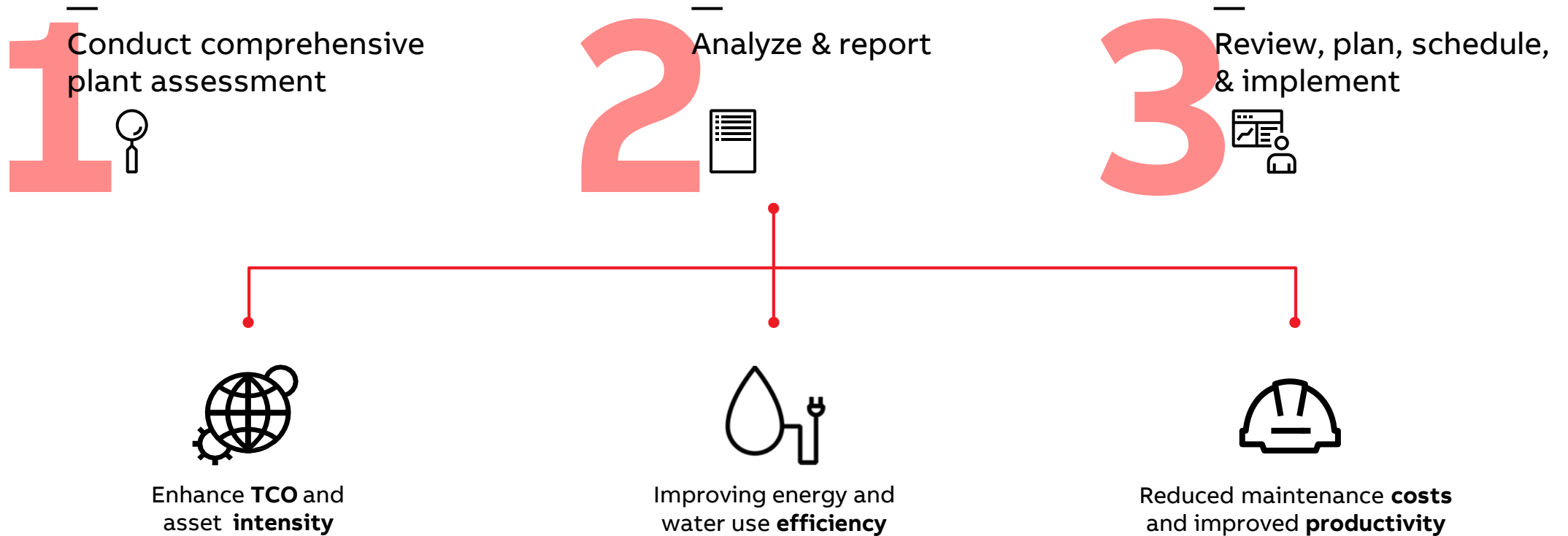
- Areas to safeguard the system
- Safety and ergonomic aspects
- Food safety and contamination issues
- Production line with focus on packaging end-of-line
- Electrical distribution system
- On-site harmonics and other power quality measurements
- The complete factory, with a comprehensive plant assessment

To achieve...

- Increased food, plant and personnel safety
- Reduced electrical system changeover / downtime by 40-50%
- Improved production availability 5%+
- Extended equipment life at 10% of the cost of new equipment
- Optimized plant process performance by up to 20%
- Compliance with the strictest power quality regulations

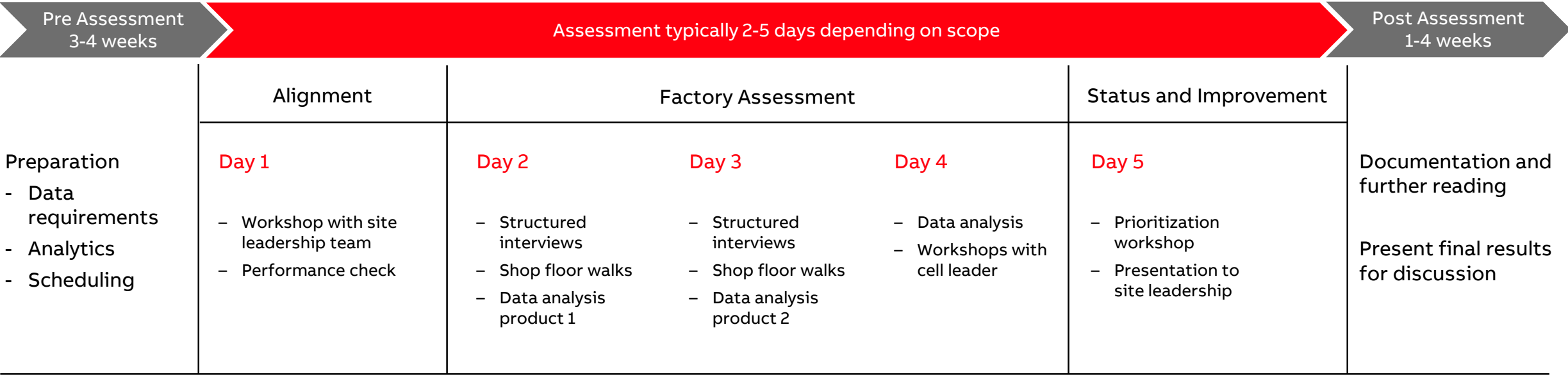
The process

Our approach provides a clear understanding of how to improve operational performance



The process

Our holistic approach provides a clear understanding of how to improve operational performance



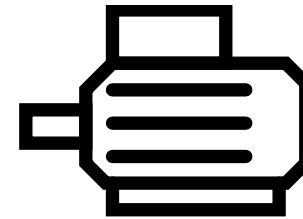
The outcome

Example 1 – Savings for end customer

ABB conducted a plant assessment for an international food company that requested 'pure electrical energy assessments'

Results:

- Average saving of 300k USD per site, per year
- Optimization of motor fleet step by step, savings in maintenance and efficiency of new motor technology
- Refrigeration plant savings of approx. 20% thanks to change in control philosophy



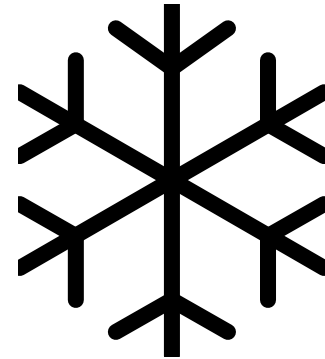
The outcome

Example 2 – McCain cuts refrigeration costs

McCain commissioned ABB to conduct an assessment of its UK food plant

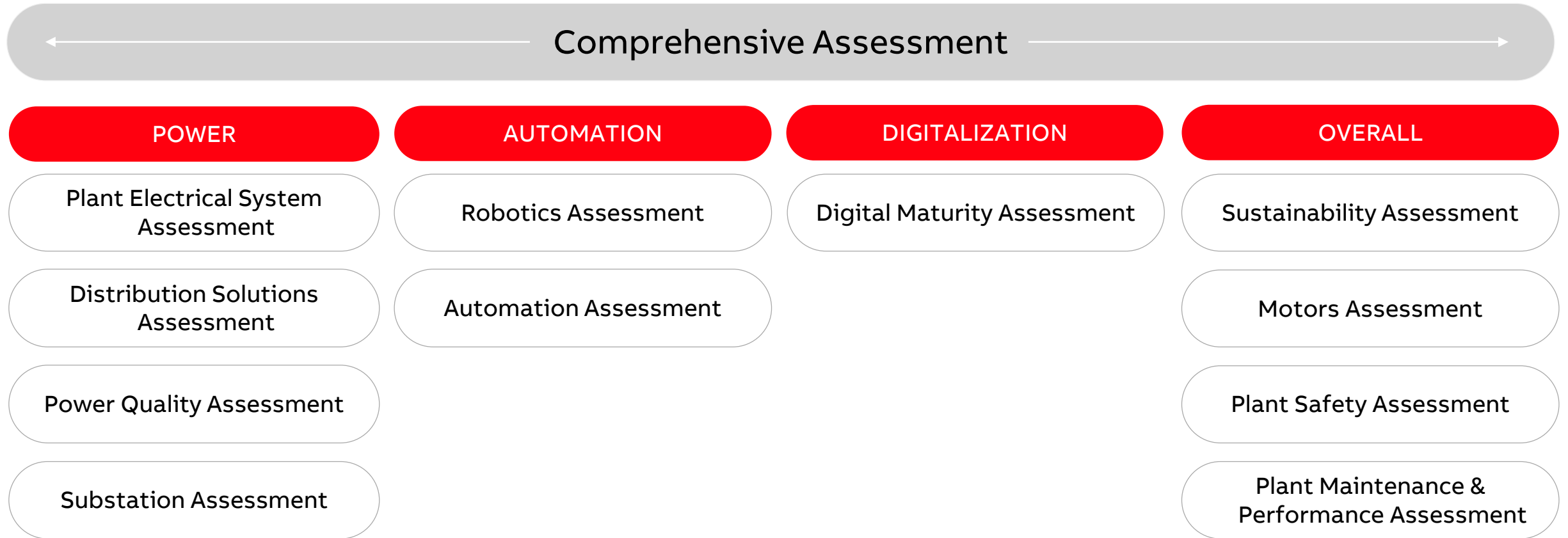
Results:

- New refrigeration plant cut number of compressors from 20 down to 7
- Better control of plant with direct connection to the network – no complex multi-winding transformer required and no need for external filter equipment
- Drives exceed requirements of EN 61000-3-12 and IEEE519 and offer genuine unity power factor with no compensation needed



Tailored to your needs

We offer a number of specialized plant assessments based on your plant's unique needs



Digital maturity assessment

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If you experience...

- Need for production flexibility and speed
- Concerns of product quality and safety
- Need for efficiency improvements
- Food or personnel safety issues
- Cost reduction needs

ABB can help you assess...

- Digitalization level within the plant
- Value potential of digital technologies for your plants
- Value chain end to end

And the potential of:

- Digital implementation projects (quick wins, high impact solutions)
- Joint development projects
- Broad variety of digital solution opportunities

To achieve...

- More accurate planning and forecasting
- Increased resource efficiency
- Assurance of food & production quality
- Increased asset utilization
- Improved labor effectiveness
- Automated real-time quality control

Plant electrical system assessment

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If you experience...

- Corrosion issues
- Unexpected downtime related to Electrical Distribution System
- Liquid ingress issues
- Food Safety concerns

ABB can help you assess...

- Electrical distribution system
- Food safety and contamination issues
- Wiring issues such as liquid ingress

Typical assessment consists of the following:

- Consultation and plant walkthrough to identify existing and potential threats to your plant's uptime and profitability
- Findings and recommendations to match your plant challenges with proven food and beverage solutions

To achieve...

- An increase in your overall equipment effectiveness (OEE)
- A decrease in electrical system changeover and downtime by 40-50%
- An increase in food safety, a reduction in product contamination and a safer workplace for your employees
- An extension in the life of your electrical system by up to 300%
- Avoid potential fines due to possible OSHA, FDA, or code violations
- A reduction in the equipment and components required for maintenance, repair, and operations (MRO) inventory

Power quality assessment

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If you experience...

- High energy & operating costs
- Reduced energy efficiency
- Impaired equipment performance
- Unexpected equipment failure

ABB can help you assess...

- On-site harmonics and other power quality measurements

Assessment includes in-depth technical analysis and solutions:

- Utility bill analysis to identify power factor penalties, kVA demand and other charges
- Technical recommendations to resolve power quality issues (Low and Medium Voltage)
- Customized, comprehensive written report detailing technical analysis and recommendations

To achieve...

- Compliance with the strictest power quality regulations on reactive power & harmonics
- Reduced and/or eliminated utility penalties for low power factor and/or harmonics
- Reduced power losses in cables and transformers
- Reduced production downtime and/or commercial system downtime
- Increased system efficiency and reduced CO2 emissions
- Increased savings

Robotics automation assessment

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If you experience...

- Repetitive motion requirements / injuries
- Harsh work environment
- Production line speed/capacity issues
- Need for traceability

ABB can help you assess...

- Production line with focus on packaging end-of-line
- Safety and ergonomic aspects

A typical assessment includes the following:

- Pictures/videos of line in operation
- Review operation costs/production data
- Summarize information/present results
- Feedback meeting to prioritize projects and define next actions

To achieve...

- Improved traceability
- Reduced labor costs
- Improved productivity
- Higher reliability
- Potential reduced footprint of line
- Improved consistency and quality of pallets
- Increased speed and flexibility to accommodate more complex products and packaging configurations

Electrification products distribution systems

MV Service MySiteCondition life cycle assessment

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If you experience...

- Unexpected downtime due to electrical network
- Aging installed base
- Limited operational budgets
- Limited maintenance / service staff

ABB can help you assess...

- Importance of the equipment
 - Actual site condition
 - Critical points in the network
 - Available historical data
 - Operator and asset safety
 - Product life cycle status
- Assessment includes:**
- Executive report with high priority actions
 - A detailed risk mitigation plan
 - Recommended actions and proposal for optimal budget allocation

To achieve...

- Reduced unexpected downtime
- Improved reliability and safer working environment
- Focused maintenance activities based on risk analysis
- Prioritization of asset replacement
- Move towards less costly condition-based maintenance

Power grids & grid integration

Substation LifeStretch™

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If you experience...

- Unexpected down due to incoming power
- Aging installed base in substation
- Criticality of the load
- Energy efficiency issues
- Limited O&M budgets
- Limited maintenance / service staff

ABB can help you assess...

- Substation risk – involves all components and subsystems of the substation impacting its performance

A typical assessment includes the following:

- Definition of alternatives to mitigate risks and fulfill your objectives
- Reliability analysis to enable the most efficient allocation of investment capital

To achieve...

- Knowledge of the risk associated with substation components
- Involvement in defining the risk mitigation alternatives
- Tailored criteria to compare risk mitigation alternatives
- The right investment decision or the substation life extension
- Fewer unplanned outages / failures

Sustainability assessment

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If you experience...

- High resource usage
 - water
 - electricity
 - natural gas
- Green house gas emission issues
- Waste reduction issues
- Energy efficiency issues

ABB can help you assess...

- Environmental and financial impact of
 - Water usage
 - Green house gases
 - Energy efficiency
 - Harmonic levels

Assessment output includes:

- A report detailing all issues and the recommended actions
- Estimated costs to implement and ROI
- Site by site recommendations with prioritization

To achieve...

- Increased energy efficiency
- Lower energy and operating costs
- Increased electrical system efficiency and reduce CO₂ emissions
- Reduced water usage
- Compliance with the strictest power quality regulations on reactive power and harmonics

Automation assessment

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If you experience...

- Need to automate production
- Need for better traceability
- Need to improve capacity, OEE, operational efficiencies
- Need for better process visibility

ABB can help you assess...

- Automated components in the plant
- Current automation conditions and future automation needs
 - Full plant or partial plant

Assessment output:

- Complete automation roadmap

To achieve...

- Reduced personnel health and safety risks due to repetitive motion requirements
- Increased production line speed and capacity
- Adaptation to new production lines
- Enhanced product traceability
- Improved quality and consistency

Motor assessment

Robotics & Motion Motors & Generators (RMMG)

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If you experience...

- Energy efficiency issues
- Limited knowledge of the condition of motors currently in service
- Motor failure or performance issues, need for wash down capabilities
- Need for inventory reduction & control

ABB can help you assess...

- Energy appraisal of:
 - process liquid pumps
 - cooling and heating fans
 - compressors
 - cleaning system pumps
 - centrifuges
- Washdown application review for equipment maximum life, uptime, and food safety
- Usage and storeroom evaluation for sku reduction and inventory reduction

To achieve...

- Application of the optimal Food Safe components
- Significantly reduced opportunities for contamination
- Increase service life by 2x or 3x in the harshest applications
- Energy savings of 15-30% with proper application of Drives with Motors

Plant safety assessment

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If you experience...

- Personnel injuries
- Lost time accidents
- Downtime
- Significant operation with machinery required
- Need to improve safeguarding of equipment

ABB can help you assess...

- Level of risks associated with:
 - Machine operation and disturbances
 - Space for machine and operator
 - Machine movement speed
- Frequency of potential injury
- Safety of machines within the facility
- Areas to safeguard the system

Assessment output:

- Identify safety inefficiencies of machines
- Action plan to correct inefficiencies
- Recommended solutions

To achieve...

- Improved safeguarding
- Reduction of risk for injury or harm
- Compliance with ANSI machine safety standards
- Reduce potential for fines from regulatory agencies
- Potential to reduce insurance premiums

Plant maintenance & performance assessment

Full Service Assessment

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If you experience...

- Limited CAPEX / OPEX
- Need to extend life of existing plant
- Need to improve return on assets
- Need to improve compliance and safety performance
- Need to identify and manage risk

ABB can help you assess...

- People, processes and technology
- Electrical & automation equipment performance
- Maintenance procedures and equipment life expectancy
- Process performance
- Production throughput
- Energy and material usage

Assessment output:

- Equipment lifecycle risk, maintenance optimization plan
- Recommendations for improvement
- Business case for taking actions

To achieve...

- Improved production availability 5%+
- Extended equipment life at 1/10th of the cost of new equipment
- Optimized process performance by up to 20%
- Improved productivity by 5%
- Increased Overall Equipment Effectiveness by 2 to 5%

Holistic assessment

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If you experience...

- Need for energy efficiency improvements
- Food or personnel safety issues
- Productivity improvements required
- Cost reductions needed
- Need for more consistent quality

ABB can help you assess...

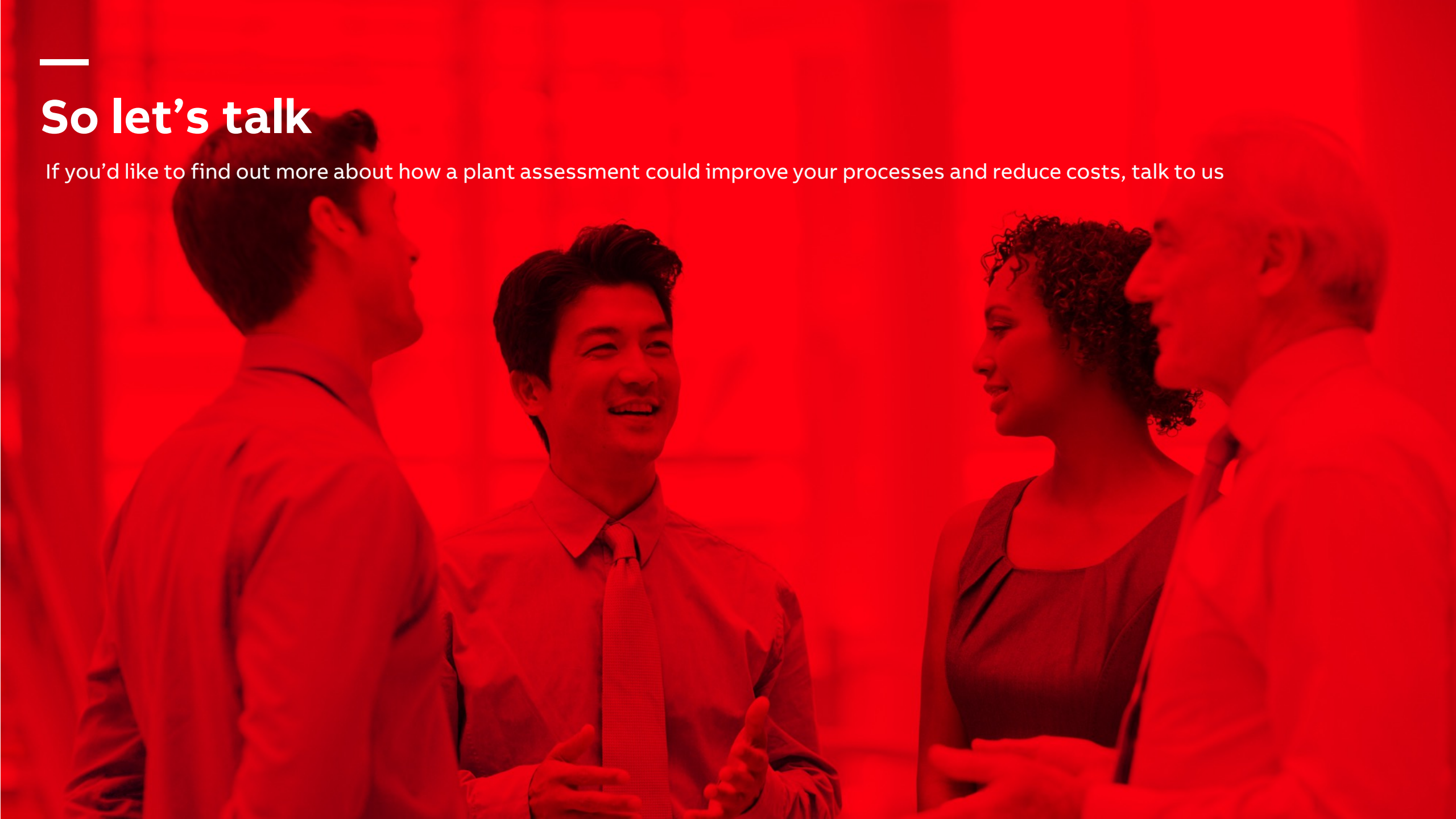
- The complete factory, with a comprehensive plant assessment
- Holistic assessment includes:
 - digital
 - water process
 - power generation and renewables
 - electrification packages
 - energy efficiency
 - power quality
 - process improvement
 - automation
 - robotics

To achieve...

- More accurate planning and forecasting
- Increased resource efficiency
- Assurance of food & production quality
- Increased asset utilization
- Improved labor effectiveness
- Automated real-time quality control

So let's talk

If you'd like to find out more about how a plant assessment could improve your processes and reduce costs, talk to us



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