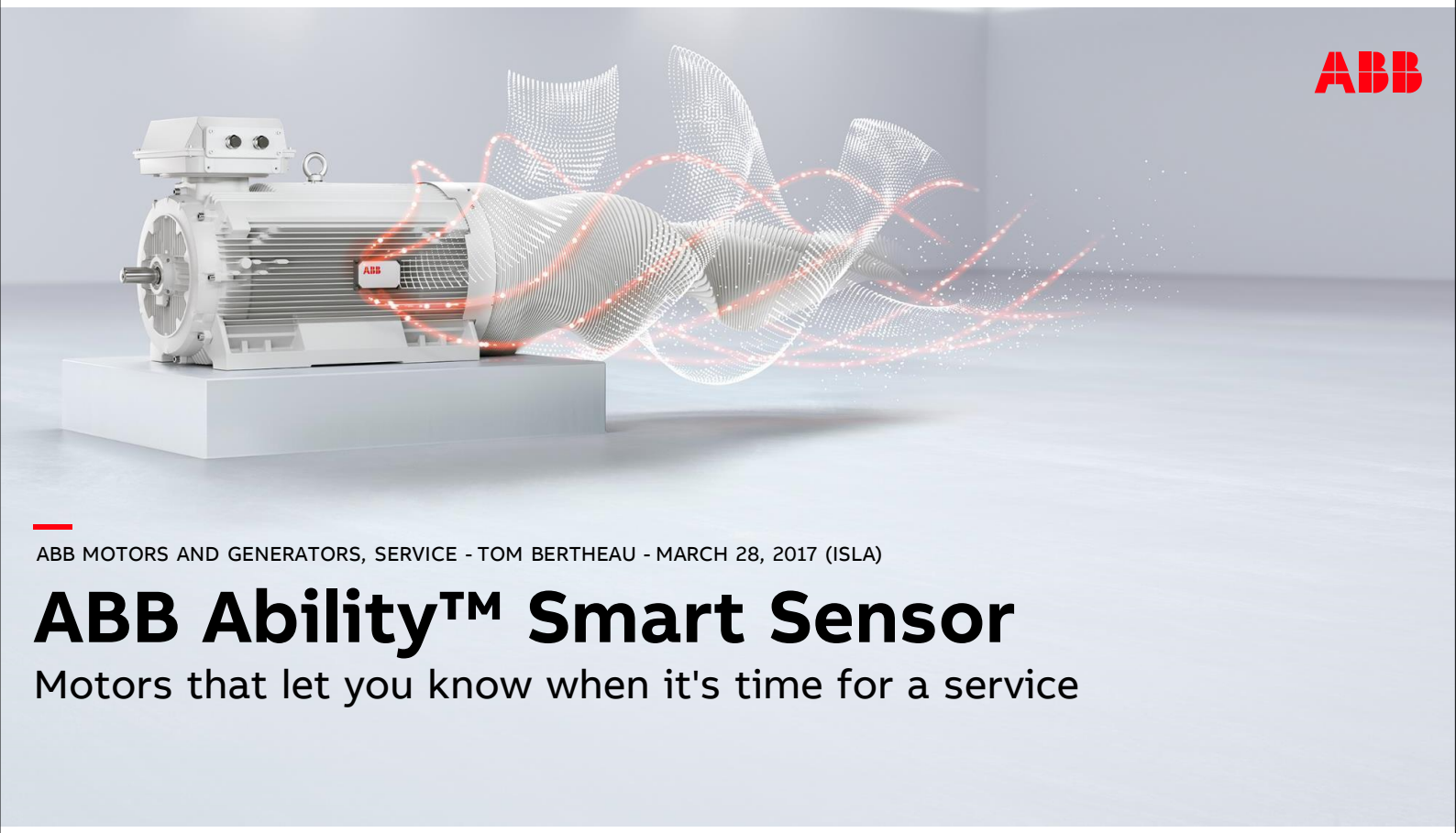


ABB MOTORS AND GENERATORS, SERVICE - TOM BERTHEAU - MARCH 28, 2017 (ISLA)

# ABB Ability™ Smart Sensor

Motors that let you know when it's time for a service

## The Internet of Things (IoT)

Global trend – Fourth Industrial Revolution

Industry 1.0 – 1712
First practical steam engine

Industry 2.0 – 1870
First elevated conveyor belts

Industry 3.0 – 1969
Electronics / software based control

Industry 4.0 – today and tomorrow
Internet of …

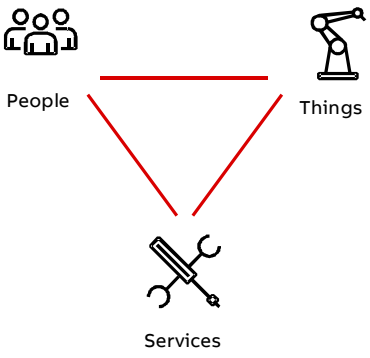


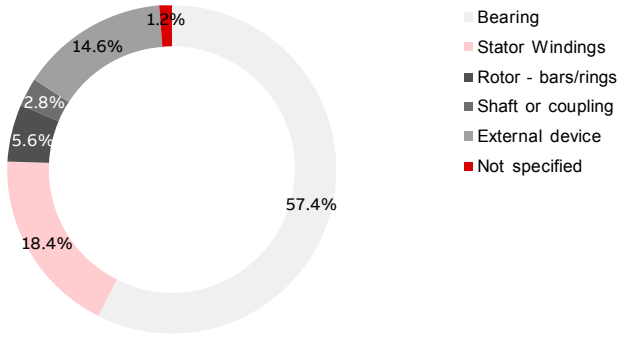

**ABB leads proactively with new connected offerings**

# Failure statistics

Motors in petrochemical industry

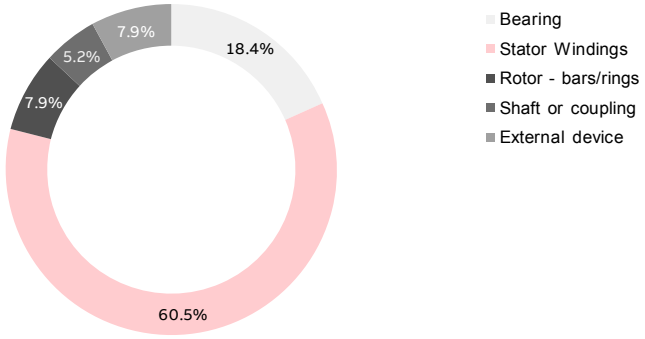
## Motors below 2 MW

Motors below 2 MW commonly use anti-friction bearings, which are more likely to fail.




## Motors above 2 MW

Motors above 2 MW often use sleeve bearings, which are less likely to fail.






# ABB Ability™ Smart Sensor

Will motors be included in the IoT?

If a large number of motors delivered status information…

If monitoring equipment were affordable and easy to install…

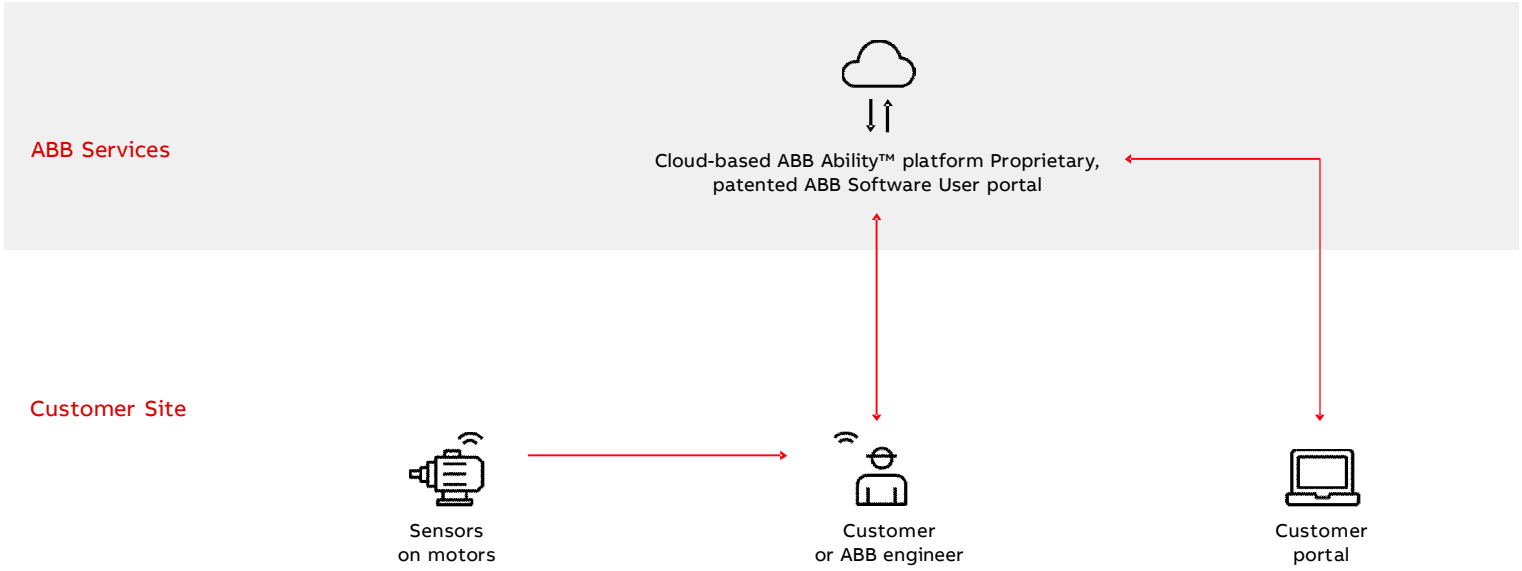
If competent data analysis with a large volume of information were readily available…

…then service engineers could provide advanced plant optimization at affordable costs

…and plant operators could save operating costs and increase productivity.

# ABB Ability™ Smart Sensor

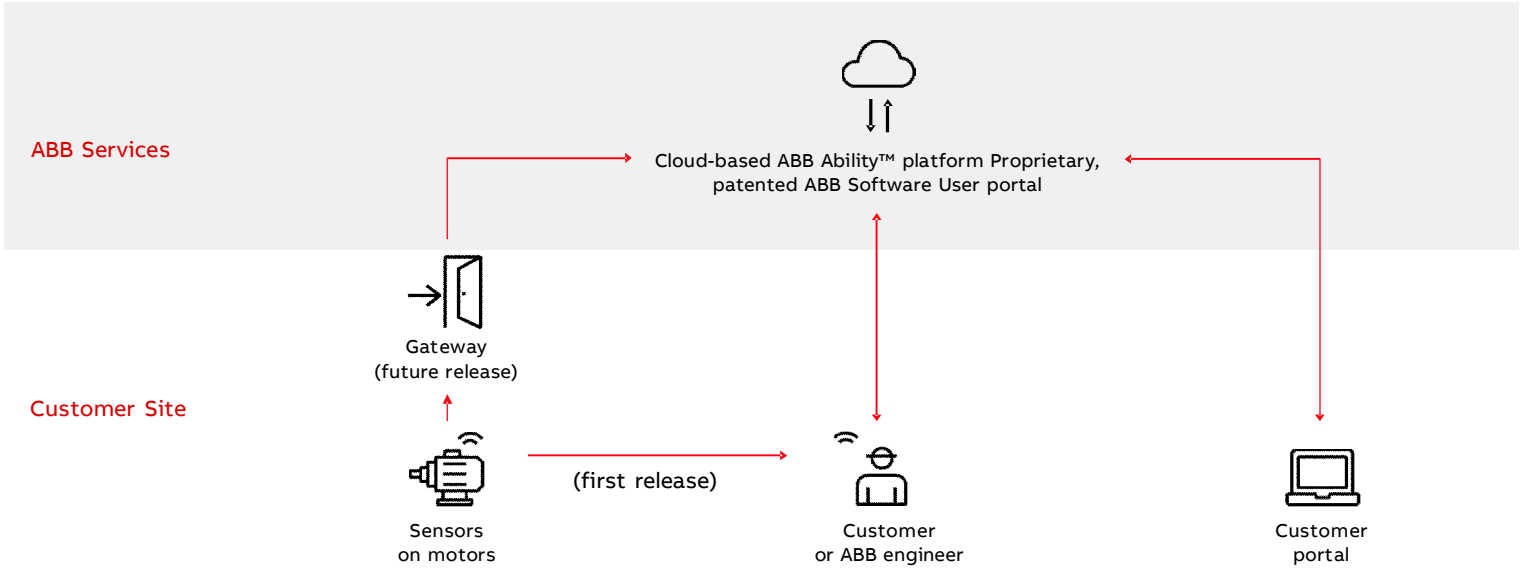
## System layout (1/2)






# ABB Ability™ Smart Sensor

## System layout (2/2)



# ABB Ability™ Smart Sensor

## How can this solution help to save money?

**This solution can help to ...**

**Reduce downtime by as much as 70%**

- Service or replace motors before they break down
- Shift unplanned maintenance to planned outages

**Extend lifetime by up to 30%**

- Avoid motor failures by timely servicing
- Prevent secondary damage by avoiding breakdowns

**Increase energy efficiency by around 10%**

- Create better loading profiles based on energy consumption patterns
- Rationalize the installed base
  (replace less efficient and over-dimensioned motors)