ABB *Integrates IIoT* into the Bearing Applications

ABB has recently introduced the ABB Ability™ Smart Sensor technology for mounted bearings that enables health checks for bearings. The wireless sensor provides an early indicator of potential problems by assessing the condition of bearings. This allows operators to schedule maintenance and prevent unexpected downtime.

The ability to monitor bearings remotely allows maintenance and other relevant personnel to safely access the health data of the bearing without touching equipment.

With this new solution, ABB Ability™ aims to connect the users to the power of the Industrial Internet of Things (IIoT).
We talked with Mr. Artur Rdzanek, product manager for sensor technologies, Dodge mechanical products at ABB, to learn more about this new technology.

What is your role in the company?

I am the Global Product Manager for Sensored Products for Dodge mechanical power transmission products. In this role, I oversee the development of sensor technology for Dodge bearings, gearing, and coupling products.

Can you explain the difference between ABB Ability™ Smart

Sensor and Digital Powertrain?

The ABB Ability Digital powertrain is a suite of digital solutions including devices, software and services. It combines connectivity and data analytics with ABB expertise to make your operations efficient, predictable and safe. The ABB Ability Smart Sensor for mounted bearings is part of the ABB Ability Digital powertrain.

Which conditions of the bearings are checked with the smart sensor?

The ABB Ability™ Smart Sensor for mounted bearings measures temperature and vibration of the bearing, as these are the first indicators of a potential problem in a bearing. By understanding the health of your bearings, you know when maintenance is needed before it's too late.

How can potential customers integrate the system on their assets? Is it easy to use? Installation and portal setup

The Smart Sensor easily threads into your bearing and is activated by pressing the button until the LED is visible.

Commissioning the bearing on the portal is easy. The app will walk you through the required information and how to assign your asset to the organization and group. The web portal uses the same registration information and allows you to quickly see trends across your bearings, and alert you to potential problems.

The ABB Ability portal uses an open architecture so that is easy to integrate data into customers systems if they desire.

For which industrial applications is this solution developed?

The ABB Ability Smart Sensor for mounted

bearings is suited for any application. We know that applications such as aggregate, mining and air handling require the sensor to have a rugged design that can handle handle harsh environments, yet these are also the environments where the ability to monitor bearings remotely is critical to keeping employees safe. Therefore, the ABB Ability Smart sensor for mounted bearings is heavily certified to go wherever you need it to go.

Are there similar R&D activities that you are currently working on? Which technologies may we expect in the future?

The ABB Ability Smart Sensor for mounted bearings is just the start of our journey for the digitalization of our mechanical cast iron products.

What does Industry 4.0 mean for you?

Industry 4.0 for me is the connection of the physical product with the digital data storage and analytics. This allows customers to maximize their productivity by understanding what their equipment is doing and when it needs attention, so they can better plan maintenance and scheduled downtime. The ability to see trends across equipment also allows customers to identify areas where they can optimize the performance of their equipment.

Hazardous location markings

II 1 GD	Europe
I M1	Europe
Ex ia I Ma	Europe
Ex ia IIC T3(150°C) Ga	Europe, Canada
Ex ia IIIC T146°C Da	Europe, Canada
Cl I, Zn 0, AEx ia IIC T150°C Ga	US, Canada
Cl I, Div.1, Grps ABCD	US, Canada
Cl II, Zn 20, AEx ia IIIC T150°C Da	US, Canada
Cl II, Div 1, Grps EFG	US, Canada
Cl III, Div 1	US, Canada

Certifications

ATEX/IECEx (IEC60079-0) Zone 0,1,2 Gas/Zone 20,21,22 Dust NEC & CEC 500 Class I,II,III, Division 1 (Gas, Dust, Fibers and Flyings)

Ingress protection

IP66	Global

Communication

CE	EU
FCC	USA, Canada
IC	Canada

Mr. Artur Rdzanek
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