

Schaeffler and IBM Sign Watson IoT Partnership for New Industrial Era

German industrial heavyweight taps cognitive solutions to keep the world moving

Armonk, NY, and Ehningen, Germany - 03 Oct 2016: Schaeffler, one of the world's leading automotive and industrial suppliers, has signed a multi-year strategic partnership agreement with IBM (NYSE: [IBM](#)) to accelerate the digital transformation of its entire operations and customer solutions using Watson's cognitive intelligence and insight from billions of sensors that make up the Internet of Things (IoT).

Schaeffler manufactures millions of precision-engineered products that help to keep the world's machines moving – from those that go into automotive clutch systems, to those in hybrid engines and the huge industrial bearings used in wind turbines. Through the agreement, Schaeffler will tap IBM's cloud-based Watson IoT technologies to help transform every aspect of its business from product development, through to manufacturing and its supply chain, sales and aftersales service.

Advanced technologies such as artificial intelligence, cloud computing and the Internet of Things are driving increased connectivity and automation across the manufacturing industry. At the same time, engineering companies like Schaeffler are pioneering the development of innovative 'mechatronic' solutions which combine mechanical, electronic and software capabilities into individual components and systems which have the ability to monitor, report and manage their own performance.

"This is an era of unprecedented industrial transformation defined by factories, machines and parts capable of self-assessing, triggering actions and exchanging information with each other, and with the people who manufacture and maintain them," said Harriet Green, General Manager, IBM Watson IoT. "Schaeffler is leading the way and literally redefining approaches for designing, producing and maintaining machines – making them safer and more reliable."

As a partner for its digital reinvention, Schaeffler has turned to IBM. The goal is to build virtual models representing entire industrial systems enabling new approaches to product design, manufacturing and aftersales service. Tapping the connectivity and analytics capabilities of IBM's Watson IoT platform, Schaeffler will analyze huge amounts of data from millions of sensors and devices across its operations and provide insight to help it to be more flexible, make faster decisions and optimize the performance of equipment in the field.

"Our goal is to be the world's leading manufacturer of cognitive solutions which keep the world moving," said Prof. Dr.-Ing. Peter Gutzmer, Deputy CEO and Chief Technology Officer, Schaeffler "We are entering an age where parts can monitor and evaluate their own performance and even order their own replacement when necessary. Schaeffler is a world leader in product development and manufacturing, IBM in hybrid cloud and cognitive computing; through this partnership we are ushering the new industrial era."

To respond to increasing levels of automation and machine complexity, Schaeffler has invested significantly into the research and development of mechatronic products with embedded sensors, actuators, control units and software capable of collecting and processing valuable data about the condition of both the part and the machine. Tapping IBM's cognitive computing and research capabilities, Schaeffler plans to further accelerate

this work with the vision of producing safer, more reliable and efficient systems for its automotive and industrial customers.

“IBM’s Watson IoT platform is designed to foster collaborative innovation,” said Juergen Henn, Executive Partner, IBM Global Business Services. “With a hybrid cloud environment based on open standards, it is easy to integrate data and systems from third parties and public sources, helping to establish a digital eco-system with customers and partners. Together, Schaeffler and IBM are applying the latest design thinking and agile methodologies to drive business model innovation and achieve operational excellence.”

During the first phase, the partnership will focus on:

- Optimizing maintenance in the wind energy sector:

Schaeffler is an important player in the renewables industry producing the huge bearings that help turbines to spin freely. Replacing these bearings is complicated and expensive as it results in downtime and lost energy. Through the new agreement, IBM and Schaeffler will explore how machine learning can reveal additional insight about the performance of equipment in different operating conditions. Sensors in the equipment and even in the bearings themselves will report on the actual condition of components in real-time. Using wind forecasts from the Weather Company (an IBM company), turbine operators will be able to plan ahead and replace parts during less windy periods.

- Digitized monitoring and optimization of trains:

With many decades of experience in the railway sector, Schaeffler works closely with rail manufacturers and operators providing bearings and other parts for any application in passenger trains and freight vehicles. Using cognitive insights from the cloud, Schaeffler will enhance its predictive maintenance systems for railways, helping to increase efficiency and safety. Smart bearings will be able to measure their own vibration, temperature, torque and speed triggering alerts and informing railway operators about possible safety issues.

- Connected Vehicles:

Schaeffler is leading the way in the development and manufacturing of products for engine, transmission and chassis applications. New technologies will allow Schaeffler to extend the functionality and lifespan of components for the automotive industry. Real time analytics and cognitive systems will turn data from components and systems into valuable insight which can be used by manufacturers to increase the reliability of cars and offer new value-added services to customers.

- Industry 4.0 for Tooling Machines:

IBM’s cognitive technologies will support Schaeffler’s Industry 4.0 strategy for tooling machines helping to improve overall equipment efficiency (OEE). This includes the optimization of production processes, real time analysis of data and context-driven maintenance, networking and optimization of multiple machines within a production line. The objective is to continuously optimize production and supply chain. Focus is on internal optimization to increase efficiency and to leverage this for the creation of new service offerings for customers and partners.

- Connected Equipment Operations Center:

Experts are monitoring the condition of thousands of machines and pieces of equipment on and off site. Big Data is transmitted to the Operation Center and processed in the Schaeffler Cloud. Algorithms and cognitive approaches will analyze data helping to make predictions about machine performance and create opportunities for optimization. Irregularities and potential faults are automatically identified and corresponding actions rapidly

initiated.

To view a film about the Schaeffler and IBM partnership, visit: <http://bit.ly/2dnhS6p>

About Schaeffler

The Schaeffler Group is one of the world's leading integrated automotive and industrial suppliers. The company stands for the highest quality, outstanding technology, and strong innovative ability. The Schaeffler Group makes a decisive contribution to "mobility for tomorrow" with high-precision components and systems in engine, transmission, and chassis applications as well as rolling and plain bearing solutions for a large number of industrial applications. The technology company generated sales of approximately 13.2 billion euros in 2015. With around 85,000 employees, Schaeffler is one of the world's largest companies in family ownership. It has a worldwide network of manufacturing locations, research and development facilities, and sales companies at approximately 170 locations in over 50 countries.

About IBM Watson IoT

IBM is an established leader in the Internet of Things with more than 6,000 client engagements in 170 countries, a growing ecosystem of over 1,400 partners and more 750 IoT patents which together help to draw actionable insight from billions of connected devices, sensors and systems around the world. Building on the company's USD 3 billion commitment to bring Watson cognitive computing to IoT, in December 2015 IBM announced a USD 200 million global headquarters for its new Watson IoT unit in Munich Germany, bringing together 1,000 IBM developers, consultants, researchers and designers to drive deeper engagement with clients and partners.

For more information about IBM Watson IoT, visit: www.ibm.com/iot
