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Background information

Hanover, April 23, 2018

Hannover Messe 2018, Hall 9, Booth D35

MindSphere brings together industry and IoT solutions

MindSphere Lounge at the Siemens booth at the Hannover Messe 2018



In the era of digitalization and the Internet of Things (IoT), an increasing number of machines and systems are being driven by billions of intelligent devices generating massive volumes of data with benefits yet to be fully realized. MindSphere is the cloud-based, open IoT operating system from Siemens that lets companies understand their data by quickly and securely connecting products, plants, systems and machines to the digital world. By unlocking the wealth of data from every machine and system, MindSphere transforms this data into productive business results using powerful industrial applications with advanced analytics. With MindSphere, we are opening up new dimensions of productivity and efficiency – for companies of all sizes and industries. At the Hannover Messe 2018, Siemens will be

presenting the latest developments for MindSphere and the constantly expanding ecosystem of ideas, solutions, applications, and partners – all under the banner "Digital Enterprise – implement now."

In the MindSphere Lounge at its booth D35 in Hall 9, Siemens will be showcasing the new Version 3.0 of MindSphere, which offers a range of new tools for developers. The Siemens partners will be demonstrating what this means for app developers by presenting new applications and ideas in the MindSphere Lounge. From the Lounge's balcony, visitors can explore the industries where our customers are already using MindSphere solutions. In the Lounge, Siemens will be providing an in-depth look at these applications while focusing on the connectivity and analytic capabilities of MindSphere. Siemens will also be showcasing industry-specific application examples taken from the fields of energy for industry, automotive, food and beverage, aerospace, chemicals, oil and gas, and the fiber industry. This enables visitors to explore first-hand how companies have been able to improve their efficiency, productivity, and profitability with MindSphere.

Innovative ideas also play an important role and are intended to inspire companies and developers alike. In the MindSphere Lounge, Siemens will be providing plenty of inspiration for visitors to the show, with an impressive array of technical capabilities which will enable them not only to develop their own innovative new business models but also implement them with support from Siemens. Siemens will be demonstrating this live at the show using the example of a real section of turf which can be automatically irrigated, fertilized and maintained to keep sports pitches in optimum condition. IoT sensors are used to capture all the relevant data and transfer it to MindSphere, where it is collected, stored and evaluated. All the relevant information is then transferred to an app which allows the greenkeeper to selectively control optimized treatment of the grass. Another possible application is the calculation of machine capacity based on hours of operation. Shorter runtimes of machines due to faster innovation cycles present machine builders with the challenge of adapting or replacing their machines more frequently. Alternatively, machine builders can lease their machines to customers using a pay-per-use model, creating greater flexibility in production - providing they are able to record and evaluate the machine's operating data. This information can then be used not only

for invoicing but also additional services such as maintenance. With MindSphere, this is possible today.

The MindSphere Lounge also offers Siemens partners the opportunity to present their ideas and solutions. Through conversations and interactive displays, visitors will experience the many possibilities of MindSphere that can be used to solve challenges both large and small in various industries and markets. To facilitate the rapid, simple deployment of MindSphere by users, Siemens has founded a non-profit organization entitled MindSphere World e.V. in association with 18 renowned representatives of industry. Working together with all the members and also MindSphere users, the organization aims to promote technical solutions based on MindSphere and also further develop MindSphere itself. This will give all current and future members the opportunity to incorporate their requirements into the future development of MindSphere. MindSphere World helps facilitate the exchange of knowledge between industry, universities, developers, manufacturers, and integrators. During the Hannover Messe, the Siemens Lounge will be offering the ideal opportunity to get to know MindSphere World and its members in a relaxed atmosphere.

This background information and further material are available at www.siemens.com/press/hm18

Contact for Business and Financial Media:

Yashar N. Azad

Phone: +49 89 636-37970; E-mail: yashar.azad@siemens.com

Contact for Trade Media:

Stefan Rauscher

Phone: +49 911 895-7952; E-mail: stefan.rauscher@siemens.com

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Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for 170 years. The company is active around the globe, focusing on the areas of electrification, automation and digitalization. One of the world's largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. With its publicly listed subsidiary Siemens Healthineers AG, the company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT. In fiscal 2017, which ended on September 30, 2017, Siemens generated revenue of €3.0 billion and net income of €6.2 billion. At the end of September 2017, the company had around 377,000 employees worldwide. Further information is available on the Internet at www.siemens.com.