Open Manufacturing Platform expands: Anheuser-Busch InBev, BMW Group, Bosch, Microsoft and ZF team up to accelerate manufacturing innovation at scale

- **Anheuser-Busch InBev, BMW Group, Bosch Group, Microsoft, ZF Friedrichshafen AG named OMP steering committee members**
- **OMP was established in 2019 as an independent initiative under the umbrella of the Joint Development Foundation**
- **First working groups created: IoT Connectivity, Semantic Data Model, Industrial IoT Reference Architecture, and Core Services for Autonomous Transport Systems**

Berlin/Friedrichshafen, February 19, 2020. The Open Manufacturing Platform (OMP) has expanded, with new steering committee members and new working groups established. OMP is an alliance founded in 2019 to help manufacturing companies accelerate innovation at scale through cross-industry collaboration, knowledge and data sharing as well as access to new technologies. The OMP was founded under the umbrella of the Joint Development Foundation, which is part of the Linux Foundation. Original members The BMW Group, and Microsoft welcome Anheuser-Busch InBev (AbInBev), Bosch Group, and ZF Friedrichshafen AG, as steering committee members. The OMP steering committee has approved a number of working groups to focus on core areas important to the industry, including IoT connectivity, semantic data models, Industrial IoT reference architecture, and core services for ATS (autonomous transport systems).

Common approach to industry challenges

The expansion of intelligent manufacturing is driving new efficiencies and increased productivity, as well as revealing new challenges. Within the industry, legacy and proprietary systems have resulted in data silos, making operationwide insight and transformation daunting. As common

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challenges across the industry, they often require a high degree of investment for modest returns within any one organization. The OMP has been developed to address this, where manufacturers and their value chains come together to identify and develop solutions that address these nondifferentiating problems. It brings together experts across the manufacturing sector – including discrete and process manufacturing, transportation and consumer goods, industrial equipment and more.

"Our goal is to drive manufacturing innovation at scale, accelerate time-to-value and drive production efficiencies by jointly solving mutual challenges, based on an open community approach. The OMP helps manufacturing companies unlock the potential of their data, implement industrial solutions faster and more securely, and benefit from industrial contributions while preserving their intellectual property (IP) and competitive advantages, mitigating operational risks and reducing financial investments", said Jürgen Maidl, Senior Vice President Production Network and Supply Chain Management at the BMW Group.

Scale innovation through common data models and open technology standards

The OMP operates under the umbrella of the Joint Development Foundation (JDF). The JDF is part of the Linux Foundation and provides the OMP with infrastructure and an organizational framework to create technical specifications and support open industry standards. The OMP supports other alliances, including the OPC Foundation and Plattform Industrie 4.0, and leverages existing industry standards, open source reference architectures and common data models.
"Through the open collaboration approach that is the cornerstone of OMP, manufacturing companies will be able to bring offerings to market faster, with increased scale and greater efficiency," said Scott Guthrie, Executive Vice President Cloud & AI at Microsoft. "Solutions will be published and shared across the community, regardless of technology, solution provider or cloud platform."

The heart of OMP: working groups to address common manufacturing challenges

"Comprised of members from across the manufacturing industry, the collaboration framework and heart of the OMP are its working groups. We are very excited to join in a moment where our manufacturing facilities are becoming increasingly connected, and we are looking for innovative ways to make us of the treasure trove of data that is being generated," said Tassilo Festetics, Global Vice President of Solutions at AB InBev. The OMP initial first working groups will focus on topics such as IoT Connectivity, Semantic Data Model, IIoT Reference Architecture, and Core Services for ATS (autonomous transport systems). Initial focus areas include:

IOT Connectivity: The OMP steering committee will support industry efforts to connect IoT devices and machines to the cloud. It is one of the first steps to digitize production lines and leverage cloud-connected Industrial IoT applications. "Today, it is all about analytics and predictions but without data no analytics and without connectivity no data. Modern devices can easily be connected via the OPC Unified Architecture (OPC UA). Connecting machines and applications to the cloud that have been in production for decades comes with bigger interoperability challenges as various standards and interfaces must be addressed to interconnect these historically developed legacy systems ("brownfield approach"). The working group IoT Connectivity will focus on providing industrial-grade edge and cloud functionalities for the integration and management of OPC UA devices in brownfield environments," said Werner Balandat, Head of Production Management, ZF Friedrichshafen AG.

Semantic Data Model: Another OMP working group focuses on semantic data modelling: Machine and manufacturing data are crucial for industrial companies to optimize production with artificial intelligence (AI). However, managing data in a common format across multiple sources with constantly evolving semantics is a real challenge. "Data is the raw material for Industry 4.0 and a prerequisite for optimizing production with the help of artificial intelligence. At OMP, we are developing a semantic model that makes data understandable and illustrates its relations and dependencies. Users no longer receive

cryptic, incomprehensible numbers and characters, but production-relevant information including their context. This semantic data structure ensures improvements along the entire value chain and makes AI-based business models possible on a large scale," said Dr.-Ing. Michael Bolle, Member of the Board of Management, Robert Bosch GmbH.

OMP will continue to expand as new organizations come on board. The steering committee encourages manufacturers and suppliers of all types to join the community.

Caption:
The first appearance of the Open Manufacturing Platform (f.l.t.r): Sven Hamann, SVP Bosch Connected Industry; Ralf Waltram, VP IT Systems Production and Logistics, BMW Group; Dr.-Ing. Michael Bolle, Member of the Board of Management, Bosch Group; Scott Guthrie, EVP Cloud & AI, Microsoft; Werner Balandat, Head of Production Management, ZF Friedrichshafen AG

Photo: Robert Bosch GmbH

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About Open Manufacturing Platform (OMP)
OMP is an alliance to help manufacturing companies accelerate innovation at scale through cross-industry collaboration, knowledge and data sharing as well as access to new technologies. The OMP has been founded under the umbrella of the Joint Development Foundation. The OMP helps businesses unlock the potential of their data and integrate industrial solutions faster and more securely while owning their intellectual property, mitigating operational risks and reducing financial investments by leveraging industry standards, open source reference architectures, common data models, and more.

About the BMW Group
With its four brands BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. The BMW Group production network comprises 31 production and assembly facilities in 15 countries; the company has a global sales network in more than 140 countries. In 2019, the BMW Group sold over 2,520,000 passenger vehicles and more than 175,000 motorcycles worldwide. The profit before tax in the financial year 2018 was € 9.815 billion on revenues amounting to € 97.480 billion. As of 31 December 2018, the BMW Group had a workforce of 134,682 employees. The success of the BMW Group has always been based on long-term thinking and responsible action. The company has therefore established ecological and social sustainability throughout the value chain, comprehensive product responsibility and a clear commitment to conserving resources as an integral part of its strategy.
www.bmwgroup.com

About Bosch
The Bosch Group is a leading global supplier of technology and services. It employs roughly 403,000 associates worldwide (as of December 31, 2019). According to preliminary figures, the company generated sales of 77.9 billion euros in 2019. Its operations are divided into four business sectors: Mobility Solutions, Industrial Technology, Consumer Goods, and Energy and Building Technology. As a leading IoT company, Bosch offers innovative solutions for smart homes, smart cities, connected mobility, and connected manufacturing. It uses its expertise in sensor technology, software, and services, as well as its own IoT cloud, to offer its customers connected, cross-domain solutions from a single source. The Bosch Group's strategic objective is to deliver innovations for a connected life. Bosch improves quality of life worldwide with products and services that are innovative and spark enthusiasm. In short, Bosch creates technology that is "Invented for life." The Bosch Group comprises Robert Bosch GmbH and its roughly 440 subsidiary and regional companies in 60 countries. Including sales and service partners, Bosch's global manufacturing, engineering, and sales network covers nearly every country in the world. The basis for the company's future growth is its innovative strength. At 125 locations across the globe, Bosch employs some 72,000 associates in research and development. The company was set up in Stuttgart in 1886 by Robert Bosch (1861–1942) as "Workshop for Precision Mechanics and Electrical Engineering." The special ownership structure of Robert Bosch GmbH guarantees the entrepreneurial freedom of the Bosch Group, making it possible for the company to plan over the long term and to undertake significant upfront investments in the safeguarding of its future. Ninety-two percent of the share capital of Robert Bosch GmbH is held by Robert Bosch Stiftung GmbH, a charitable foundation. The majority of voting rights are held by Robert Bosch Industrietreuhand KG, an industrial trust. The entrepreneurial ownership functions are carried out by the trust. The remaining shares are held by the Bosch family and by Robert Bosch GmbH. Additional information is available online at

www.bosch.com, www.iot.bosch.com, www.bosch-press.com, www.twitter.com/BoschPresse.

About Microsoft

Microsoft (Nasdaq "MSFT" @microsoft) enables digital transformation for the era of an intelligent cloud and an intelligent edge. Its mission is to empower every person and every organization on the planet to achieve more.

About ZF Friedrichshafen AG

ZF is a global leader in driveline and chassis technology as well as active and passive safety systems. The company has a global workforce of 146,000 with approximately 230 locations in some 40 countries. In 2017, ZF achieved sales of €36.4 billion. ZF is one of the largest automotive suppliers worldwide.
ZF allows vehicles to see, think and act. The company invests more than six percent of its sales in research and development annually – in particular for the development of efficient and electric drivelines and also in striving for a world without accidents. With its broad portfolio, ZF is advancing mobility and services in the automobile, truck and industrial technology sectors.

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