Media information

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Volkswagen brings additional partners to Industrial Cloud

• Open platform enables partners to connect with Volkswagen plants and to make their own software applications available via the Industrial Cloud

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- App store approach: Volkswagen plants can obtain new software applications direct from the Industrial Cloud and optimize their operations
- Volkswagen expects significant efficiency and productivity gains at global level

Wolfsburg, July 23, 2020. Volkswagen, together with Amazon Web Services (AWS) and integration partner Siemens, is opening up the Industrial Cloud to other manufacturing and technology companies. New partner companies will be able to connect with Volkswagen plants and to contribute their own software applications for optimizing production processes to the Industrial Cloud. This way, a rapidly growing range of industrial software applications for Volkswagen's plants will be created. Each location will be able to obtain applications for its machinery, tools and equipment direct from the Industrial Cloud to optimize production (app store approach). The Volkswagen Group expects significant efficiency and productivity gains at its plants. The partner companies will be able to scale and further develop their applications in one of the world's largest automobile production networks. This will also enable them to optimize their own processes and products. As a first step, eleven pioneering international companies, ABB, ASCon Systems, BearingPoint, Celonis, Dürr, GROB-WERKE, MHP, NavVis, SYNAOS, Teradata and WAGO, will be joining the Industrial Cloud.

"With the Industrial Cloud we are creating a platform allowing partners to contribute their solutions. This will help the Volkswagen Group achieve global efficiencies at its plants. At the same time. we are creating the pathway for partners to scale their applications and optimize their own operations. This way, everyone will benefit", says Nihar Patel, Executive Vice President New Business Development at Volkswagen AG.

In future, the Industrial Cloud is to include all Volkswagen's factories throughout the world and its global supply chain and will facilitate data interchange between systems and plants. The system is based on AWS technologies in the fields of Internet of Things (IoT), machine learning, data analytics, and computing services, which have been extended specifically to meet the requirements of Volkswagen and the automotive industry.

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"Today's news continues our initial mission of the Industrial Cloud project to help Volkswagen together with Siemens and their partners to focus their resources on optimizing production, creating new business opportunities for smart products, and improving operational efficiency across the entire value chain", says AWS Dirk Didascalou, Vice President of AWS IoT, Amazon Web Services, Inc. "We look forward to watching the marketplace collaboration flourish as participants take advantage of the AWS native open architecture of the Industrial Cloud."

Growing range of software applications on the Industrial Cloud

The Volkswagen Group will expand the range of software applications thanks to the support of partner companies. As a first step, eleven pioneering partners are already making their software applications available via the Industrial Cloud.



INDUSTRIAL CLOUD Increasing range of software applications provided by partner companies

Volkswagen and Amazon Web Services bring additional partners to the Industrial Cloud.

These include, for example, an algorithm with artificial intelligence to calculate requirements for driverless transport systems for plant logistics and to distribute these systems in the ideal way. Also available are software for optimizing plant efficiency (Overall Equipment Effectiveness, OEE), and an application for generating a digital twin on the cloud to simulate the capacity deployment and maintenance intervals of machines without intervening in the physical production process. Discussions with additional companies are already underway.

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Opening of Industrial Cloud brings benefits to all concerned

Volkswagen believes that the evolution of its Industrial Cloud into a partner network will bring benefits to all the companies participating. Volkswagen plants will be able to use a growing range of software applications. This will boost the development of the Industrial Cloud as a whole. In addition, partner companies could also provide specialized applications which are relevant for certain Volkswagen plants. This way, the Volkswagen Group will be able to take account of the diverse structure of its plants at the same time as avoiding the need for inefficient in-house development of specialized applications. The partner companies will gain specialist knowledge for the development of their software and ultimately also for optimizing their own business processes and products. This will be especially beneficial if the companies concerned wish to establish their software applications as market solutions.

From partner network to marketplace for exchanging applications

Volkswagen and AWS see the development of the Industrial Cloud into an open partner network as a key step and intend to further intensify the App Store approach. In the long term, the partners aim to create a marketplace for industrial applications. All participants would then be able to exchange their applications with each other, to acquire applications and to use them irrespective of any links to Volkswagen. Development of the technological basis for this marketplace is already in progress.

Note:

This text and images are available at <u>www.volkswagen-newsroom.com</u>. An interview with Nihar Patel, Executive Vice President New Business Development at Volkswagen AG, and Sarah Cooper, General Manager of IoT Solutions at Amazon Web Services, Inc., is also available.

To learn more about the Industrial Cloud, visit: <u>https://www.industrialcloudhub.com</u>.

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About the Volkswagen Group:

The Volkswagen Group, with its headquarters in Wolfsburg, is one of the world's leading automobile manufacturers and the largest carmaker in Europe. The Group comprises twelve brands from seven European countries: Volkswagen Passenger Cars, Audi, SEAT, ŠKODA, Bentley, Bugatti, Lamborghini, Porsche, Ducati, Volkswagen Commercial Vehicles, Scania and MAN. The passenger car portfolio ranges from small cars all the way to luxury-class vehicles. Ducati offers motorcycles. In the light and heavy commercial vehicles sector, the products range from pick-ups to buses and heavy trucks. Every weekday, 671.205 employees around the globe produce on average 44,567 vehicles, are involved in vehicle-related services or work in other areas of business. The Volkswagen Group sells its vehicles in 153 countries.

In 2019, the total number of vehicles delivered to customers by the Group globally was 10.97 million (2018: 10.83 million). The passenger car global market share was 12.9 percent. Group sales revenue in 2019 totaled EUR 252.6 billion (2018: EUR 235.8 billion). Earnings after tax in the fiscal year now ended amounted to EUR 14.0 billion (2018: EUR 12.2 billion).