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Media information

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## Volkswagen and Amazon Web Services to develop Industrial Cloud

- **Volkswagen Industrial Cloud will combine data of all machines, plants and systems from all the facilities of the Volkswagen Group**
- **Significant productivity improvements at the plants are the objective**
- **Integration of the global Volkswagen supply chain in Industrial Cloud in the long-term – more than 30,000 locations of over 1,500 suppliers and partners throughout the world**
- **Open industry platform: possibly to be used by other partners in the future**

**Wolfsburg (Germany)/Seattle (USA), March 27, 2019. Volkswagen and Amazon Web Services (AWS) are to develop the Volkswagen Industrial Cloud together. Both companies Services announced a multi-year, global agreement to jointly develop this project. In future, the Volkswagen Industrial Cloud will combine the data of all machines, plants and systems from all 122 facilities of the Volkswagen Group. This will create new prospects for the optimization of processes in production and allows considerable productivity improvements at the plants. The Volkswagen Industrial Cloud thus creates the essential prerequisites for achieving the productivity goals in production. In the long term, the global supply chain of the Volkswagen Group with more than 30,000 locations of over 1,500 suppliers and partner companies could also be integrated. By leveraging Amazon Web Services technology and services, Volkswagen is creating its Industrial Cloud as an open industry platform which other partners from industry, logistics and sales may use in the future.**

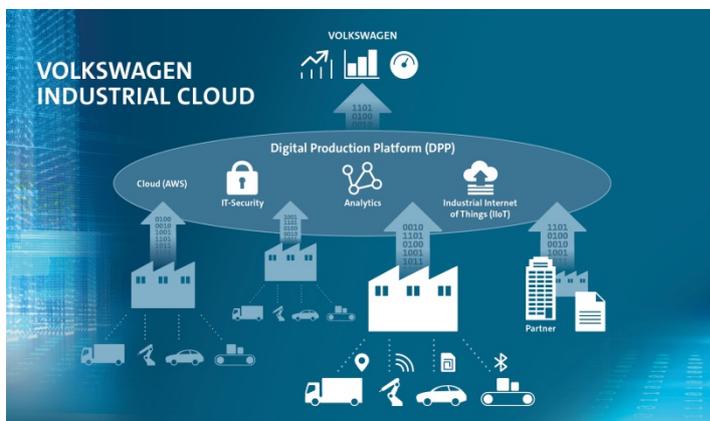
“We will continue to strengthen production as a key competitive factor for the Volkswagen Group. Our strategic collaboration with Amazon Web Services will lay the foundation,” said Oliver Blume, Chairman of the Executive Board of Porsche AG and Member of the Board of Management of Volkswagen Aktiengesellschaft responsible for ‘Production’. “The Volkswagen Group, with its global expertise in automobile production, and Amazon Web Services, with its technological know-how, complement each other extraordinarily well. With our global industry platform we want to create a growing industrial ecosystem with transparency and efficiency bringing benefits to all concerned.”

“Volkswagen’s industrial cloud, which will reinvent its manufacturing and logistics processes, is yet another example of how Volkswagen continues to innovate and lead,” said Andy Jassy, CEO of

AWS. “Volkswagen's and AWS's collaboration will have a profound impact on efficiency and quality in production throughout Volkswagen’s global supply chain, as Volkswagen gains access to the broadest and deepest cloud with the most functionality, the most innovation, the highest performance and security, and the largest community of partners and customers of any other infrastructure provider. We are tightly aligned across Volkswagen’s businesses to help them reimagine the future of automobile manufacturing by taking advantage of all the benefits the cloud can deliver.”

## IT in production to be standardized and networked within cloud

Through the development of the Volkswagen Industrial Cloud, the Volkswagen is laying the foundation for the seamless digitalization of its production and logistics. IT at the production level of machinery, equipment and systems – for example for production planning and inventory management – is to be standardized and networked across all 122 production plants of the Volkswagen Group. To date, there have been differences between the individual plants.



**Volkswagen Group and Amazon Web Services are to develop the Volkswagen Industrial Cloud together.**

Volkswagen has chosen the AWS portfolio of services including Internet of Things (IIoT), machine learning analytics and compute services, which were developed especially for production environment and will be extended to the requirements of the automotive industry. The architecture will be the new Digital Production Platform (DPP) from Volkswagen in future. All the Group’s plants and companies

outside the Group will dock their system architectures onto this platform. This platform will standardize and simplify data exchange between systems and plants.

## Process optimization and fast integration of new technologies

With its Industrial Cloud, Volkswagen intends to open up new possibilities for further improving the efficiency and flexibility of production. The combination of data from all plants will provide new prospects for process optimization. These include more efficient control of material flow, the early detection and elimination of supply bottlenecks and process disruptions, and the optimized operation of machinery and equipment in all plants.

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In addition, the cloud-based platform with its simplified data exchange is an essential prerequisite for Volkswagen to provide new technologies and innovations rapidly across its various locations. These include smart robotics, and data analysis functions to analyze and check shopfloor processes from plant to plant. With the cloud-based platform, new applications, for example in IT-security for shopfloor systems, can be scaled up direct to all locations throughout the world. Volkswagen will leverage AWS innovation best practices to become more agile and react faster on industry trends.

### **Open Industry platform to include other companies**

Volkswagen is creating the Industrial Cloud as an open platform. The objective is to integrate companies from the entire value stream and to build up a network of industrial partners with a database and information that will bring benefits to all concerned. In the long term, the global supply chain of the Volkswagen Group with more than 30,000 locations of over 1,500 suppliers and partner companies could also be integrated. It is also conceivable that the cloud platform will generally be accessible to other car manufacturers. This will create a steadily growing global industrial ecosystem.

Specific negotiations with major industrial companies interested in migrating to the Volkswagen Industrial Cloud are already in progress.

### **Volkswagen Industrial Cloud will be advanced at several IT-centers**

Expert teams from Volkswagen and Amazon Web Services are forging ahead with the Volkswagen Industrial Cloud together. In the medium term, about 220 specialists are to work on the project. They are based at several Volkswagen IT competence centers, as well as a projected joint Industrial Cloud Innovation Center in Berlin. Experts in Dresden, Munich and Wolfsburg are to support further. Work is to begin immediately. The teams have already set 140 projects for integration. For example, these include a system for tracing the transfer of goods in- and outside the factory, e.g. by trucks (vehicle locating service) and services for the cross-plant analysis of system efficiency (overall equipment effectiveness, OEE). The goal is to put the Industrial Cloud and the first concrete services and functions into operation by the end of 2019.

#### **Note to editors:**

This text and images are available at [www.volkswagen-newsroom.com](http://www.volkswagen-newsroom.com).

An interview on with Martin Hofmann, Volkswagen Group CIO, and Gerd Walker, Head of Production at the Volkswagen Group, is available at

<https://www.volkswagenag.com/de/news/stories/2019/03/volkswagen-industrial-cloud.html>.



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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 include ranges from pick-ups, buses and heavy trucks. Every weekday, 664,496 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 2018, the total number of vehicles supplied to customers by the Group globally was 10,831 million (2017: 10,741 million). The passenger car global market share was 12.3 per cent. In Western Europe 22.0 per cent of all new passenger cars come from the Volkswagen Group. Group sales revenue in 2018 totalled €235.8 billion (2017: €231 billion). Earnings after tax in 2017 amounted to €17.1 billion (2017: €11.6 billion).