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## Media information

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## Volkswagen invests in US start-up Forge Nano

- **Volkswagen Group invests US\$10 million in US startup “Forge Nano Inc.”**
- **Forge Nano is investigating innovative coatings for battery materials**

**Wolfsburg/Louisville (USA), January 23, 2019 – The Volkswagen Group is investing US\$10 million in the startup “Forge Nano Inc.” with a view to reinforcing its specialist knowledge in the field of battery research. Forge Nano is investigating a material coating technology that could further improve the performance of battery materials. As a partner, Volkswagen will provide support for industrial trials of this technology. The transaction is still subject to approval by the authorities.**

Volkswagen has been collaborating with Forge Nano on advanced battery material research since 2014. The startup with headquarters in Louisville, Colorado, is investigating processes for scaling atomic layer deposition (ALD) to create new core-shell materials, especially for battery applications. ALD is a chemical process for applying atomic scale coatings one atom at a time. With its specific ALD technology, Forge Nano aims to boost energy density of vehicle battery cells. For example, a higher energy density would have positive effects on the range of electric vehicles. Volkswagen has been lending their automotive and battery expertise towards Forge Nano’s applied research efforts.

The Volkswagen Group is consistently forging ahead with its electric offensive and intends to offer more than 50 battery-electric models by 2025, accounting for about a fifth of its entire model portfolio. To safeguard this approach, Volkswagen is cooperating with strategic battery cell suppliers and developing its own specialist know-how in battery research. This also includes targeted venture investments. Volkswagen is increasingly investing in international start-ups to bring innovative technologies forward to production maturity together.

Dr. Axel Heinrich, Head of Volkswagen Group Research, says: “At Volkswagen, we want to be the world’s leading provider of e-mobility. We are continually expanding the battery technology know-how required for this purpose. We need to safeguard our technological competence for the future. Cooperation with start-ups is a key element in these efforts. We are acting as a partner to Forge Nano and intend to provide the team with opportunities to carry out industrial trials with its innovative technology.”

# VOLKSWAGEN

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Dr. Paul Lichty, Founder and CEO of Forge Nano, says: “Our atomically precise surface engineering technology is ushering in a new era of high performance materials. We are excited to partner with a company that has such a strong commitment to commercializing innovation.”

## Note:

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



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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, 642,292 employees around the globe produce on average 44,170 vehicles, are involved in vehicle-related services or work in other areas of business. The Volkswagen Group sells its vehicles in 153 countries.

In 2017, the total number of vehicles supplied to customers by the Group globally was 10,741 million (2016: 10,297 million). The passenger car global market share was 12.1 per cent. In Western Europe 22.0 per cent of all new passenger cars come from the Volkswagen Group. Group sales revenue in 2017 totaled €231 billion (2016: €217 billion). Earnings after tax in 2017 amounted to €11.6 billion (2016: €5.4 billion).

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