

Siemens and Aral ready gas stations for mobility of the future

- **Aral to install more than 100 ultra-fast chargers at 30 gas stations in Germany until end of first quarter 2021; further roll-out planned**
- **Siemens to provide intelligent grid connection for growing power demand**
- **Cloud connection creates transparency across all locations, increases efficiency and reliability**

Aral AG, a subsidiary of the bp group in Germany, has tasked Siemens Smart Infrastructure with expanding the grid connection at 30 selected gas stations. The installation of intelligent substations allows Aral to upgrade its gas stations with ultra-fast charging technology for electric vehicles. The installation is expected to be completed by the end of February.

The expansion of the public charging infrastructure is an essential requirement for the acceleration of electric mobility. The joint project between Aral and Siemens is an important contribution to creating public fast-charging stations.

“By equipping our gas stations with charging infrastructure for electric vehicles, we are taking a major step forward in creating the gas station of the future,” said Patrick Wendeler, member of the Managing Board of Aral AG. “To make charging as fast as putting fuel in your car, we have opted for ultra-fast charging stations with a power of up to 350 kW. But chargers alone are not enough: The retrofit also requires a

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powerful and reliable grid connection. That is why we are glad to have Siemens with its expertise in electrical infrastructure at our side.”

Most gas stations currently only have a low-voltage connection. To meet the increased power demand of fast chargers, the grid connection needs to be upgraded to a medium-voltage connection with much higher power. This is achieved through the substations which connect the gas stations’ charging infrastructure to the public power grid. Each substation consists of a hermetically capsulated transformer, a gas-insulated medium-voltage switchgear, type 8DJH, and a Sivacon S8 low-voltage switchboard.

By using communicating hardware and Internet of Things (IoT) technology, Aral can obtain information about the status of the substations at any time. This will enable the blue-and-white labeled service station brand to guarantee their customers the full functionality of its ultra-fast charging stations even better than today. The utilization of sensors helps to generate data, thereby ensuring continuous monitoring of the health status and a safe operation of the equipment. These values are then transmitted over communication interfaces to a higher-level, cloud-based IoT system. The data is evaluated and visualized via a web application in a useful addition to those of the fast charging stations.

“This intelligent substation not only allows Aral to introduce ultra-fast charging technology, but also ensures highest reliability and better grid utilization within the existing infrastructure,” said Stephan May, CEO of Distribution Systems at Siemens Smart Infrastructure. “Real time data monitoring enables optimal usage of the assets. For this reason, digitalization is an important prerequisite for efficient load management and to optimize the use of power resources.”

Joint press release
by Siemens and Aral

Aral operates all ultra-fast charging stations on its own. They supply 100 percent green power. Assuming the appropriate battery technology is provided, the electric vehicle can be fully recharged within ten minutes to a range of up to 350 kilometers.

The roll-out of high-power chargers at Aral gas stations in Germany is part of bp's strategy to increase the number of charge points. Globally operated charging points will be increased from 7,000 in 2020 to 70,000 in 2030.

This press release as well as press photos can be found at
<https://sie.ag/3i68Jyd>

For more information on intelligent distribution substation, please see
www.siemens.com/futuredistributionsubstation

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Siemens Smart Infrastructure (SI) is shaping the market for intelligent, adaptive infrastructure for today and the future. It addresses the pressing challenges of urbanization and climate change by connecting energy systems, buildings and industries. SI provides customers with a comprehensive end-to-end portfolio from a single source – with products, systems, solutions and services from the point of power generation all the way to consumption. With an increasingly digitalized ecosystem, it helps customers thrive and communities progress while contributing toward protecting the planet. SI creates environments that care. Siemens Smart Infrastructure has its global headquarters in Zug, Switzerland, and has around 72,000 employees worldwide.

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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 more than 170 years. Active around the world, the company focuses on intelligent infrastructure for buildings and distributed energy systems and on automation and digitalization in the process and manufacturing industries. Siemens brings together the digital and physical worlds to benefit customers and society. Through Mobility, a leading supplier of intelligent mobility solutions for rail and road transport, Siemens is helping to shape the world market for passenger and freight services. Via its majority stake in the publicly listed company Siemens Healthineers, Siemens is also a world-leading supplier of medical technology and digital health services. In addition, Siemens holds a minority stake in Siemens Energy, a global leader in the transmission and generation of electrical power that has been listed on the stock exchange since September 28, 2020.

In fiscal 2020, which ended on September 30, 2020, the Siemens Group generated revenue of €57.1 billion and net income of €4.2 billion. As of September 30, 2020, the company had around 293,000 employees worldwide. Further information is available on the Internet at www.siemens.com.

With approximately 2,400 locations, **Aral** is the largest operator of fuel stations in Germany, Europe's most important fuel station market. Based in Bochum since 1898, the supplier of high-quality fuels and lubricants invented the world's first premium fuel in 1924, consisting of aromatic and aliphatic components – hence the company name "Aral." Since 2002, Aral has been bp's fuel station brand in Germany. REWE To Go-Shops are being added to an increasing number of Aral locations to offer customers a comprehensive high-quality selection of fresh snacks and hot foods. www.aral.de

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