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E-Mobility Index – China is the best prepared for electric mobility among all automotive nations

(Study Download)

- **Germany leads the pack on technology**
- **Financial pressure on automakers is growing through the switch to electric mobility**
- **New Battery-as-a-Service models could return OEM margins to higher profitability**

Munich, December 2019: Germany has taken the lead from France on technology in a comparison of the seven major automotive nations. Germany now ranks third overall, behind China and the United States. The market share of electric vehicles has grown significantly in all of the countries surveyed; in China, the proportion of electric and hybrid vehicles passed the five-percent mark for the first time in the first half of 2019.

These are the findings of the latest issue of the E-Mobility Index. The joint country comparison published by Roland Berger and fka GmbH combines the three key areas of technology, industry and the market. It enables an objective examination of the status quo in the field of electric mobility in China, Germany, France, Italy, Japan, South Korea and the USA.

"The market outlook continues to be positive, but electric vehicles are less profitable for OEMs than conventional vehicles," says Wolfgang Bernhart, Partner at Roland Berger. "Automakers could increase their profitability levels with new Battery-as-a-Service models."

Europe bringing up the rear in cell production

China continues to occupy pole position in battery cell production, with the study findings suggesting that the country will likely pull even further ahead. "No other nation plans to increase their domestic cell production on such a level," says Alexander Busse, Senior Consultant at fka. "Chinese production of battery cells is expected to increase by more than 1,000 percent in the years 2017 to 2022 compared to the period 2016 to 2021." European nations risk being left standing. Besides China, the USA, South Korea and Japan are also ahead. European companies currently play only a minor role in the battery value chain and have no presence at all in cell production.

In order to gain a foothold in battery production long term, substantial investments and a profound understanding of the technology will be necessary. European cooperation may present a solution. European automobile manufacturers and suppliers with a chemical background should position themselves as investment partners," recommends Busse. "They must be prepared to share the risks and pull together billions in investment capital."

New Battery-as-a-Service business models

Besides being behind on cell production, European OEMs also have a profitability problem. The losses incurred in the switch to electric drives could be diminished through greater cost efficiency, but profitability would still struggle.

The revenue gap could be closed in the future by new business models focusing on Battery-as-a-Service (BaaS). Some providers are already offering a Battery-in-the-Cloud service for managing and monitoring the battery life of electric vehicles. It enables the recording of real-time data on charging speed, charging cycles and ambient temperature, among other things. With this information as a basis, recommendations can then be made regarding driving style or necessary maintenance checks.

"There are starting points for many different business models along the entire lifecycle of the battery," explains Wolfgang Bernhart. "An integrated value chain covers everything from offering customers battery leasing plans to recycling the raw materials at the end-of-life."

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