

Munich, November 2, 2021

## productronica 2021

# Microelectronics – one of the key industries of our time

**Microelectronics is one of the most important technologies of our time. From electric mobility, autonomous driving and self-learning machines to medical technology and storing energy – none of it is possible without the tiny chips. They are also at the heart of productronica 2021 – the largest microelectronics trade fair in Europe – which takes place alongside SEMICON Europa from November 16 to 19 on the grounds of Messe München.**

Microelectronics is one of the most important technologies for innovations and progress in nearly all areas of life. And while many sectors are suffering under the coronavirus pandemic, microelectronics remains undeterred from its growth path. According to the current microelectronics trend analysis for 2021 carried out by the ZVEI (B1.ZVEI), in 2020 the global microelectronics market grew by 6.8 percent compared to the previous year to USD 440 billion. And that's despite a slump in the global economy of 3.2 percent at the same time. Among other things, the trend is caused by the strong demand for electronics equipment for people working from home (e.g. PCs) and for consumer electronics (games consoles, TVs). But electric mobility, autonomous driving, edge computing and 5G are also among the growth drivers.

Currently, for various reasons, the demand for microelectronics is greater than the supply: The pandemic has afforded manufacturers of IT technology and consumer electronics a boom, while the surprisingly rapid recovery of car sales is being thwarted by a scarcity of chips. This was followed by pandemic-related production outages, particularly for Asian chip manufacturers, thanks to thunderstorms in Texas (Samsung, NXP and Infineon), fires in Japan (Renesas)

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and earthquakes in Korea (Shin Etsu, the world's largest manufacturer of silicon wafers).

### **Global investments in the chip industry**

Suppliers for electronics production are also among those benefiting from the high demand for chips, since semiconductor manufacturers are investing billions in new machines and systems. On April 1, 2021, Handelsblatt reported that TSCM intends to invest USD 100 billion in the next three years, with Samsung investing around USD 175 billion in the same period. In the Frankfurter Allgemeine Zeitung (FAZ) on September 8, 2021, Intel boss Gelsinger announced the investment of EUR 80 billion for the construction of chip factories in Europe – perhaps also in Germany. The condition for this is that around 30 percent of the investments are to be covered by public grants.

Lastly, China's semiconductor sector is also benefiting from generous state aid. According to the Semiconductor Industry Association (SIA), the government there is subsidizing Chinese chip production with around USD 17 billion a year.

This is helping China to maintain its lion's share of the global market with ease. According to the [press release](#) from the ZVEI from June 29, 2021, this had a downward trajectory at first last year, with 34.4 percent, but was significantly ahead of America, with 21.7 percent (an increase of 13.6 percent), and Europe, with 8.5 percent (a decrease of 1.2 percent).

### **Current subsidies in the U.S. and Europe**

Massive subsidies in the U.S. and Europe are to shift the global market shares: Biden's trillion-dollar investment program, for example, plans to invest USD 100 billion for the infrastructure of "critical goods" – which includes microelectronics.

In Germany, the Federal Ministry of Education and Research is supporting research and innovation in microelectronics in the next three years, with EUR 400 million in the federal government's supporting program "Microelectronics. Reliable and sustainable. For Germany and Europe." According to the ZVEI, the

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research program “Important Projects of Common European Interest” (IPCEI -II) is also eligible to sustainably strengthen microelectronics production in Europe.

The “Chip Act” recently announced by the EU Commission, an advised legislative package for strengthening the European chip industry, raises hopes. Meanwhile, the [“Electronics Components and Systems for European Leadership”](#) (ECSCCEL) initiative launched in 2014 will expire in 2025. With expansions to content in the current EU research program “Horizon Europe,” the initiative is to be renewed under the name “Key Digital Technologies” (KDT). Negotiations at the European level are nearing their conclusion; the official start is planned for no later than January 2022.

### **Record investments in chip equipment**

Suppliers for chip production therefore all have reason to be optimistic about the future – even if they aren’t unaffected by disrupted supply chains and the high prices of raw materials. The “World Fab Forecast Report” from industry association SEMI (Halls B1.175, B1.571, B2.161) expects that this year’s global record investments of USD 90 billion in front-end process equipment (manufacturing processes on the wafer) will increase to around 100 billion in 2022. With USD 44 billion, the largest share of the pie goes to foundry suppliers, followed by memory with over USD 38 billion and then microprocessors with USD 9 billion.

The market for installation and packaging equipment (back-end processes) is to grow by 56 percent to USD six billion this year, followed by an additional six percent the following year. For the area of semiconductor test equipment, the industry association SEMI expects an increase of 26 percent to USD 7.6 billion for 2021, and a plus of 6 percent for 2022.

### **The largest microelectronics trade fair in Europe**

Visitors to the trade fair can take a comprehensive look at the exciting transformations within the universe of microelectronics – in terms of both technology and market politics – from November 16 to 19 on the Munich trade fair grounds thanks to the close cooperation of SEMICON Europa with

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productronica. Industry representatives will also benefit from a supporting program with a high-quality conference. productronica 2021 is therefore the ideal place to exchange with decision makers, innovators and insiders about the latest trends and technologies.

**More information:** [www.productronica.com](http://www.productronica.com)

### **productronica**

productronica is the world's leading trade fair for electronics development and production and is supported from a conceptual and technical perspective by the Productronics Association of the VDMA (German Mechanical Engineering Industry Association). 1,544 exhibitors from 44 countries and 44,000 visitors from 96 countries took part in and attended productronica 2019. The trade fair has been held in Munich every two years since 1975 and the next productronica is due to take place from November 16 to 19, 2021. For more information, visit [www.productronica.com](http://www.productronica.com)

### **productronica worldwide**

In addition to productronica, Messe München organizes productronica China, productronica South China and productronica India. The network of electronics trade fairs also includes electronica in Munich, electronica China, electronica South China, electronica India, SmartCards Expo, electronicAsia and LOPEC.

### **Messe München**

Messe München is one of the leading exhibition organizers worldwide with more than 50 of its own trade shows for capital goods, consumer goods and new technologies. Every year, about 50,000 exhibitors and around 3 million visitors take part in more than 200 events at the exhibition center in Munich, at the ICM – Internationales Congress Center München, the Conference Center Nord and the MOC Veranstaltungszentrum München as well as abroad.

Together with its subsidiary companies, Messe München organizes trade fairs in China, India, Brazil, Russia, Africa, Turkey and Vietnam. With a network of associated companies in Europe, Asia and South America, and with around 70 representatives abroad for more than 100 countries, Messe München has a truly global presence.