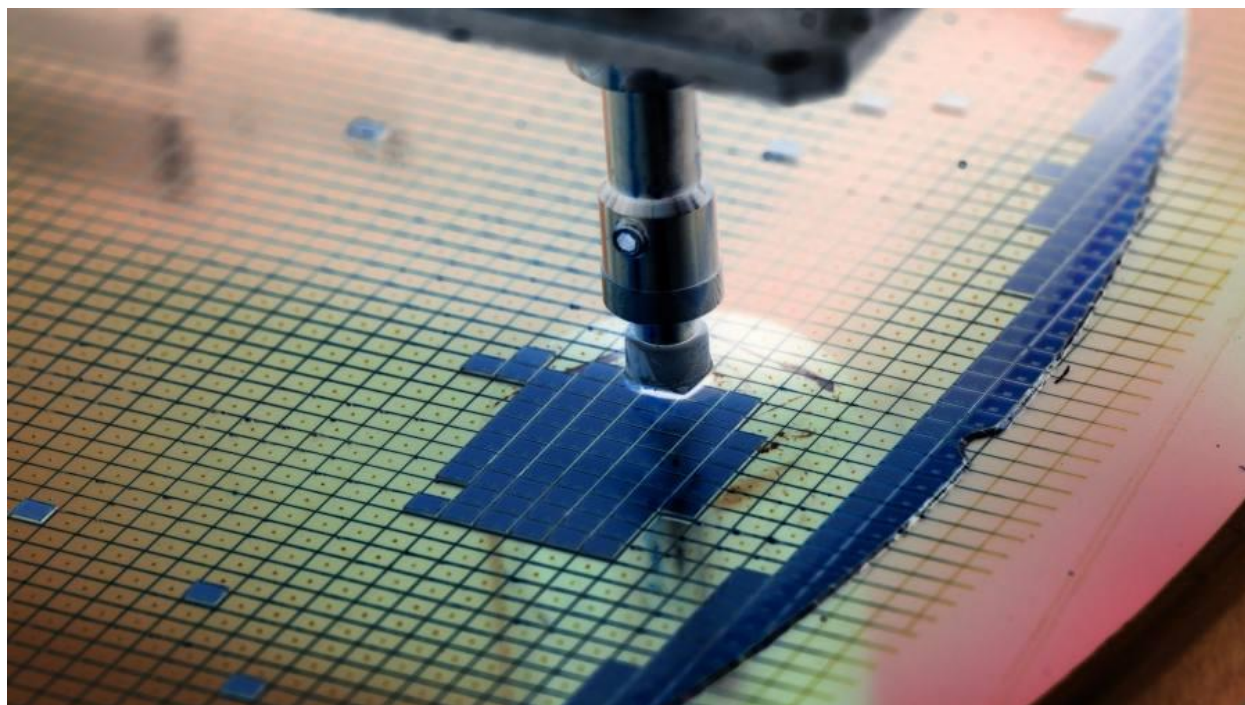


# FINANCIAL TIMES

Austria's 'hidden' tech champions at the core of global chipmaking - November 21, 2022



Ensuring the safety of semiconductor chip provides is now one of many EU's largest strategic and financial targets. And Austria — one of many union's smaller member states — is already residence to 2 of a very powerful, if unsung, firms in your entire international provide chain.

IMS Nanofabrication, in Vienna's southern suburbs, and EV Group, north of Salzburg, don't make chips themselves. Rather, they fabricate gear that's important for the businesses that do — together with chip giants, similar to Intel within the US and Taiwan's TSMC.

“Austria is not known for semiconductors and is rarely discussed in supply chain security and geopolitics,” wrote Dylan Patel, an business advisor and commentator in a current notice. “Despite this lack of notoriety, Austria's [EVG and IMS] are quietly critical for all advanced semiconductor manufacturing . . . in an age where semiconductors are highly politicised between the [US] and China, we find it humorous that Austria could single-handedly bring the semiconductor supply chain . . . to its knees.”

In Patel's evaluation, Austria has an 82 per cent market share in wafer bonding and a 95 per cent market share within the manufacturing of multi-beam masks writers. Without these, the chips utilized in all the pieces from flash drives to telephone cameras couldn't be made. For the subsequent era of even smaller, superior chips, these Austrian applied sciences are set to develop into nonetheless extra vital.

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“As pioneers in this field, we dominate the market for wafer bonding systems and enable many 'More-than-Moore' approaches and applications,” says EVG's Clemens Schütte, director of promoting for the

privately owned firm. More-than-Moore is a reference to the subsequent era of chips that may break the rule formulated by Intel co-founder Gordon Moore in 1965, which was that the variety of transistors on a chip would double each two years.

“[We are] firmly rooted in Austria . . . there’s a functioning ecosystem of universities, technical colleges and other educational institutions in the region and across the border that [provide specialists],” Schütte says. Good high quality of life additionally means “young people don’t have to look elsewhere if they want to work in a high-tech environment and help shape the future of electronics”.

IMS and EVG exemplify Austria’s “hidden champions”: mid-sized companies, typically without glamour or public prominence, which might be international leaders in what they do. Austria has an estimated 199 of them — profitable areas of interest companies which might be the spine of its manufacturing and analysis economic system.

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EVG specialises in gear for wafer bonding — the exact course of by which sheets of silicon wafer are bonded to make chips. It accounts for about four-fifths of worldwide manufacturing.

IMS Nanofabrication makes multi-beam mask writers: machines that successfully create nano-sized stencils by way of which chip circuitry is printed. IMS machines can draw these stencils at business standard-setting speeds and ranges of element. Such was the significance of IMS merchandise that Intel purchased the corporate in 2016, after years of shut co-operation (IMS Nanofabrication and Intel didn’t remark for this text).

In Europe, the race is now on to strengthen and construct on such experience. The EU Chips Act, put ahead by the fee in February, goals to extend Europe’s share of the worldwide semiconductor manufacturing market from 10 to twenty per cent. The European Commission estimates that about €43bn in public funding is because of be made obtainable to spur this semiconductor revolution over the subsequent eight years.

“What the Chips Act contains is a pledge for significant investment — to get production to Europe, and also to support smaller companies in particular, because risk capital in this field just isn’t widely available,” says Paul Timmers, analysis affiliate on the Oxford Internet Institute.

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“It will be achieved through a combination of measures — they are counting on national funding being available, and European funding, which will be both direct subsidies for businesses but also measures to make investment conditions as favourable as possible,” he provides.

The focus can also be prone to be on revolutionary areas of analysis and manufacturing. Currently, Europe’s semiconductor manufacturing capability is geared to older, less-sophisticated forms of chip. So, if Europe needs to compete, it should steal a march on international rivals in leading edge areas of chip miniaturisation. That will imply specializing in applied sciences that assist to develop chip circuits at a two-nanometre stage, in contrast with the 10-12 nm chips extensively used now.

Countries similar to Austria are fascinating, says Timmers, as a result of they’re already doing helpful analysis in tutorial settings on promising know-how for such work. Austria, for instance, has robust credentials in quantum applied sciences. The ministry of finance unveiled a €107mn package deal to help improvement of this final 12 months although its “Quantum Austria” programme, to which the EU will even contribute.

“Until now, Europe has been strong in advanced research, but it’s been less strong in getting it to the market,” says Timmers. “That’s something that will need to change.”

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