The Big Read Technology sector

The Apple effect: Germany fears being left behind by Big Tech

As a technology boom threatens to pass the country by, the iPhone maker is worth more than Germany's 30 leading companies

Patrick McGee in San Francisco and **Guy Chazan** in Berlin 10 HOURS AGO

When Steve Jobs returned to Apple as chief executive in September 1997, the computer maker was valued at $3bn — less than one-tenth the value of German conglomerate Siemens, Europe's largest industrial group both then and now.

Fast forward two and a half decades, and Apple's market capitalisation exceeds not only Siemens — at $1.35tn the iPhone maker is worth more than the entire Dax index of Germany's 30 leading companies.

Valuations of companies have often been used to make misleading comparisons: there is a cottage industry of pundits who have tried to compare the value of large multinationals to the GDP of entire countries. But sometimes, such contrasts can illuminate powerful trends about the state of nations.

The fact that Germany's 30 largest companies have been overtaken by one single American giant is more than just a statistical quirk — it is a striking example of how Europe's largest economy risks being left behind by the 21st century tech boom.

Angela Merkel, centre left, Michael Kretschmer, Saxony state premier, centre, and Herbert Diess, Volkswagen chief executive, at a VW plant. Mr Diess sees an existential challenge to the traditional car business © Krisztian Bocsi/Bloomberg

"Over the past two years I've heard so many German CEOs saying, 'If we don't change now, we might go out of business in the next five to 10 years'," says Simon Thun, chief executive of Interbrand for central and eastern Europe. "So there is this awareness that we could be the next dinosaur."

The long shadow of Big Tech has fallen on many countries. Apple is also roughly equivalent to the leading Australian stock market index of 200 companies, for example. But Germany is a special case. It is Europe's engine and the world's fourth-biggest economy because its brands mastered quality mass production and engineering, the key elements of 20th century industry before software began "eating the world", as venture capitalist Marc Andreessen once put it.

The Dax 30, established in 1988, is home to a diverse set of world leading companies including carmaker Volkswagen, chemicals company BASF, insurer Allianz, business software provider SAP and logistics group DHL. The index rose 22 per cent in the past 12 months to hit a record high. But Apple's value has more than doubled in the past 12 months, at one stage surpassing $1.4tn.

The Apple-Dax 30 comparison underscores two of the biggest fears in German boardrooms. First, although profits and exports remain strong, there is a sense of malaise among many German business leaders and politicians that a new industrial era based on software and data is passing them by.

"The big picture story is that we have missed the train on technology — the sector that is dominating the 21st century," says Carsten Brzeski, chief economist for ING Germany. "The next 20 years will be dominated by ecommerce, the internet of things and artificial intelligence. In all of these things, Germany is running behind."

Some leading German executives also worry that Silicon Valley tech companies could swallow up significant parts of German industry because of their immense scale.

The risk is that the industries Germany excels at, such as machine building and chemicals, could see the same kind of disruption that ravaged sectors such as music and media, as digital technology overtakes the hardware-oriented, engineering-based model at the heart of what Germany calls its postwar “economic miracle”.

Apple is now larger than Germany’s 30 biggest companies combined

Market capitalisation ($tn)

Source: Refinitiv
© FT

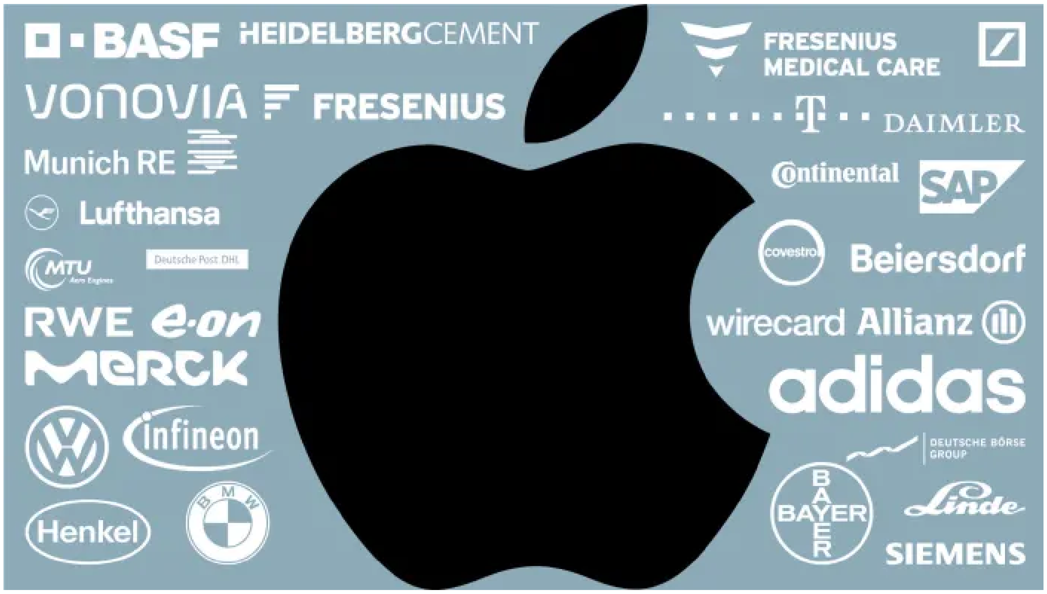
Herbert Diess, Volkswagen chief executive, sees an existential challenge to the traditional auto business from new challengers. “If we continue at our current speed, it is going to be very tough,” he recently told senior managers at VW.

It is a concern shared by Angela Merkel, Germany’s chancellor. In an interview with the FT this month, she said that software companies were inserting themselves into producer-customer relationships, becoming essential “intermediaries” between businesses and their clients.

German companies, she warned, had missed out on this development and were now at risk of falling behind. “It’s no longer enough to merely sell a product,” she said. “One also needs to develop new products from the data on these products.”

Her fear: that without this expertise, Germany could end up becoming nothing more than an “extended workbench”, a kind of glorified assembly line.

Big Apple outperforms the Dax 30



Source for DAX forecasts: S&P Capital IQ © FT montage

Apple

Market capitalisation $1.354tn
Fiscal 2019 revenue $261bn
Fiscal 2019 profits $55bn

Dax 30 companies

Market capitalisation $1.350tn
Forecast 2019 revenue $1.43tn
Forecast 2019 profits $91.8bn

For all the foreboding about declining competitiveness, disaster has not struck Germany’s economy, which continues to punch well above its weight in exports.

In September the Ifo Institute projected that Germany was likely to boast the world’s largest current account surplus — a measure of the flow of goods, services and investments — for the fourth straight year, at an estimated $276bn. Despite a 2.3% annual fall in exports in November, the figures reflect Germany’s huge success in exporting to China, its largest trading partner.

But a key risk is that Germany will be squeezed by both America and China — missing out on the former's tech boom while facing increased competition as the latter moves up the manufacturing value chain.

Alexis Wichowski, a professor at Columbia University, describes the US tech giants as "net states" — digital non-state actors unrestrained by borders which, in some cases, have more influence than major governments. They have become valuable by forming customer connections that are near constant. iPhone users check their mobiles many times every hour, while the likes of Google and Facebook are scraping data from consumers and profiting from it in ways users struggle to understand.

"Once you purchase a product, that's sort of the end of the transaction, whereas with net states there's an ongoing relationship on a daily, even hourly basis — as we upload data or use their service," Ms Wichowski says.

An employee in the pharmaceutical laboratories at Merck. Stefan Oschmann, the group's chief executive, says he worries about 'the Uberisation of healthcare' © Martin Leissl/Bloomberg

As Big Tech companies dominate one sector, they have a propensity to stomp on others' turf: a 20th century success story like BMW builds cars, and not much else, whereas the tech giants are constantly undergoing a series of dizzying transformations.

Apple, for instance, makes luxury phones and computers but it is pushing into multiple new "services" where it can use its heft to undermine the competition. Its credit card has no fees. Its suite of film and TV shows is free for a year to anyone who buys new Apple hardware. Chief executive Tim Cook is so keen to enter new arenas that he has repeatedly said Apple's "greatest contribution to mankind" will not be in computers or phones but health.

Amazon has expanded from selling books to mastering one-day logistics, producing its own films and pioneering voice assistant devices. Google has pushed from organising internet search to using machine learning to predict floods, tracking whales with bioacoustics and teaching robots with reinforcement learning.

"We are looking at a different kind of entity altogether," Ms Wichowski says. "Their ambition, their scale, the sector jumping they are doing — we are only beginning to understand the reach of these organisations in our lives."

Tesla is worth more than Volkswagen despite much smaller sales

Market capitalisation, $bn

Source: Refinitiv
© FT

German business is particularly alarmed by this prospect. Stefan Oschmann, chief executive of Merck Group, the Dax listed life sciences company best known for a pharmaceuticals business that dates back to 1668, says what he worries about is "the Uberisation of healthcare", in which technology is leveraged, on-demand, to create medication specific to the individual.

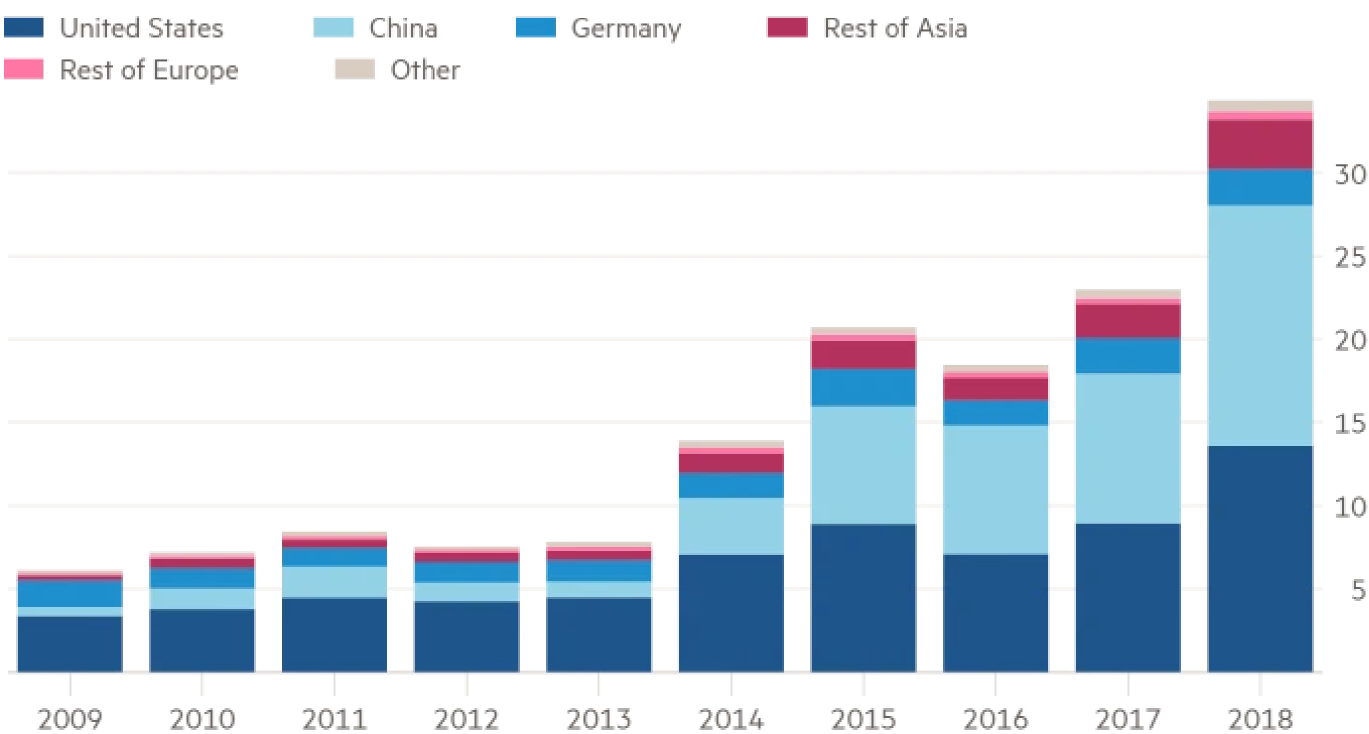
"That will change the entire pharma model," he says. "And it could end up in a situation where 'he who owns the data' for this, is much more powerful than 'he or she who administers it', or who has actually made the active compound . . . So it could well be that in the future the Googles become the competitors of the pharmaceutical industry."

Other successful German companies are worried that American groups will move in. “These companies have the financial firepower to completely change business models and landscapes,” says Jochen Thewes, chief executive of DB Schenker, a global logistics company run by Germany’s public rail operator.

In logistics, big electronic retailers led by Amazon are spending vast sums to do their own fulfilment and transportation, pushing into the core business of DB Schenker with little regard for short-term profit.

Venture capital flocks to the US and China

VC funding, by country or region ($bn)



Source: Dow Jones VentureSource
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“It’s an absolutely cash-burning machine. They are losing an arm and a leg, but they are of course building an unrivalled capability, they are building market share,” Mr Thewes says. Describing Amazon’s free delivery service as addictive, he adds that “they are giving consumers heroin — because once you’re a user you don’t really want to let go of that”.

The anxieties are most acute in the automotive industry, which accounts for one-third of German R&D spending. As Tesla challenges all facets of the German carmaking model, some industry executives fear that a century’s worth of combustion engine knowledge might be rendered superfluous.

Just five years ago, such a statement would have seemed ludicrous, but last week the valuation of Tesla — which produced fewer than 500,000 cars in 2019 — overtook that of Volkswagen, which routinely sells more than 10m cars a year. Investors are looking at VW's global production sites as liabilities rather than assets, while betting that Tesla — like Apple, Google and Facebook before it — could derive new revenues from turning the car into a platform for other services.

When the Germans produce a car, they source it to dealerships which sell it to consumers, whereas Tesla sells its vehicles directly to consumers. It then keeps that link meaningful by offering owners over-the-air software updates. Tesla, which is now building a production plant near Berlin, collects data from its sensors using "shadow mode" autopilot that feed its algorithms to improve self driving capabilities.

For the past decade, Germany has struggled to respond to such innovations — a direct result of the country lacking the kind of software ecosystem that has allowed Tesla to distinguish itself, according to Mr Diess.

"We have, I would say, disadvantages here," Mr Diess tells the FT. "We don't have the big tech companies here . . . and you need tech companies to partner with. So either we can go to the west coast or we can go to China. We don't have the software skill and size. We don't have a software industry."

The Adidas headquarters in Herzogenaurach, Germany. The sportswear manufacturer sits alongside a clutch of automotive, chemical, industrial and insurance companies in the Dax 30 © Martin Leissl/Bloomberg

Alexander Rinke, co-chief executive of Celonis, a German software company valued at $2.5bn, says he has spent a lot of time trying to figure out why Germany has lost the spirit of the *Gründerzeit* — the "founding epoch" in the late 19th century when Daimler, Bayer, BASF, Deutsche Bank and Allianz were all established.

"I don't think it's the market and I don't think it's the culture, which gives me hope because those two things will be hard to change," he says. "And I don't think it's the talent, because when you look at academia, Germany is making leading contributions to many fields."

He believes the absence of venture capital to encourage entrepreneurship in the last half-century has played a central role in why the innovation pendulum shifted to the US.

"That financial infrastructure — the way people invest capital and allocate capital — is probably the main reason why Apple, Google and Facebook are all American, and none of these companies is German or European," he says.

Germany's start-up scene shows some signs of change. A series of funding rounds has conferred unicorn status on a few German-based companies — challenger bank N26 and start-up GetYourGuide, while software group TeamViewer pulled off the biggest stock market listing in Europe last year.

But such success stories are still the exception. In CB Insights' "global unicorn club" — a compilation of private companies valued at more than $1bn — just 12 of the 445 members are German, compared with 217 in the US, 106 in China and 24 in the UK.

Merck's Mr Oschmann also points to venture capital as a missing ingredient, but he adds that German companies also lack an ecosystem of support from military and intelligence services — which has aided the rise of tech in China, Israel and South Korea as well as the US.

"Europe is currently not in a position to compete, really, when it comes to these platform technologies," he says. "We don't have any sizeable venture money . . . What is Europe good at? Europe is good at making physical things that are differentiated."

In the US, big pension funds have long invested in technology start-ups via venture capital, whereas in Germany pension funds tend to be ultra-conservative and place the bulk of their investments in low-yielding sovereign debt — a tactic Mr Oschmann considers absurd. "There is less risk investing in [venture capital] than in Italian government bonds," he says.

That is changing. According to Dow Jones VentureSource, Germany is expected to have recorded almost $7bn of venture capital investments in 2019, more than double the figure two years earlier.

Mr Diess at Volkswagen says the example of Steve Jobs at Apple demonstrates why German industry needs to show more urgency. As cars transform to become iPhones on wheels, he fears VW is at risk of becoming another Nokia, which lost its dominance of the handset market to Apple.

"Dear colleagues, that is exactly the situation that is repeated in the automotive industry," he told VW managers. "The car is no longer just a means of transport. And that also means the time of classic automobile manufacturers is over."