Software Industry

Germany is home to the single largest software market in Europe - accounting for around a quarter of the European market by value. Innovation comes as standard in an industry best characterized by a thriving Mittelstand of small and medium-sized enterprises. Increased business demand for smart data products and services in the cloud are driving domestic software market growth, as Germany embarks on a far-reaching program of digitalization that promises to transform the economy.

Covid-19 - Increased Demand for Digital Learning Solutions

The corona crisis is making itself felt in the classroom, with schools closed. Digital learning providers are offering innovative solutions to meet changing education requirements.

Video Conferencing for Pre-School Children

It is half past nine in the morning in Germany. The first video conference has just begun. The 12 participants can see the other participant faces and they start talking. Their parents are present, in some cases both mothers and fathers. They sing children’s songs, do children’s yoga and read a story about the fireman together. This is the kindergarten group of a Berlin daycare center where the educators are making virtual appointments using the same video conferencing tools normally reserved for adult use.

Starting in the last week of March, the virtual meetings have already established themselves. And just like the parents and children in this Berlin day nursery, many in Germany are trying out new digital learning and communication tools as a result of the restrictions on movement put in place to combat the coronavirus disease.

Digital Apps Bringing Children Together

A number of web- and video conferencing tools have become household names overnight as working from home has become the new norm for many millions of people around the world. Similar tools are being used to bring children together during the lockdown – one prominent example being the NemBørn tool that digitally connects children, parents and daycare centers, thereby ensuring that everybody know what is happening and what the little ones and grown-ups are learning with and from each other.

Emergency Digital Pact for Schools Funding

Germany’s Federal Government has approved the release of EUR 100 million for primary and secondary schools as part of its existing “Digital Pact for Schools” program (Digitalpakt Schule in German only) in order to combat the immediate effects of the Covid-19 crisis. The EUR 5 billion initiative, put in place to help schools upgrade their digital infrastructure, is part of the country’s broader digital transformation objectives. The emergency funding has been made available to ease the transition to “home learning” using cloud platforms and solutions.

The Hasso Plattner Institute (HPI) School Cloud, a learning platform developed exclusively for schools, has also received extra federal funding as part of the new measures. The HPI school cloud will be made available to all schools which cannot use a comparable platform solution provided by the state or school authorities. Working in partnership with Alliance for Free Education members Wikimedia Deutschland e. V. and edu-sharing.net e. V., HPI will oversee the integration of learning content in the learning cloud of the school cloud.

Growing Demand for School Digital Learning Solutions

Demand for school digital learning platforms and solutions is growing. The current situation has only thrown a spotlight on the very real need for a radical overhaul of digital infrastructure in Germany’s school education system. The individual federal states are reacting at different speeds to make digital teaching services easily available to all
Remote Learning Solutions Opportunities

Digital learning in schools was a major presence at this year’s LEARNTEC trade fair for digital learning in January. Germany’s Bitkom digital association has repeatedly highlighted shortcomings in Germany’s digital progress to date, hampered in part by the country’s federal system which sees educational competences decided on an individual state basis. Nordic countries, as part of a project initiated by education start-ups and “Education Nation” (Estonia), have made a number of remote learning solutions freely available across Europe to support teachers and parents in the current difficult situation. Digital learning solutions providers who make their apps and solutions freely available to schools and educational establishments in Germany may well be permanently integrated into the country’s education landscape after successful test phase completion. Similar opportunities also exist for international companies in the college, university and further education environment, as they too address the current situation and the country’s changing digital learning requirements.

Video: Supercomputers in Germany

Don’t know your pentium from your petaflops? No problem. Our video on #QuantumComputing has the answers & will introduce you to the two fastest computers in #Germany. “Juwels” has the power of 60,000 conventional computers while “SuperMUC-NG” can calculate in one second what it would take everyone on earth 6.7 million years to do.
Fact Sheet: Software and Cybersecurity Market in Germany

Read more about current market developments in our new fact sheet.

Germany – Excellence in Big Data

Germany Trade & Invest, Bitkom, and Smart Data Forum and have jointly presented the report "Germany – Excellence in Big Data", which aims to do this. The report is aimed at an international audience and presents more than 30 scientific organizations, over 60 technology vendors and more than 40 Big Data users with their research priorities, projects and strategies or products and services.

Market Overview

Germany is the single largest software market in Europe. The country accounts for approximately a quarter of the European software market by value, with the UK and France in distant second and third places (18.6 percent and 13.6 percent respectively). Germany’s software market has proven remarkably resistant to the global economic crisis. A study by market researcher Marketline identifies a compound annual growth rate (CAGR) of 6.3 percent for the period 2010 to 2014. In comparison, the respective markets in the UK and France grew by just 5.2 percent and 2 percent during the same period. A study conducted by the European Information Technology Observatory (EITO) revealed German software market revenue growth of 5.7 percent to over EUR 19 billion in 2014. According to Marketline, this growth trend is expected to continue through to 2019, with a CAGR of 5.5 percent forecast for the period 2016 to 2019.
Software Industry

Competition and Opportunities

Big players such as IBM, Microsoft, Oracle, and SAP (one of the largest business software companies originally from Germany) are present on the German software market. However, the market is best characterized by the large number of dynamic and highly specialized SMEs (Germany’s renowned Mittelstand). Companies in the Mittelstand dominate Germany’s economic and industrial landscape; creating a diversified SME environment of highly specialized hidden champions with a global market footprint. These SMEs are simultaneously driving demand for software solutions – thereby creating a significant customer base. As well as strong growth prospects, there are also promising opportunities for less established suppliers and market entrants. The most significant market potential exists for expert suppliers of industry-specific software products and services.

German Software Market 2014 - 2019
(in EUR billion, growth in %)

Testimonial - Hermann Wimmer | TERADATA GmbH
"As a highly developed technology industry location at the heart of Europe, Germany is doubly interesting to Teradata: as an attractive market with many strong businesses, and as the ideal gateway to eastern European markets."

Hermann Wimmer, President Europe - Middle East - Africa

Market Opportunities | Big Data

“Big data” is more than just a buzzword. It is very probably the most important concept in the digital world today. According to Frost & Sullivan, the big data concept overarches all other relevant software megatrends including mobile and cloud computing, the Internet of Things (IoT), enterprise resource planning (ERP), customer relation management (CRM), smart grids, and networks. Moreover, according to the German IT industry association BITKOM, big data has the potential to cause significant changes in numerous economic sectors in the years ahead. Big data technology use may have its origins in North America, but Europe – and Germany in particular – is quickly catching up.

Although the German big data market still appears to be at an early stage, the Experton Group expects the German big data market to grow from EUR 1.4 billion in 2015 to almost EUR 3.8 billion in 2020. Correspondingly, annual growth rates during this period are predicted at 23 percent on average. At present, big data technology in Germany is largely driven by the internet, e-commerce, and advertising sectors. However, thanks to its competitiveness and export orientation, the German economy is expected to quickly adapt to the needs for optimized production, logistics, and sales process to become an international "big data champion," according to BITKOM. Accordingly, the most important investment opportunity areas for suppliers are hardware and infrastructure, bandwidth and related acceleration services, and, more particularly, database and analytics technologies.

German Big Data Market 2015 - 2020
(Forecast EUR million)

Source: BITKOM/The Experton Group, 2015
**SOFTWARE INDUSTRY**

**Market Opportunities | Cloud Computing**

The market outlook for cloud computing in Germany is promising, with cloud solutions gaining in importance on corporate management agendas. Cost effectiveness and flexibility are the main reasons for considering cloud computing solutions. According to a joint study by BITKOM and KPMG, the attitude of German companies towards cloud computing has improved significantly during the period 2013 to 2015. Forty-four percent of all German enterprises already use cloud computing solutions while an additional 24 percent are planning or considering their introduction in the coming years. Cloud solutions are also of relevance to private consumers. While most private users still opt for free cloud services (e.g. for document storage), some two million users already pay for their cloud services – typically following an upgrade or extension of an initially free service according to BITKOM.

Assessing the overall cloud computing market, independent ICT consultancy the Experton Group forecasts growth rates in the high double-digit percentage range for the year ahead. For instance, in 2016 growth is forecast at 35 percent leading to an overall market value of nearly EUR 12 billion. Cloud computing expenditure accounts for approximately five percent of all business IT spending in Germany. The main requirement for cloud computing customers is that the data centers are physically located in Germany.

![Cloud Computing in Germany by segments 2012 – 2016* (in EUR million)](chart)

Revenues from B2B are expected to increase by 35 % in 2015 -2016*

* Forecast
Source: Experton, 2016

**Market Opportunities | IT Security**

The increased digitization of life, business, and industry – with technological advances such as big data, cloud computing, Industrie.4.0, and IoT – creates increased complexity and stronger interrelations between infrastructures and ICT systems. This also leads to increased vulnerability in terms of potential security risks. As the Association of German En-
gineers (VDI) has noted, high-profile computer worm and virus attacks provide just a flavor of the gravity of the dam­
age potential to IT infrastructures when hacked.

This means that established solutions such as firewalls, encryption, virus scanners, and signature verification will re­main relevant. However, increased interconnectedness between infrastructures and ICT systems requires holistic secu­rity approaches. Growth potential in the area of ICT and software almost inevitably means growth potential in the area of IT security. The overall turnover of software and services in the field of IT security has reached EUR 3.7 billion in 2015.

German Market for IT Security 2012 – 2015*
18% growth in 3 years (in EUR million and %)

Market Opportunities | Enterprise Resource Planning

Enterprise resource planning (ERP) is hardly a new topic in the area of software and ICT. However, given the size of the German economy and its highly differentiated industry landscape, Germany still holds significant market potential for industry-specific ERP technologies. The Experton Group envisages relatively constant expenditures of more than EUR 2.5 billion per year for ERP technology in Germany through 2016. According to a study conducted by the Center for Enter­prise Research at the University of Potsdam, current ERP market participant offerings still fall short of meeting cer­tain customer ERP solution demands.

The best market opportunities exist for those ERP products with the distinct competitive advantages of being industry-specific solutions paired with improved usability, business analytics capa­bilities for processing big data, and coupling and integration with in-situ business processes and systems. Demand for
individualized ERP solutions – as opposed to highly standardized solutions – remains high according to the Experton Group.

New business models emerging within “smart factory” concepts are also expected to drive further demand for integrated ERP systems. Manufacturing components equipped with cyber-physical- and ID systems enable increased flexibility and decentralization of manufacturing processes.

Market Opportunities | Smart Social Business Platforms

The deployment of social business platforms in companies is much more than a short-lived hype. Instead, the use of such platforms for internal company purposes is increasingly proving to be a sustainable trend. More and more company decision makers are recognizing the advantages of enabling and facilitating collaboration, information flow, and productivity that come with the internal implementation of social business platforms. The best known providers of social business solutions in Germany are Microsoft, IBM and Jive. Significant opportunities also exist for smaller providers.

A recent BITKOM study finds that 83 percent of all German ICT companies attribute an important if not decisive role to social business solutions with customer demand expected to grow significantly. According to the Experton Group, the growth potential of the smart social business platforms (also “social business for communication and collaboration” – SB4CC) market is one of the highest in the ICT sector in Germany. Investments in on-site smart social business platforms – as opposed to cloud-based services – currently account for nine percent of overall investments in unified communications and collaboration systems (UCC).

This share is expected to grow to around one quarter of total UCC spending in 2016. Between 2015 and 2019, average market growth of the SB4CC industry in Germany is expected to be over 50 percent. This will lead to an overall spending of approximately EUR 2 billion in this field in 2016.

Market Opportunities | E-Energy and Smart Grids

Germany’s Energiewende (“Energy Transition”) is driven by the German Federal Government’s aim to establish a reliable, economically viable and environmentally sound energy supply to make Germany one of the most energy-efficient and green economies in the world. Germany’s “E-Energy” concept allows ICT to be implemented at all power grid levels. All stages of energy generation and supply will be equipped with ICT technology, starting from the production sites – which will be increasingly decentralized as a result of increased renewable energy share – right through to the end-consumption location.

This is the prerequisite for managing supply and demand within the energy grid to make it a “smart grid.” The complexity of this undertaking makes the Energiewende one of the largest German infrastructural projects in modern times. The establishment of smart grids requires significant investment in grid infrastructure. According to BITKOM, European smart grid investment of EUR 500 billion is needed up to 2030. In Germany alone, E-Energy/smart grid market revenue will grow from a 2010 level of EUR 1 billion to EUR 10 billion by 2020 (equivalent to an annual growth rate of 21 percent).

Related Links

- BITKOM - German Association for Information Technology, Telecommunications and New Media
SOFTWARE INDUSTRY

- BVDW - Federal Association for Digital Economy (in German only)
- DFG - German Research Foundation
- ECO - German Internet Industry Association (in German only)
- Federal Network Agency
- Fraunhofer Society
- Helmholtz Association
- Max Planck Society
- VATM - Association of Telecommunications and Value-Added Service Providers

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Promoted by Federal Ministry for Economic Affairs and Energy in accordance with a German Parliament resolution.