

The German Software Market

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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.

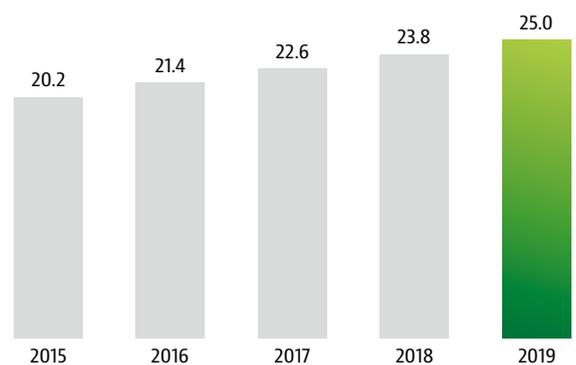
Market Overview

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.

Competition and Opportunities

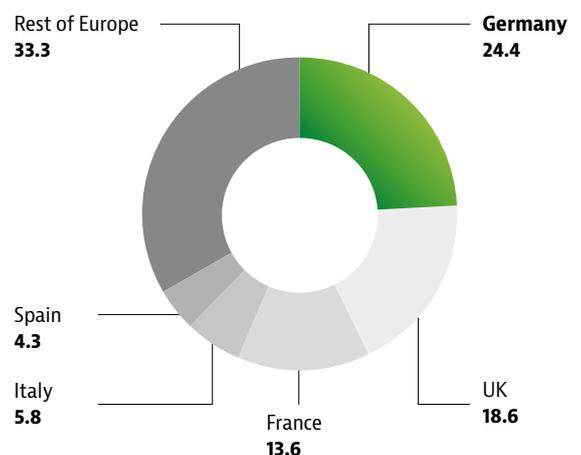
Big players such as IBM, Microsoft, Oracle, and SAP (one of the largest business software companies originally from Germany) are present on the German software market. However, the market is best characterized by the large number of dynamic and highly specialized SMEs (Germany's renowned *Mittelstand*). 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 Value Forecast (in EUR billion)



Source: Marketline 2015

European Software Market 2015 (in percent)



Source: Marketline 2015

The Digital Transformation

Big Data

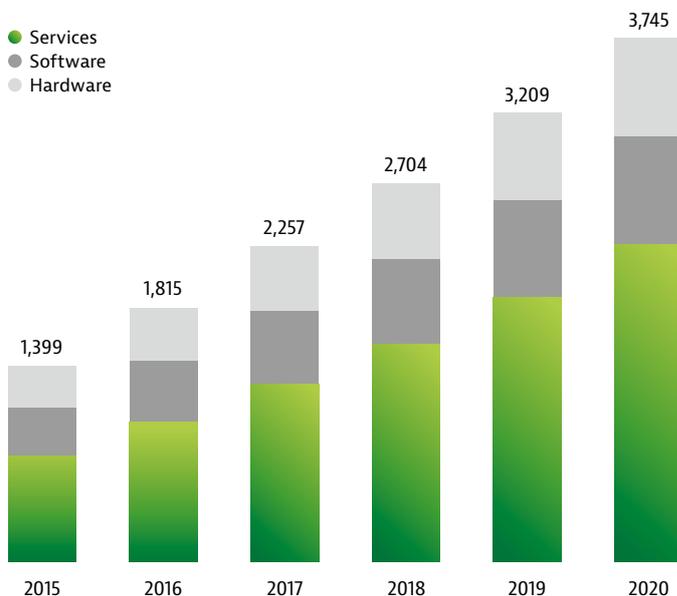
“Big data” is more than just a buzzword. It is very probably the most important concept in the digital world today. According to Frost & Sullivan, the big data concept overarches all other relevant software megatrends including mobile and cloud computing, the Internet of Things (IoT), enterprise resource 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.

IT Security

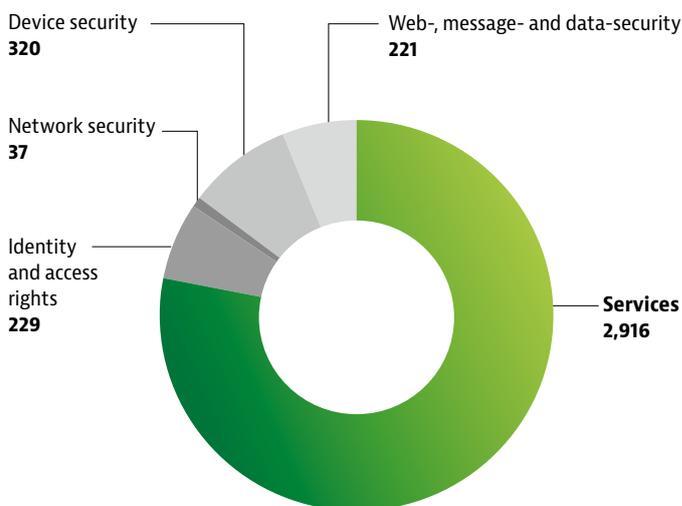
The increased digitization of life, business, and industry – with technological advances such as big data, cloud computing, Industrie. 4.0, and IoT – creates increased complexity and stronger interrelations between infrastructures and ICT systems. This also leads to increased vulnerability in terms of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

Big Data Market Development Forecast in Germany (in EUR million)



Source: Experton Group 2015

Big Data Demand by Industry (in EUR million)



Source: BITKOM, IDC 2015

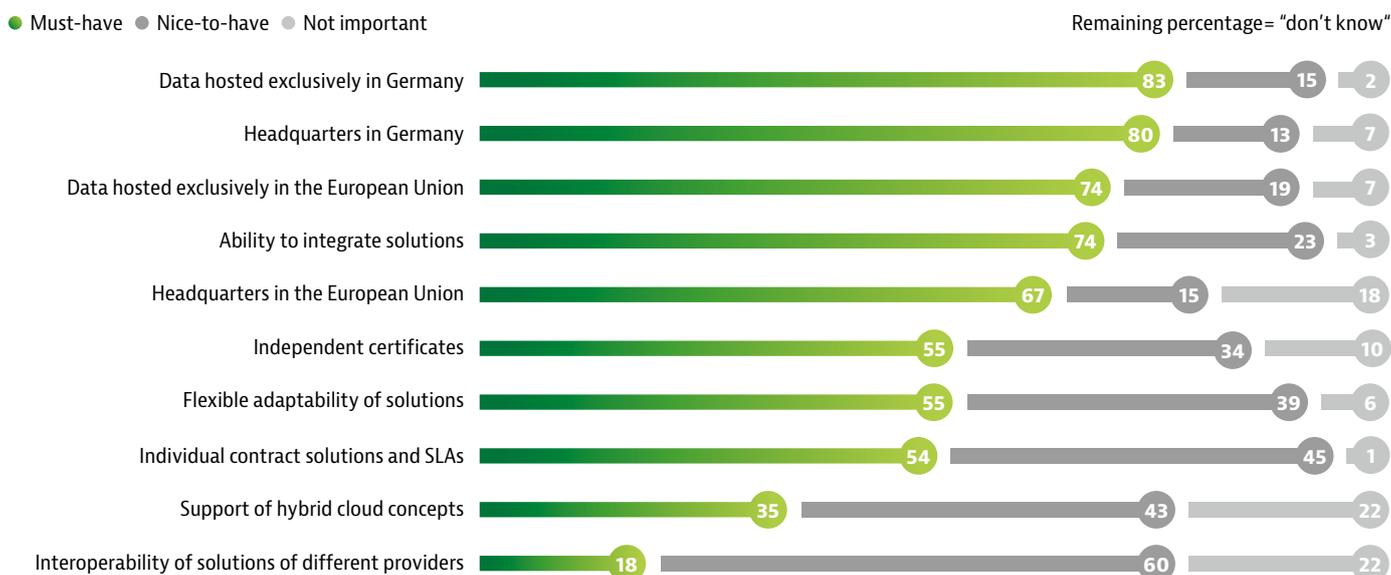
Cloud Computing

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.

Business IT: ERP

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.

Requirements of Cloud Computing Customers in Germany (in percent)



Data Centers

Steady but solid growth is forecast for Germany's data center sector over the next five years. In the region of 2.65 million square meters are currently available in Germany for data centers – equivalent to almost a quarter of the total space available in western Europe. This figure is expected to grow to 3.1 million square meters up to 2020. The market will be shaped by an acute requirement for more IT and power capacity, a focus on reducing operating costs, and the need to meet changing regulatory and corporate requirements amongst other things. The city of Frankfurt, home to DE-CIX (German Commercial Internet Exchange), the world's largest internet exchange point (IXP), will hold its own against other European hubs as a center for colocation and cloud service provision and innovation. A strong stance on data privacy will help Germany capitalize on non-US demand for cloud services resulting from concerns about intelligence surveillance and data interception. The decentralized economy will contribute to the growth of other national data center hubs.

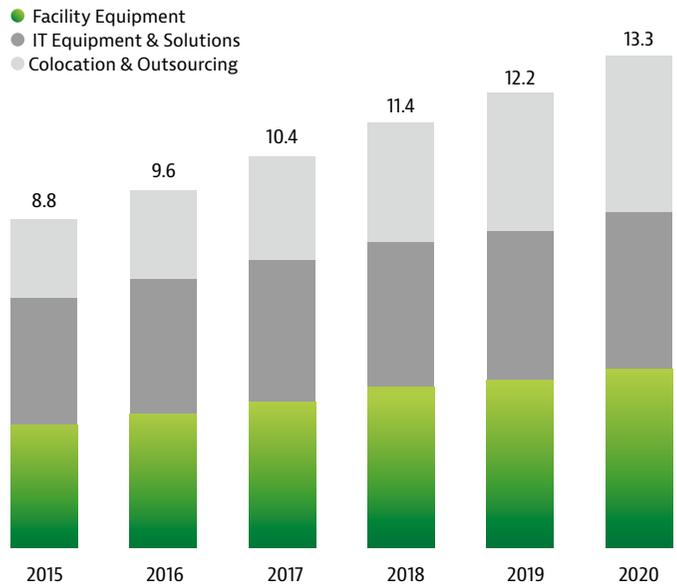
E-Energy and Smart Grids

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).

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.

Investment in Key Data Center Categories in Germany (in EUR billion)



Source: DCD Intelligence 2015

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.

Supporting Business Success

World-Class Education Standards

According to the Organization for Economic Cooperation and Development (OECD), Germany has an excellent standard in higher education. In 2015, some 503,000 students – at more than 400 universities – embarked on a course of academic study. Almost 92,000 engineers and over 78,000 mathematicians and natural scientists graduated in 2014. Germany’s share of university students in the sciences, mathematics, computer sciences, and engineering is the second highest in the OECD, accounting for 31 percent of all students.

Outstanding Labor Force

More than 80 percent of the German workforce is in possession of an academic degree or has received formal vocational training. The country’s dual education system – unique in combining the benefits of classroom-based and on-the-job training over a period of two to three years – is specifically geared to meet industry needs. Moreover, recruitment services are actively supported by government agencies.

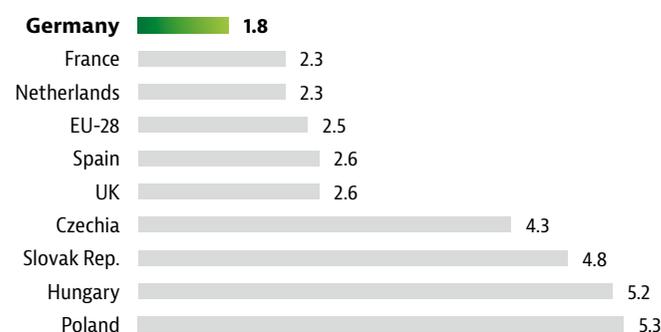
Competitive Labor Costs

Another decisive argument in favor of Germany as a premium location for business services has been the significant closing of the labor cost gap between Germany and its eastern European neighbors. In fact, Germany has gained the labor-cost edge in recent years, recording the lowest labor cost growth rate (1.8 percent) within the EU.

Growth of Labor Costs in the Business Economy

2005-2014

(annual average growth in percent)



Source: Eurostat 2015

Since 2005, wages have risen in most European countries – at a rate significantly above that of the EU-28 average increase of 2.5 percent. Some countries, particularly those in central and eastern Europe, have experienced a rise of more than five percent. Labor turnover rates in Germany are significantly lower than in near or offshore locations. A general minimum wage of EUR 8.50 an hour has been in force since January 2015. Transitional rules apply in some sectors (e.g. those with universally applicable collective wage agreements) until 2017.

Open and Transparent Markets

German law makes no distinction between Germans and foreign nationals regarding investments, available incentives or the establishment of companies. The legal framework for foreign direct investment in Germany favors the principle of freedom of foreign trade and payment. Germany is world renowned for its highly developed economic, legal and political frameworks which provide investors – in all industry sectors – with the necessary security for their business investments.

Competitive Tax Conditions

Germany offers one of the most highly competitive tax systems of the big industrialized nations. For corporations, the average overall tax burden is just below 30 percent, with certain local municipalities offering significantly lower rates still. Germany does not have a consistent nationwide tax rate for corporate income taxation. Instead, taxation of corporate companies consists of two major components: corporate income tax + solidarity surcharge and trade tax. Corporate income tax and the solidarity surcharge are components with a fixed rate, with the trade tax rate varying locally. The total amount of these two taxation components forms the overall tax burden. As a result of the fixed and variable components, the overall tax burden can differ by up to 10 percent between locations. Germany Trade & Invest can support you in identifying attractive locations in Germany.



For more information on Germany’s business environment (including current statistics and developments) please visit our website: www.gtai.com/germany

OUR SERVICES

About Us

Germany Trade & Invest (GTAI) is the foreign trade and inward investment agency of the Federal Republic of Germany. The organization advises and supports foreign companies planning to expand into the German market and assists German companies seeking to enter foreign markets.

Investment Location Germany

GTAI provides close-to-market information to international companies looking to enter German markets. Our specialist industry teams prepare all of the relevant information essential to business success in Germany. GTAI's comprehensive range of information services includes:

- Market and industry reports
- Market entry analyses
- Business and tax law information
- Business and labor law information
- Funding and financing information

Business Location Services

GTAI supports international companies from market entry to business start-up in Germany. Expert project teams advise and assist in the business establishment phase. GTAI's range of free services includes:

- Legal and tax-related project support
- Funding and financing advisory services
- Site visit organization
- Local partner and network matchmaking
- Public and private partner coordination

All investment-related services are provided entirely free of charge. Our specialist industry teams have hands-on experience in their respective industries and treat all investor enquiries with the utmost confidentiality.

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