In cooperation with ARTHUR D LITTLE

The Internet Industry in Germany 2025-2030: Future Prospects for Digital Infrastructures

EXECUTIVE SUMMARY

With the kind support of Digital Realty, NetCologne and the Alliance for the Strengthening of Digital Infrastructures in Germany

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EXECUTIVE SUMMARY

Introduction

Despite five years of stagnation in the German economy, the Internet industry continues to show strong growth and resilience. According to the findings of this study, it is expected to grow by an average of 9.7 percent per year until 2030. Revenue is therefore expected to rise from approximately 245 billion Euro in 2025 to 389 billion Euro in 2030. This dynamic growth is also driving the expansion of data centres and high-performance telecommunications networks, albeit without sufficient capacity and speed. These infrastructures form the backbone of digitalisation and are also the decisive basis for the comprehensive realisation of the potential of artificial intelligence in Germany. To keep pace with the industry's dynamics and secure the country's digital transformation, politicians too must take decisive action. This study provides reliable figures, facts and concrete recommendations for action.

The four-layer model of the Internet industry developed by eco and Arthur D. Little remains the methodological framework for the 2025 edition. Unlike in previous studies, no new segments have been added, as the structure of the market has not changed fundamentally. The current dynamic is primarily driven by the use of artificial intelligence (AI), which is having an impact across all segments and causing significant changes. These changes form the basis for the updated market figures and forecasts in the study.

Figure 1

The model of the Internet Industry developed by eco & Arthur D. Little

Although Layer 1 is neither the largest segment of the Internet industry nor the one with the highest growth rates, this year's study deliberately focuses on digital infrastructure – in particular on data centres and telecommunications networks. High-performance data centres with sufficient capacity and modern, nationwide telecommunications networks are essential if the industry, public administration and society are to be able to exploit fully the opportunities offered by digitalisation and artificial intelligence. This will pave the way for an era of digital sovereignty. The study shows how investments and developments in these areas will shape the growth of the Internet industry until 2030, and what must be done today to secure Germany's digital future.

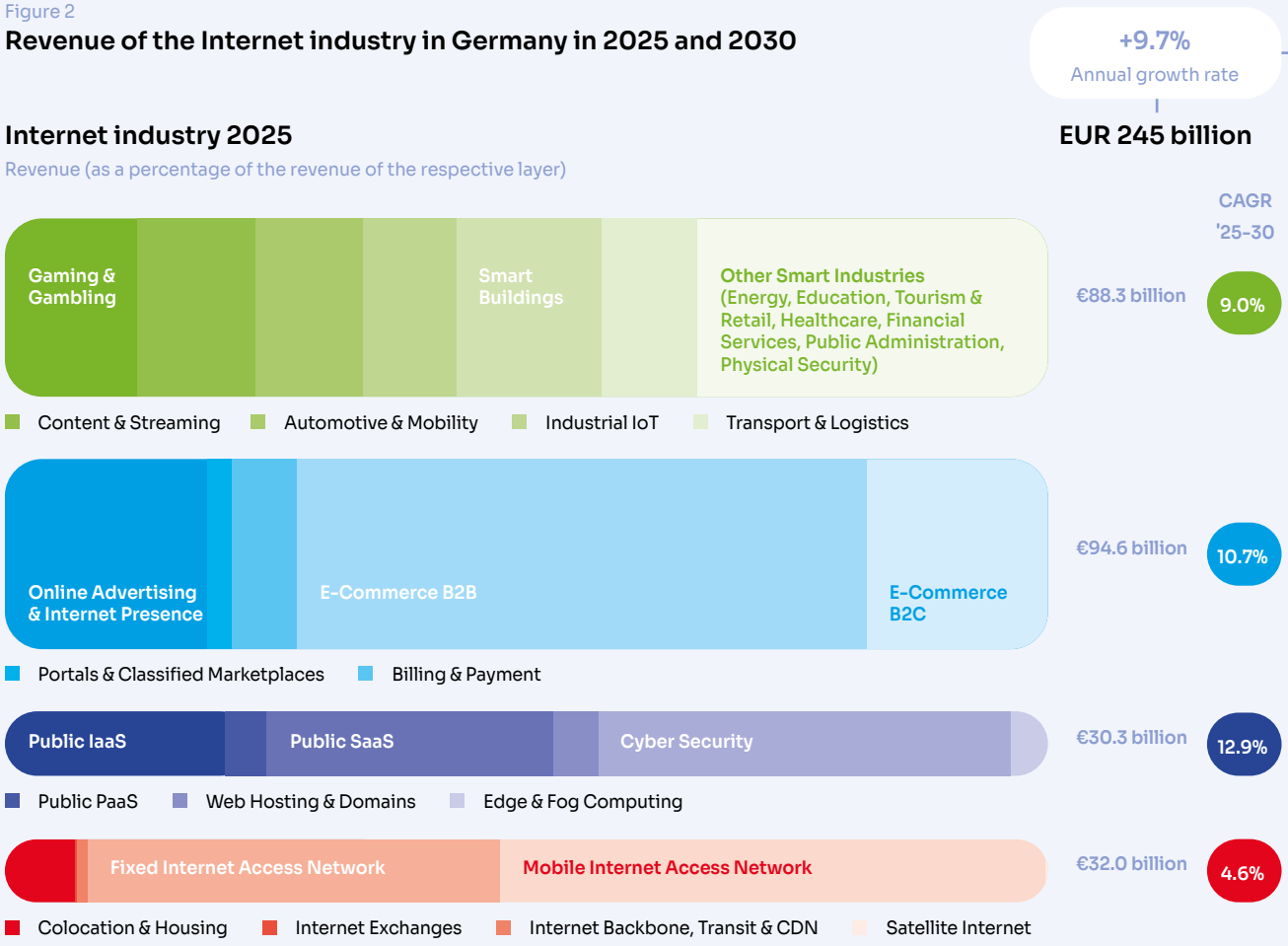
Overarching development of the Internet industry

The Internet industry in Germany continues to grow robustly. An average annual growth rate (CAGR) of 9.7 per cent is forecast for the period 2025–2030, which would bring the market volume to around 389 billion euros by 2030 (see Figure 2). This dynamic growth is driven by three key trends.

Firstly, **digitalisation** is permeating all areas of life and work, from businesses and government agencies to individuals' everyday lives. Secondly, the rapid adoption of new **AI technologies**, especially generative and agentic approaches, is giving the Internet industry an additional boost. AI-based applications are creating new business models, increasing the efficiency of existing processes and taking creative performance to a new level – as we also described in detail in the eco/Arthur D. Little AI Study 2019. Thirdly, Germany — in line with Europe — is striving for greater **technological independence**. The pursuit of digital sovereignty in the European data space is creating political framework conditions and investment incentives that will further strengthen the growth of the domestic Internet industry.

Figure 2

Revenue of the Internet industry in Germany in 2025 and 2030



Development by layer

All four levels of the eco/ADL contribute significantly to growth, with Layer 1 – digital infrastructure – forming the backbone of the German Internet industry.

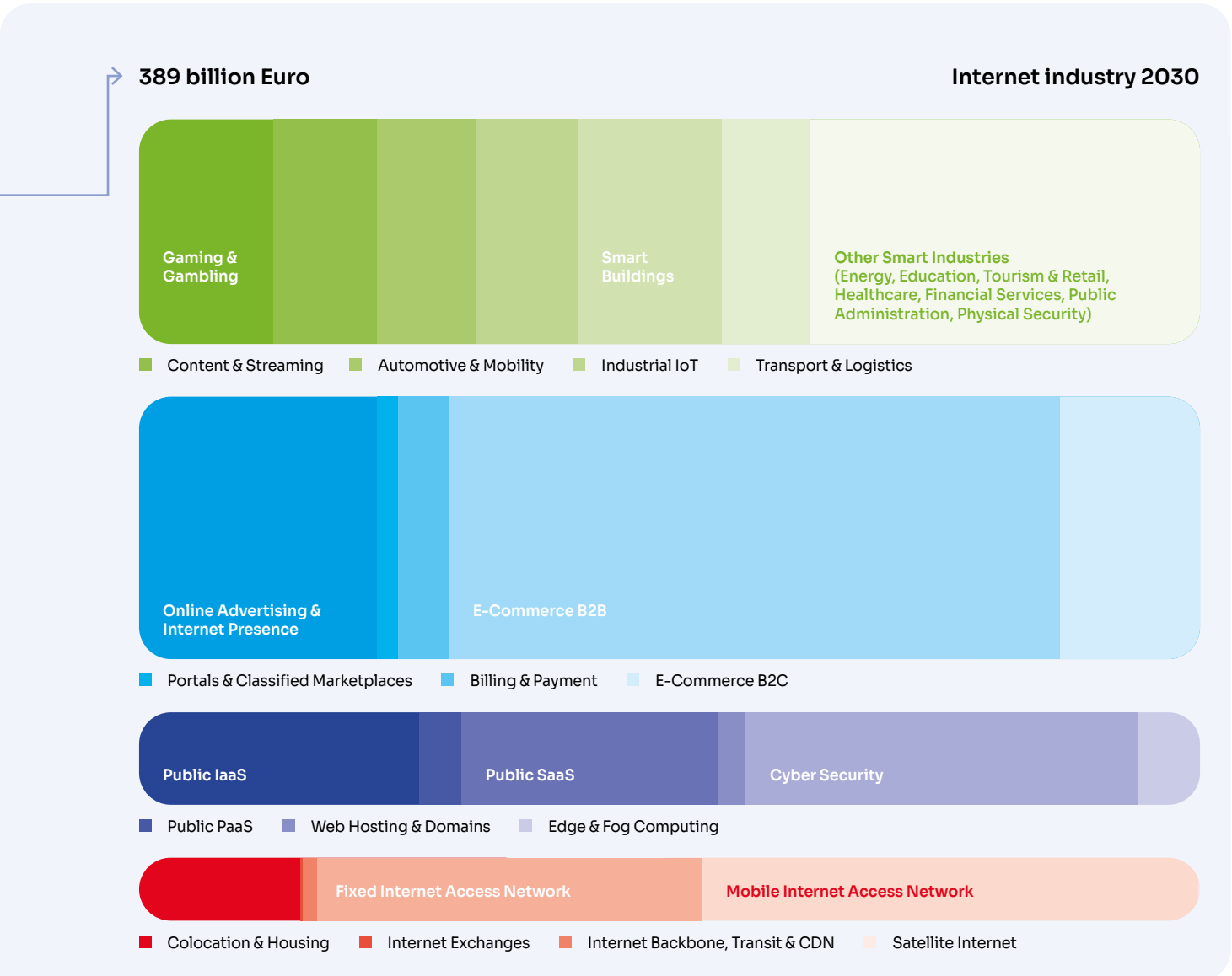
Layer 1 – Digital Infrastructure grew at a **CAGR of 4.6 percent** and is expected to reach a volume of €40 billion by 2030. Political and regulatory hurdles – such as bureaucracy and lengthy approval procedures for expanding data centres – are slowing down growth. Therefore, the economic policy focus must be on scaling and strengthening the digital infrastructure.

Layer 2 – Services & Applications is experiencing the most dynamic growth at **12.9 percent per annum** and is expected to rise to **56 billion Euro** by 2030. This is driven by the increasing outsourcing of applications to the cloud, the integration of AI into IaaS, PaaS and SaaS models, and the expansion of edge infrastructures for latency-critical applications.

Layer 3 – Aggregation & Transactions remains the strongest segment in absolute terms. With a **CAGR of 10.7 percent**, it is expected to reach a volume of **€157 billion** by 2030. This growth is primarily driven by the accelerating digitalisation of B2B commerce, with an increasing number of companies shifting their purchasing, sales, and financial transactions to digital platforms.

Layer 4 – Smart Industries & Paid Content grew by **9.0 percent per year** and is expected to reach **€136 billion** by 2030. As well as digital media content (e.g. streaming services), smart industry solutions such as networked production, energy platforms and autonomous systems are becoming increasingly important.

The development of these segments is presented in detail in the full version of the report.



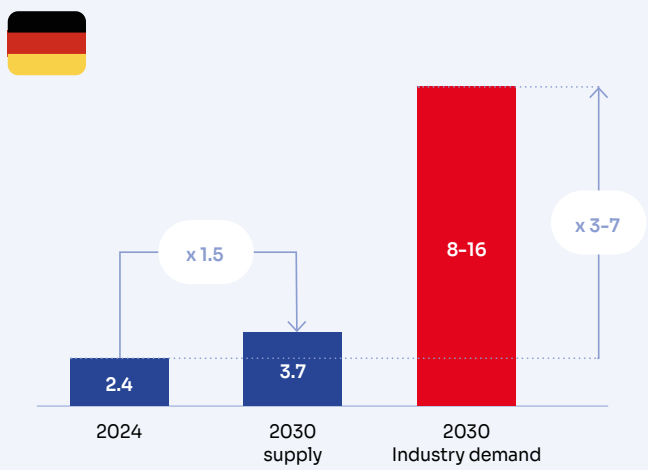
Data centres: Development and Challenges

Data centres are a core component of Layer 1 and are indispensable to the digital economy. By 2030, Germany's installed capacity is expected to rise from around **2.4 gigawatts (GW)** at present to around **3.7 GW**. While this is a significant increase, it still falls far short of future demand. Industry and the economy are expected to require three to five times the current capacity, driven by data-intensive applications such as cloud computing, AI, Industry 4.0 and connected manufacturing.

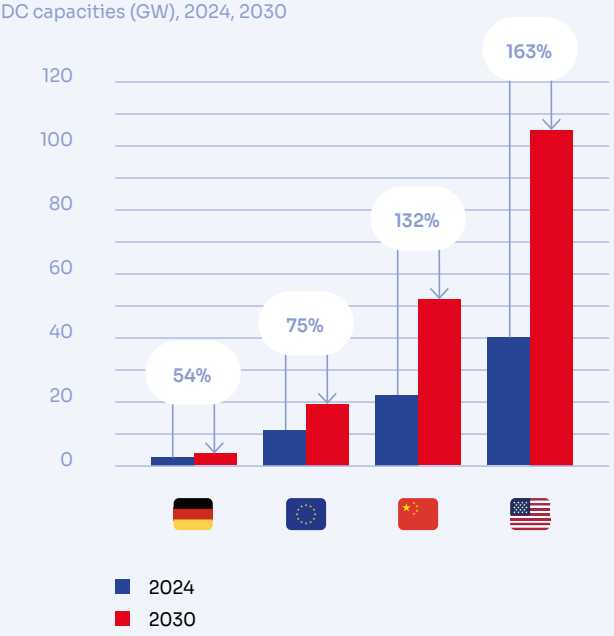
Germany is already lagging behind other countries: Leading markets such as the USA and China have significantly higher capacities in absolute and relative terms and are also growing at a much faster pace. Even if all currently planned expansions are implemented, there will still be a considerable gap between demand and the country's available infrastructure. Whether this gap can be closed depends largely on how successfully the industry addresses key challenges, such as high electricity prices and price formation procedures to fuel and energy availability, and capacity constraints.

Figure 3
Data centre capacities

Data centre capacity (DE) – supply vs. demand
DC capacities (GW), 2024, 2030



Data centre capacity (Germany vs. other countries)
DC capacities (GW), 2024, 2030



Depending on technological efficiency, workload structure and utilisation, the expansion of data centre capacities can also increase energy requirements. Demand is expected to rise to over 30 TWh per year by 2030. This makes data centres one of the fastest-growing consumers of electricity, underscoring the importance of energy efficiency and climate protection measures in this sector. The industry has been promoting these measures intensively for years. However, **high industrial electricity prices** in Germany pose a serious location problem.

At 23 cents per kilowatt hour, German prices are around 25 per cent above the EU average and more than twice those in Scandinavian countries or the USA (see Figure 4). This puts pressure on costs and reduces the international competitiveness of German data centre operators.

In addition, innovative concepts are needed, such as the **use of waste heat** – the enormous waste heat generated by modern data centres could, for example, be used to heat residential areas or industrial

facilities – and, more generally, the **switch to climate-neutral operating models** (e.g. supply from renewable energies and offsetting unavoidable emissions).

In addition to environmental issues, **structural conditions** also pose obstacles: **Frankfurt**, as Germany's leading data centre location, has by far the largest expansion plans, but is increasingly reaching its physical and infrastructural limits (see Figure 4). The shortage of suitable land and the limited availability of high-performance **power grid connections** are delaying the implementation of new projects and limiting the potential growth rate.

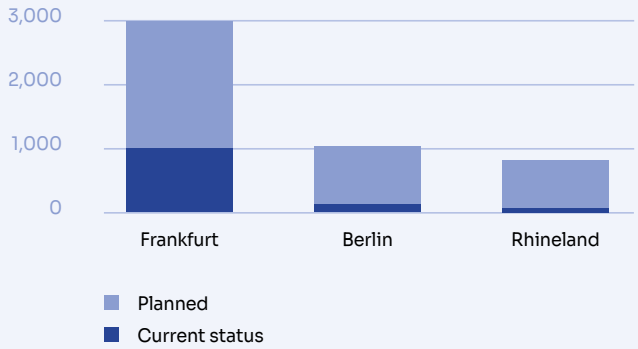
A major obstacle is the **lengthy approval process**, in which building applications for data centres are often delayed by detailed reviews of energy supply, grid connection and structural integration into the surrounding area. Added to this is the **shortage of skilled workers**: There are not enough specialised IT professionals, engineers and technicians in Germany to plan, build and operate the many new data centres as and when they are needed.

Figure 4

Challenges in the expansion and operation of data centres (selected)

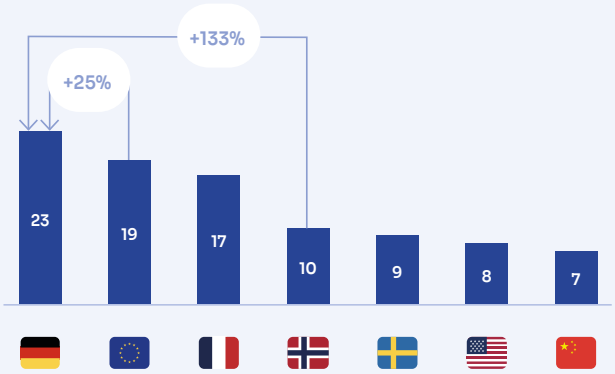
Data centre capacities in regions

Data centre capacities in regions – current status and plans



Industrial electricity prices

Industrial electricity prices, 2024, Cent/kWh



The percentage price differences refer to the unrounded electricity costs in cents/kWh. These have been rounded to whole numbers for clarity.

The dynamics of the data centre market are described in detail in the long version of the report.

Telecommunications networks: situation and challenges

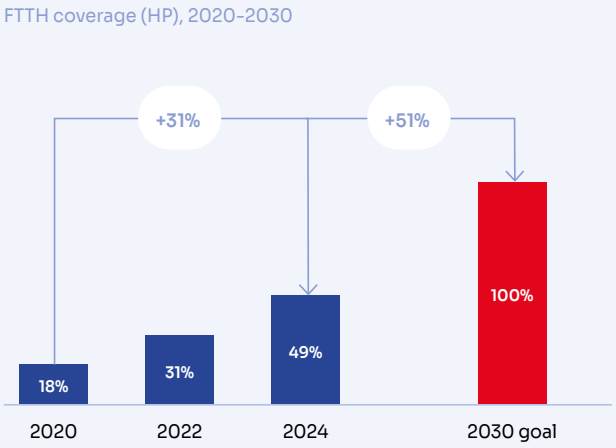
Telecommunications networks, which are another component of Layer 1, will also face decisive changes in the coming years. The starting point is characterised by an unchecked **increase in data traffic**. Ever higher bandwidths and capacities are needed as **AI applications**, high-resolution **streaming**, networked IoT systems and ubiquitous **mobile Internet use** generate enormous amounts of data. To keep pace with this demand, fixed-line and mobile networks must be rapidly expanded and modernised. While Germany is investing heavily in **fibre optic expansion** (FTTH/B) and nationwide 5G **mobile communications infrastructure**, the current pace is insufficient to fully achieve the 2030 targets (Figure 5).

The expansion of network infrastructure is being slowed down by various **challenges**: Firstly, **bottlenecks in the expansion process** are being caused by a shortage of skilled personnel and lengthy, complex approval procedures. As with data centre construction, there is insufficient capacity among construction companies, civil engineering firms and planners. Bureaucratic hurdles (including obtaining owner consent) further delay projects. Secondly, the **investment costs** for nationwide gigabit and 5G coverage are immense. Despite support programmes and the active involvement of private operators, securing financing is challenging, particularly in rural or less profitable regions. This can result in gaps in coverage.

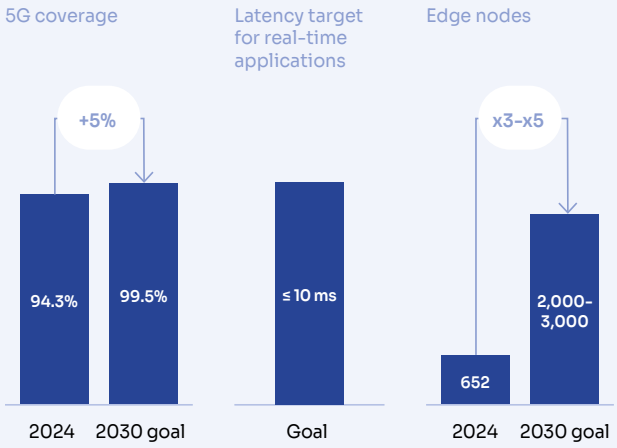
In addition, the **expansion measures are fragmented**: numerous players, ranging from municipal network operators and regional associations to large telecommunications companies, are driving the expansion forward in parallel but often in an uncoordinated manner. A lack of coordination and different regional priorities can result in untapped synergies or uneven development of areas. These factors pose considerable challenges for telecommunications network infrastructure and require decisive action from politicians and industry leaders.

Figure 5
Telecommunications network KPIs

Telecommunications network: FTTH (homes passed)



5G coverage, latency & edge nodes requirement, 2024-2030



The dynamics of the telecommunications market are described in detail in the full version of the report.

Outlook and recommendations

Germany needs to be able to expand its data centre and telecommunications infrastructure quickly and sustainably, and for this to happen targeted measures are needed.

1. **Energy costs must be reduced** in order to ensure international competitiveness. This includes relief from grid fees for industrial locations and a faster reduction in electricity tax, among other things.

2. **Accelerate approval procedures:** One-stop shops, digital construction files, and clearly defined deadlines would significantly shorten the time required for network connections and construction and operating permits.

3. **Create investment incentives:** This can generate additional momentum, for example through subsidies for energy-efficient and climate-friendly technology or bonus programmes that offset the additional costs of energy efficiency laws. This is particularly true in structurally weak regions.

4. **Optimise waste heat utilisation** and remove legal barriers. The transfer of surplus heat from data centres to local supply networks must be economically attractive and supported by federal and corporate subsidies.

5. **Focus on location marketing and cluster management** in order to develop new data centre hubs outside established conurbations such as Frankfurt/Rhine-Main.

Implementing these five steps consistently will enable Germany to meet the growing demands of the digital economy, comply with climate targets and bolster its digital sovereignty.

Download the full study →
(available in German only)

Imprint

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Disclaimer

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