# The Federal Government's Digital Agenda

A 4



The Federal Government's "Digital Agenda 2014–2017" aims to lay the foundations for a successful digital transformation of the economy, science and society. In order to achieve the three core objectives – growth and employment; access and participation; confidence and security – the Federal Government has identified seven key areas for action to meet the challenges of the next few years. These action areas are: (i) Digital infrastructure, (ii) Digital economy and digital workplace, (iii) Innovative public administration, (iv) Shaping digital environments in society, (v) Education, science, research, culture and media, (vi) Building security, protection and trust within society and the economy, and (vii) European and international dimensions of the Digital Agenda. The following three ministries are responsible for implementation: the Federal Ministry for Economic Affairs and Energy (BMWi), the Federal Ministry of Transport and Digital Infrastructure (BMVI) and the Federal Ministry of the Interior (BMI).

The growing digitisation of the knowledge and information society creates permanently high demands regarding the availability and efficiency of internet connections. In its Digital Agenda, the Federal Government formulates the target of using "an efficient mix of technologies to provide ubiquitous broadband infrastructure delivering download speeds of at least 50 Mb per second by 2018", and in this way to "lay the foundation for equal standards of living in rural and urban areas."[60]

The Commission of Experts welcomes the fact that, with its Digital Agenda, the Federal Government is attaching great importance to the opportunities and challenges emerging from digital change. Furthermore, the Commission of Experts agrees with the policy of attaching a high priority not only to the above-mentioned expansion target, but also to interoperability, to strict demands on data security, and to internationally agreed rules on the protection of data privacy. However, its statements lack concrete implementation plans either on financing the nationwide expansion of broadband access or on a range of regulation issues. In addition, the expansion targets are not ambitious enough, especially with regard to international comparisons: a dynamic adjustment of the expansion target is essential, also in relation to transmission speeds.

**High-performance broadband infrastructure is an indispensable determinant of growth**

Similar to physical infrastructure, broadband expansion functions as an important determinant of growth in modern economies. The internet enables and complements private-sector activities, and is key to blazing a trail for innovation in industry, in the public sector, and in services. Access to a powerful internet connection is of key importance for many companies when it comes to their present or future choice of location; this applies especially to medium-sized firms, which are often located in rural areas. In other fields, too – be it decentralised healthcare or a politically desired increase in the population's participation in societal decision-making processes – potential depends on a reliable internet connection, regardless of where the people live. One unclear aspect in the Digital Agenda is how the expansion is to be implemented in rural areas, where private-sector financing models are not profitable. The high costs of a politically desirable full provision must be seen in the context of the need to carefully weigh up the benefits and costs of state support measures.[61] In the planned development of a premium fund for broadband network expansion (Premiumförderung Netzausbau),[62] it is important to ensure that the funding is open to all technologies and that private incentives for investment are not restricted, let alone squeezed out.

Furthermore, the Digital Agenda's objective of nationwide provision with connection speeds of at least 50 Mb per second can only be regarded as an inter-

mediate step to secure Germany's long-term international competitiveness.[63] In recent surveys, many companies are already stating that broadband speeds of 50 Mb per second will no longer be fast enough in the foreseeable future.[64] At the same time, Germany is currently far behind internationally when it comes to last-mile connections (i.e. all the way to a building or a user's home) with the currently most efficient connections: fibre optic cables.[65] Yet, high-performance internet is an essential basis for Industry 4.0 and innovative online business models.

### Challenges caused by the rapid growth of datasets: innovation potential versus data privacy

Growing connectedness in industry, service companies, research and private households is generating ever-larger amounts of data. This current trend is often discussed under the label Big Data. Suitable statistical processes already make it possible today to evaluate huge amounts of data, e.g. to examine their structural features or to forecast trends. Intelligent merging, linking and evaluation can also open up new approaches in research.[66] At the same time, comprehensive personal profiles can be created.

In this context, however, rights of disposal and exploitation of the stored information have not yet been finally clarified. It is also unclear what a suitable regulation might look like in the international context. The Federal Government has announced its intention to establish a modern "regulatory framework for ensuring freedom, transparency, data protection and security, and also for preserving competition in the digital world".[67]

Strict demands on data security create confidence and are a fundamental prerequisite for international competitiveness – also for companies outside the field of data encryption.[68] At the same time, the state should set an example by the way it deals with the citizens' data. When it comes to the protection of data privacy, the great potential of digital technologies and business models come up against understandable concerns from citizens. On the other hand, excessively strict demands on data protection can impede or even prevent innovations and efficiency gains. Comparatively restrictive national laws in particular can lead to disadvantages in international competition. The aim must therefore be to work towards uniform international standards in data protection. One possibility would be to extend the applicability of European data protection law to also cover companies that offer their services within the EU, even though they are not domiciled in the EU and therefore process their data outside of the EU (lex loci solutionis).[71] This is the aim of the EU-wide General Data Protection Regulation,[72] which should be implemented swiftly.

Box 02

**Data protection versus data security**

While the term data protection covers the entirety of statutory and corporate measures to protect the rights of people from breaches of confidentiality,[69] the aim of data security is to protect data from loss or manipulation. Data security is thus the basic prerequisite for the development of robust business processes.

Examples like positioning services for mobile terminal devices illustrate the current challenges facing data protection; here, there is a potential conflict between the right to informational self-determination and overarching goals such as public security. Mobile devices are able to collect and store positioning data, which can then be used, for example, for navigation, advertising or as tourist information. In emergency situations, positioning services can offer enhanced security. However, when mobile terminal devices are positioned, the location data can also be used to assemble extensive movement profiles, and these can be used to infer relationships and habits – and thus make predictions on the future behaviour of the people concerned. The potential for improved security is therefore possibly offset by the risk that the monitoring might breach principles of informational self-determination without the parties involved noticing.[70]

### Interoperability through open standards

Open standards are digital formats or protocols whose content can be reviewed, used and further developed at any time by the public.[72] They have many advantages over proprietary solutions. The involvement of many actors makes it possible to identify and eliminate security vulnerabilities quickly. Furthermore, the economic importance of open standards comes from the fact that they create the basis for interoperability,

i.e. compatibility between the interfaces of heterogeneous, often locally organised cross-company and cross-industry systems and components.[73] This reduces the risk of inefficient parallel developments, without at the same time promoting lock-in effects vis-à-vis individual providers or technologies. The elimination of market-entry barriers makes the overall economy more competitive and prevents monopolies. Furthermore, the continuous advancement of interacting systems by independent developers lays the foundation for a wide range of innovations, e.g. in the context of Industry 4.0.

The Committee of Inquiry (Enquete-Kommission) on "Internet and Digital Society" is already calling for a consistent use of open standards across different levels in public administration.[74] The Commission of Experts supports this call. The aim formulated in the Digital Agenda of eliminating practical obstacles to open-source software in the federal administration[75] is not sufficient in this respect.

**Lack of reference models for Industry 4.0**

The Digital Agenda calls the growing networking of production processes using ICT systems an opportunity to consolidate and further improve Germany's leading competitive positions in plant construction and mechanical engineering, the automotive industry, electrical engineering and medical technology in the long term. The Commission of Experts already expressly welcomed the Federal Government's Industry 4.0 Initiative in its last report.[76] In the context of Industry 4.0, however, there is a need for more research on suitable reference architectures and standards, as well as in the context of platforms. The uncertainty about developing industry standards in particular leads to a reluctance, especially among medium-sized companies, to invest in systems that may later become incompatible.[78]

The Commission of Experts welcomes initial efforts towards suitable reference models in which partners from industry and science will work together on the future core fields of digitisation.[79]

**Recommendations**

The Commission of Experts calls for action especially in the following areas:

– The targets laid down in the Digital Agenda for nationwide provision of bandwidth speeds of 50 Mb per second must be swiftly implemented. Potential measures should be designed in a way that is open to all technologies.
– To ensure that Germany's network infrastructure can compete internationally, the supply of a digital infrastructure has to be regularly monitored and adapted according to the changing needs of the digital sector.
– Overall, the Commission of Experts believes that it is essential to develop a consistent package of measures in the next few months specifying how and over which period of time the projects referred to in the Digital Agenda are to be implemented and how individual cases are to be financed. The implementation of the Digital Agenda requires transparent modes of documentation.
– The federal structure of data-protection supervision leads to a coexistence of many sector-specific regulations which partly overlap with the Federal Data Protection Act. The Commission of Experts recommends subjecting the many special regulations to a critical review. At the European level, legal certainty and comparable competitive conditions relating to data protection must be created as soon as possible. The Federal Government should act to make sure that the EU quickly enacts the General Data Protection Regulation.
– Both the Federal Government and the Bundestag have been intensively studying the impact of digital change on society and the economy for years. When the details of the Digital Agenda are worked out, the Commission of Experts expressly recommends taking into account the recommendations that were jointly drawn up and adopted in 2010 by the Enquete-Kommission on "Internet and Digital Society" in a process that incorporated the parliamentary parties and heard the views of external experts and the public.[80] One example of this is the use of open standards in public administration.
– The state has a pioneering role to play in the secure communication of sensitive data, e.g. between citizens, companies and administrative institutions. It is of paramount importance to safeguard transparency and openness, and to take measures to guarantee data security.[81]
– Non-sensitive personal data collected by the public sector should be made more easily accessible for academic research. The Commission of Experts therefore welcomes the Federal Government's National Action Plan to implement the G8 Open Data Charter.[82]

– The Industry 4.0 concept must be advanced in relation to reference architectures and standards. The implementation of the concept must gain momentum, especially since Germany intends to take a decisive role in the future in shaping international ICT standards for production and automation technologies.