Advancing Digitalisation, ensuring location matters

The CCI positions on economic policy (WiPos) show politicians concrete fields of action for good economic policy. The WiPos reflect the coordinated opinion of the CCIs and their members. The DIHK Executive Board adopted this position on November 27th, 2018.
Germany is only average when it comes to implementing the digital economy, according to the European Digital Economy and Society Index (DESI). It must make further efforts to improve its digital competitiveness. In order to advance digitalisation, Germany requires future-oriented digital infrastructures, a supportive legal framework, digitally competent employees and the secure and reliable use of digital technologies. With the right framework, macro-economic effectiveness gains can be made in companies and public administrations.

The following guidelines are intended to help determine economic policies:

- Expanding digital infrastructures nationwide, prioritising commercial and industrial zones
- Ensuring the teaching of digital skills
- Improving the legal framework for the data economy
- Enabling secure electronic commerce
- Creating legal security and an innovative climate for the broad use of artificial intelligence
Rapidly advancing the nationwide expansion of high-performance digital infrastructures, also in rural areas and commercial / industrial zones

Digitalisation is a key driver of economic growth with enormous effects on employment: For Germany, digitalisation means a potential added value of EUR 267 billion by 2025\(^1\) from new applications, services and business models across all sectors of the economy. But the framework conditions for this are not yet in place: the rural economy in particular is often still inadequately supplied with high-performance internet connections such as fibre optic to the home and mobile networks.

**What needs to be done:** The expansion of digital infrastructure - stationary and mobile - requires considerable investment. This can only be achieved through the joint efforts and tight coordination of network providers, civil engineers, and federal, regional and local authorities. All measures - planning, regulatory, financing - should be geared towards a nationwide roll-out of fibre-optic internet connections to end-users and future-proof 5G mobile networks. Funding programmes must be adapted to help equip all buildings with fibre-optic connections. These programmes need to become more effective and funding application procedures digitalised. Regional master plans should underpin the nationwide fibre-optic roll-out. Authorities, especially at local level, require more support, for example from expertise at the federal and state level. Finally, in addition to rural areas, under-served districts in urban areas need attention.

**Ensuring the teaching of digital skills**

Digital skills are an essential resource: A lack of specialised employees, such as IT-developers and big data analysts, as well as insufficient digital skills more generally, is threatening to become a problem for companies. Necessary skills for the digital world include social skills such as the ability to cooperate and work in a team or to communicate and innovate, as well as interdisciplinary skills, media savvy and an understanding of technology. Only adequately qualified employees can master and further develop complex and dynamic digital work processes. Companies are already training their employees but need more support in the medium and long term.

**What needs to be done:** The competence to use digital applications, organisational change as a result of this, and a broader understanding of technology are essential for digitalisation in companies. The foundations for digital skills are laid down in primary and secondary education, but they need to be further developed in vocational schools, further learning, and at university. In order to prepare workers for the requirements of work 4.0, students and teachers need to learn basic skills from IT security to interdisciplinary work to new ways of communicating. In STEM (sciences, technology, engineering, mathematics) education in schools, computer science and technology should be considered just as important as the natural sciences.

**Improving the legal framework for the data economy**

Data is crucial for the economy of the future: There are more and more virtual markets, digital platforms are in a key position to collect and analyse large amounts of data, and value creation and innovation are increasingly taking place here.

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\(^1\) See BITKOM, Fraunhofer IAO: Industry 4.0 - Economic potential for Germany 2014.
CCI positions on economic policy

What needs to be done: Small and medium-sized enterprises (SMEs) need to collaborate more closely along the value-chain – for example by forming common platforms – so that they can exchange more data. Politicians and R&D institutions should work together to support these platforms. The government can increase interoperability between private platforms with restricted access by facilitating collaboration and essentially creating a space where companies can share data on their own terms.

In addition to the general data protection regulation (GDPR), clarity on the rights around data use is a top priority for business. Competition and the enforcement of related laws must be ensured for new and existing digital markets. The existing legal framework should be adapted to accommodate data-driven changes in competition. Politicians should give greater support to the establishment of European standards in global competition.

Enabling secure electronic commerce

Secure handling of information as a prerequisite for the success of digitalisation: Every new technological development, such as big data, mobile data use, social networks, cloud computing, smart grids or the Internet of Things, creates new information security and data protection challenges for companies. Yet a clear political agenda and a reliable regulatory framework with uniform norms and standards, especially to handle global data streams, are still missing.

What to do: Companies need a digital ecosystem in which they can operate safely. The goal is to ensure that all security measures along the value chain are sustainable.

Regulations such as the IT Security Act are only gradually being implemented. This obliges certain economically important industries to comply with minimum security standards and report security incidents. The new coalition agreement already provides for further legislative action, including around product liability and a new edition of the IT Security Act. Before new laws are enacted however, the effects of the existing regulations must be evaluated. Furthermore, the benefits of an increase in security should be weighed up against the extra costs for the economy, and the measures embedded in an overall concept. The need to protect information and digital processes must be balanced with the desire to create opportunities for the commercial use of data.

We need an overall strategy that involves politicians, manufacturers, IT security providers and users to create an environment of trust. First, the security of vulnerable products and systems should be increased by making IT security a basic component of software- and hardware-based products and applications. Second, chambers of commerce, trade associations, politicians and companies should work harder to ensure that IT security becomes an integral part of the everyday life of managers and employees, for example through targeted support services, training and further education. Third, the ability of companies and the state to react in the event of an incident must be improved. This requires strengthening the competence of security authorities and improving their co-operation with companies. Such cooperation should be clearly defined. It must be clear who reports what, when and to whom, and who helps according to which procedure, including informing other parties in government and business if necessary.
Creating legal security and an innovative climate for the broad use of artificial intelligence

Artificial intelligence (AI) offers opportunities: More and more machine-based data are generated as businesses digitalise their processes - especially here, the application of AI offers great economic potential.

What needs to be done: In order for Germany and Europe to help shape the future of AI, we need a fast, concerted approach between politicians, research and industry. Europe still has the chance of attaining a good market position alongside China and the USA. But it is necessary to think about AI within a European framework. One focus should be on setting common rules and standards that enable transparent AI and provide the right incentives for developers and companies.

At the national level, the issue should be publicly discussed in a positive manner that is also understandable to small and medium-sized enterprises (SMEs), using specific examples. The advisory services of the SME 4.0 competence centres should focus on future technologies such as AI. The federal government needs to increase the coordination and transparency of its wide range of SME support services. It is also necessary to improve networking and exchange between industry and science/research.

Information on AI should be broadly disseminated in society and public administrations should be sensitised to AI application scenarios and build up their expertise. In addition, it is critical to support high-performance European hardware manufacturers and cloud providers that focus on secure AI.

The CCI organisation contributes by:
- Helping identify and remove bottlenecks to the nationwide expansion of high performance digital infrastructure
- Raising awareness and supporting companies with self-help measures to ensure data and information security, and creating positive digital application experiences (e.g. by providing training formats for teaching digital skills)
- Initiating and supporting regional and national projects and networks
- Using digital routes to lead young people towards vocational training, e.g. via the CCI apprenticeship platform and equipping trainers with digital skills
- Arming existing positions with digital know-how and creating new digital jobs through the re-organisation of training and (further) education
- Communicating technology topics such as AI in a positive and understandable manner, and cooperating with partners such as the SME 4.0 competence centres