

Manifesto for Digital Sovereignty

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Think Tank “Digital Sovereignty“

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The Think Tank Digital Sovereignty is an independent group under the umbrella of the Open Source Business Alliance. It emerged from the focus group "Digital Sovereignty" of the German Federal Government's Digital Summit in 2018, which had already produced far-reaching publications on digital sovereignty during the Digital Summit. The Think Tank sees itself as thought leader on issues and challenges around digital sovereignty. The Think Tank is independent of the Open Source Business Alliance in terms of content. This paper was jointly developed by the Think Tank and discussed with a large circle of experts, especially from politics and administration, and adopted by the Board of the Open Source Business Alliance as their position. Numerous suggestions emerged from the discussion, many of which found their way into the paper. The members of the Think Tank would like to thank all contributors in this process.

A) Digital sovereignty as a prerequisite for a sustainable digital policy

Freedom and self-determination are fundamental pillars of our free and democratic societies. The sovereignty of an individual, the ability of industries to shape their own future, and the sovereignty of the state as a whole are the guarantor and foundation for Germany's and Europe's strong position in the world, in terms of the development of innovations, and for securing and developing prosperity. In recent years, we have lost this position in the digital sphere and allowed other economies to overtake. Since/Due to the fact that digitization is increasingly becoming the technical core of government administration, businesses, academia, and the communication of individuals, we must make digital sovereignty an unconditional goal on all levels. In order to achieve this goal, we must consistently drive forward education and the development of skills, focus on the development and use of open, freely available digital technologies such as open-source software, as well as the enforcement/implementation of decisive and committed government action.

1. The individuals' digital sovereignty - more than just a promise of participation

Digital sovereignty starts with the people. The basic prerequisites for individual sovereignty consist of basic digital education and participation. Basic digital knowledge must be taught in school and developed throughout life. The promise of democratic participation does not just extend to Internet connections and end devices. One's digital participation opportunities must be strengthened. **Opportunities must be created and expanded to acquire and further develop digital skills throughout life, which are necessary for the enlightened use and design of digital technologies and thus for participation in society as a whole.** In addition to purely technical knowledge, this also includes metacompetences that help people to better understand and deal with digitization and its implications for their working and private lives

Getting people excited about the opportunities of digitization and simultaneously raising awareness for the challenges that accompany it is intrinsically important for Germany's and Europe's ability to connect globally. Developing the ability to shape an entire society requires individuals that not only possess the required skills/expertise as well as motivation, but also an awareness of the responsibility.

2. Digital sovereignty of economy and science - for an innovative and viable society

Globalisation and digitization are mutually reinforcing and increasing the transformation pressure on the economy. For decades, the hardware and software sector in Europe and Germany have lost global significance and thus their ability to shape the future. This is a development that we must reverse and, to do so, catch up with other economic regions in terms of government and private-sector investment in order to identify, assess, build up and further develop key technologies and competencies. Growth regions are characterised by close ties between economy and academia, an innovation- and investment-friendly environment, widely available and freely usable open-source technologies, government investment in topics for the future, and cosmopolitan people.

Efficient, open transport infrastructures that can be used by everyone and almost perfectly balanced supply chains have been essential foundations for economic success in the past. In the future, we must transfer these strengths to the digital context. **Our country's innovative capacity can be strengthened in the long term if software and data can be used equally by researchers and companies as well as**

the state. This is not about compulsory sharing, but about the strategic creation of opportunities for cooperation and shared use.

Successful digitization is characterized by a high degree of networking. The goal must be to further increase these networks between innovation-driving players, paying particular attention to software and data as the basis of digital innovation development. These are the foundations for the emergence of new digital value creation which corresponds with the European value system.

3. Digital sovereignty of the state in a viable Europe that is open to innovation

Digital sovereignty can be achieved neither by isolation nor by digital policy laissez-faire. Above all, isolation would further increase the transformation gap to the digital innovation regions in North America and Asia and thus even further weaken digital sovereignty in the medium term. But unequal market access also weakens Germany's and Europe's digital sovereignty through uncontrollable lock-in and platform effects. Furthermore, the regulatory fragmentation of Europe poses an additional challenge.

At the same time, digital dependencies lead to an increasing geopolitical risk to security and peace as well as to the preservation of democracies based on their common values. Vital and competitive digital ecosystems are an essential pillar of digital sovereignty. In order to maintain the capability of acting in a self-determined manner, Europe needs its own ecosystem of trustworthy hardware and software manufacturers and service providers that is open to third parties, who act according to European values, on the basis of open source technologies (open source software and hardware), and who are competitive on a global market. Diversity of vital European providers is the best protection against dependencies.

This needs to be worked on intensively in the coming years. **We require a vital marketplace in Europe that uses its global strength to enable technological world standards and principles such as openness, federability and the possibility of permission-free participation, thus promoting liberal democratic values.** Only if legal standards can be enforced are they strong enough to have corresponding regulating power. The European path must lead to a digital age based on our common democratic values, our strength of cooperation and our global openness. For this, we need open standards "Made in Europe" that commit and support European and non-European companies alike.

B) Political recommendations for action & demands

1. Better educational conditions to increase digital literacy

- **There is an apparent lack of so-called "digital literacy", the ability to understand digital contexts in technological, sociological and economic areas.** This will require efforts at all levels - from the local and state levels to the federal government.
- **Children and young people must be enthused about digitization and how to participate according to common democratic principles and values, both through school and higher education.** They must be taught comprehensive digital application, assessment and design skills. In addition to an initial cross-gender opening in the context of early childhood education, this includes early offerings for the playful design of digital systems, stronger anchoring of the subject of computer science in the curriculum, awareness of the preservation of and threats to sovereignty, special support programmes for girls, attractive courses of study that must also be opened to qualified foreign applicants, and intensive further training for teachers, as well as the op-

portunity to use contemporary offerings that protect digital sovereignty throughout the entire learning biography.

- **The German “Digital Pact for Schools” (Digitalpakt Schule) was a good first step towards compensating for infrastructural deficits at German schools; it must now be consolidated and supplemented by ensuring technical support.** However, it has also become clear what challenges a central need for political action on the one hand and a federal state structure on the other hand entail. The complexity of internal and external school issues adds to this as well. Germany must design digital education holistically and across levels: School boards must be able to access funds more easily and quickly as well as procure digital infrastructure and end devices. Possible starting points for the entire complex of "digital education" include a state treaty that aims to create common digital education standards - both technically and in terms of content. Another option would be a cross-state "school infrastructure company" that would provide massive support to school authorities in the procurement of infrastructure and IT support for schools. At the same time, teachers must be empowered to articulate their equipment needs in line with digital didactic concepts. Schools and, above all, teachers must be relieved of purely infrastructural tasks; these tasks should be taken over by CIOs on the part of the school authorities.
- **Teachers need more courage to use digital technologies in order to teach digital skills in the classroom.** Special programmes that help teachers to incorporate digital elements such as apps and Serious Games into their lessons would be helpful. To this end, the German Standing Conference of the Ministers of Education and Cultural Affairs of the Länder (Kultusministerkonferenz) should further develop subject-specific contents in teacher training in a uniform framework and develop common new concepts that the Länder can also use for further teacher training. The potential of digitization to develop future-oriented teaching concepts must be taken into account.
- Likewise, developing digital competences must be better anchored in professional education and advanced training.

2. Innovation und Wettbewerb für eine höhere Dynamik im Marktort Europa

- **Important levers on the way to digital sovereignty are technology-open research, development and innovations in value creation.** Open-source software is an important driver here and must be made standard and put into operational use. The joint development of the German “Corona Warning App” has set a good example here. Establishing European open source platforms and distribution platforms are important goals in the creation of generally available digital platforms as a basis for new innovations in research and business and to be able to participate in the global competition for digital champions on an equal footing.
- In public procurement, too, open-source solutions are to be preferred if they are equally suitable in terms of functionality, to increase investment security, transparency and trustworthiness of the solutions applied and to reduce permanent dependencies.
- **One political goal of the new German governing coalition must be to intensify ties between business and science and to create an environment that is more conducive to innovation, start-ups and investment.** The resulting innovation transfer will enable and strengthen digital value creation. To this end, research investments and the provision of venture capital via special

tax write-offs must become more attractive. Targeted financing instruments should support start-ups in working more closely with established companies. Furthermore, funding programmes for open source should be created or existing ones geared towards open source, targeting SMEs as well as start-ups in particular.

- **German and European companies must play a more active role in defining and enforcing open standards.** To this end, it may make sense to promote participation in international standardisation bodies, which is often very costly for small and medium-sized enterprises in particular, especially when it comes to establishing strategically relevant standards with open-source reference implementations, since these benefit the entire economy and public administration, regardless of individual interests.
- **Research and development collaborations must be strengthened.** To this end, government research funding programmes should be more closely aligned with the principles of openness and interoperability. Companies and research institutions that use public money to create publicly available and independently deployable (open source) technology must be given preference, and effective incentives should be created for publishing code in publicly accessible EU-based open source repositories. Open source should be promoted as an essential component of knowledge and technology transfer.
- **Germany and Europe need the best "digital backbone" worldwide.** A European Open RAN approach and Gaia-X are two important standardisation projects that need to be developed and more intensively promoted.
- **The path to digital sovereignty only works with strong neighbours.** Together with our European partners, key technologies must be promoted, built up and secured from being sold out to individual players that dominate the market. European initiatives aimed at creating marketable technology innovations must be put forward. The successful idea of the German Federal Agency for Disruptive Innovation can be a reference architecture for a European Agency for Disruptive Innovation in an advanced form.

3. A digitally sovereign state as a Framework for vital digital ecosystems

- **Only if legal standards can be enforced are they strong enough to have corresponding regulating power.** Therefore, the new German government must align its European policy in such a way that the market location principle is further expanded - for the benefit of the global strength of the European Single Market.
- **The state's ability to act and speak out on digital policy plays a central role, both nationally and at the European and global level.** This requires, on the one hand, a clear assignment of relevant legislative processes to one ministry or the chancellor's office in each case and a clear leadership mandate in association with this. If no agreement can be reached, it must be possible for projects to be pursued in consultation by the leading ministry. In the interest of streamlined processes, the number of agencies involved should be kept to a minimum.
- **In order to remain capable of acting in a self-determined manner, Europe needs local trustworthy hardware and software manufacturers who are competitive on the world market.** Supplier diversity and openness are the best protection against dependencies. European initiatives that drive the development of entire digital ecosystems must be supported sustainably,

massively and must also be initiated with European partners. At the same time, public procurers must always pursue dual or multi-sourcing strategies for critical components in order to enable short-term changes and avoid risks resulting from dependency.

- **Trustworthy IT is crucial to the success of digitization. It is best achieved with open, generally verifiable technology.** There must be no backdoors or other channels through which data can fall into the hands of unauthorized persons. This also applies to state actors. The integrity of communication and data is damaged if vulnerabilities are deliberately left open. **Economy, state and citizens must be able to communicate confidentially and securely in digital networks.** Legitimate interests of law enforcement authorities cannot be countered by structurally weakening digital integrity. When verifying the trustworthiness of state infrastructure, civil society organisations must also be involved where appropriate.
- Data is the essence of digital. It is not just a matter of making data available, but above all providing **data infrastructures that are capable of implementing the need for protection of citizens, companies, science and the state.** They must all be able to freely decide where and how their data is stored. Therefore, corresponding projects, such as Gaia-X, which support the development of such architectures and infrastructures, must be developed.
- **The rapid change in the digital world necessitates a rethink.** The state must create more freedom for innovations through deregulation. Protective spaces and experimentation clauses can be helpful here. However, in view of the rapid and global changes brought about by digitization, even this may not be sufficient.
- **To strengthen Germany's and Europe's digital sovereignty, it is essential for the state itself to act as a lead buyer of appropriate solutions.** We therefore advocate that the use of open source software and other open technologies, as well as compliance with European standards, become minimum requirements for public procurement. Open source should be provided more strongly for in public procurement through appropriate guidelines and strategies; the needs of SMEs should be taken into account. Projects such as the introduction of a sovereign workplace for the administration and an open-source cloud infrastructure should therefore be vigorously pursued as a joint task of the federal and state governments and the municipalities. But the state must also push more strongly for open source and open knowledge with regards to guidelines for research funding.
- The development of institutional capacities, as with the German Center for Digital Sovereignty (ZenDiS) for public administration, which support and accelerate the use, creation and application of open technologies, must be driven forward.

About the Open Source Business Alliance:

The Open Source Business Alliance (OSB Alliance) is the association of the open source industry in Germany. We represent around 170 member companies that employ approximately 10,000 people in Germany and generate more than 1.7 billion euros annually. Together with scientific institutions and user organizations, we are committed to sustainably anchoring the central importance of open source software and open standards for a successful digital transformation in the public consciousness. This digital transformation should benefit companies, the state and society alike. In addition, innovations in the area of open source are to be driven forward. Our goal is to establish open source as the standard in

public procurement and in research and business development. After all, open source and open standards are essential foundations for digital sovereignty, innovative capability and security in the digital transformation, and thus the answer to one of the greatest challenges of our time.

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