as at 1 October 2015
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In September 2010, the IT Planning Council adopted a National E-Government Strategy (NEGS) to underline its mandate pursuant to Article 91c of the Basic Law. This strategy is based on the principles of federalism, the separation of powers, subsidiarity and local self-government and is sensitive to the economic, social and technological developments which have a great influence on tomorrow’s public administration.

Concerns of individuals and businesses often involve authorities at several levels of government. It is therefore necessary to establish and continuously develop rules for multi-level cooperation. Where possible, federal, state and local governments seek coordinated solutions. The NEGS is intended to help promote close and trusting cooperation across all levels of public administration.

The experience gained over the past five years is reflected in the revised strategy. Taking IT developments, political developments and the lessons learnt from the ongoing work into account, the new version of the NEGS follows the strategies of other bodies, such as the Federal Government’s Digital Agenda 2014–2017 and the National Spatial Data Strategy (NGIS). With the help of existing instruments such as the action plan and the standardization agenda, shared priorities and goals are defined or updated, always subject to affordability, of course.

When the NEGS was revised, it was considered important to focus on key statements in order to improve readability so that not only experts but also users can understand the strategy. The goal of this approach is to make the topic of e-government more accessible to a larger group of people.

The plan is to update the NEGS on a regular basis to ensure that it remains innovative even in a changing social environment and under new technological framework conditions.
1 E-Government – The role of public administration in the digital society

As information technology constantly offers new possibilities leading to the increasing digitization of society, what citizens and businesses expect from public administration is changing. The use of IT and e-government in public administration makes it possible to meet these expectations.

A modern state providing comprehensive, high-quality, quick and secure services not only guarantees the country’s attractiveness as a business location, but also provides the reliable basis for a society which is fit for the challenges ahead.

E-government can help manage the manifold challenges involved.

Global competition requires us to further promote a service mentality and assist with bureaucracy reduction, thereby further improving the overall efficiency of the public service.

Tight public budgets require public administration to operate even more effectively and efficiently. Cooperation across administrative boundaries, new forms of organization and optimized administrative processes will enable us to exploit potential savings and room for improvement.

Demographic change means that we need to speed up networking and the connection of services also in rural areas. People need to be able to access the Internet, in particular in rural areas, in order to be able to take part in the ongoing digitization of society.

The increasing demand for skilled workers means that competition between employers is intensifying. So we need to increase our investment in making public administration a more attractive place to work.

European integration requires paying attention to and participating in the organization of international processes and standards.

Technological change means that the tasks and priorities of public administration are changing ever more rapidly. So legal, organization and technical modernization is needed to enable public administration to act and respond flexibly.
Protecting critical e-government infrastructures is an essential part of state and business security preparedness. Technical and organizational precautions must be taken to protect IT systems against unauthorized access, loss of confidentiality, loss of availability and falsification of the data stored.

Transparent administrative action and compliance with data protection rules create trust in e-government services.
The National E-Government Strategy (NEGS) provides the framework for e-government activities in Germany

The addition of Article 91c to the Basic Law and its implementation in the State Treaty on IT provide the legal framework for cooperation between federal and state authorities in the fields of e-government and information and communications technology in public administration. The task of the IT Planning Council is to implement this framework. The Council coordinates cooperation between the Federation and the Länder on issues of information technology;

adopts IT interoperability and IT security standards;

manages projects on ICT-supported governing and administration (e-government projects) assigned to the IT Planning Council; and

assumes the network tasks listed in Section 4 of the State Treaty on IT in line with the IT Network Act.

On this basis, the NEGS describes the essential goals and areas of activity necessary to fulfil the mandate of the IT Planning Council. As a model for coordinated action taken on own responsibility, it creates the framework for common strategic orientation of the federal, state and local governments in further developing e-government to ensure interoperability and cost-effectiveness. It serves as a basis for the IT Planning Council's planning of specific measures in the annual action plan and the standardization agenda. The NEGS focuses on applying and organizing information technology in public administration.
3  Guiding principles: Public administration provides a high level of service and security in an IT-based and federal administrative structure

In their joint and individual efforts on e-government, the federal, state and local governments are guided by the following principles:

A  Usefulness for citizens, businesses and public administrations
B  Cost-effectiveness, efficiency and performance,
C  Information security and data protection,
D  Transparency and participation in society,
E  Innovation and sustainability.

Specifically:

Citizens and businesses can complete as many of their errands as possible from the same point of access, anywhere, anytime.

Authorities cooperate quickly and across different levels to minimize the administrative burden for citizens, businesses and public administration, for example by providing spatial data via the Spatial Data Infrastructure Germany initiative (GDI-DE\(^1\)). Germany’s e-government uses modern technology to help reduce bureaucracy, thereby enhancing the effectiveness of administrative action.

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\(^1\) Spatial Data Infrastructure Germany (GDI-DE) is a joint federal, state and local government initiative.
Citizens and businesses know which public authorities process their personal data. They are confident that e-government is secure.

Citizens use electronic media to participate actively in the policy process and in organizing the provision of public services.

Public administration uses cooperation models with the business and research community when developing and operating e-government solutions. It enables innovative business models, in particular by offering online services and information.

Information security management provides a high level of IT security for e-government procedures and guarantees confidentiality, integrity and availability of data.
4 Goals of the NEGS

Area A: Usefulness for citizens, businesses and public administration

The quality of e-government services depends on their usefulness for individuals, businesses and public administration.

Goal 1: Access for all potential users of a service

Individuals and businesses are aware of the e-government services, have access to them and can use possibilities for participation.

To achieve widespread access to e-government, action is needed in the following areas:

- optimizing the provision of services available any time, anywhere, also for mobile access;
- publicizing services;
- increasing media literacy.

Goal 2: Access is barrier-free and services are user-friendly

Just by making online services available, the federal, state and local governments are significantly improving accessibility for people with disabilities. They also design their electronic administrative services to be user-friendly and as accessible as possible.

- They agree on general principles allowing Internet services provided by federal, state and local governments for individuals and businesses to be further expanded and interconnected, in order to offer comprehensive services that are as accessible as possible.

Goal 3: Access to public administration is easy and secure

Individuals and businesses can communicate with public administration easily and securely through various channels.

Examples at federal, state and local level:
• a single point of contact on the model of the EU Services Directive;
• the single government service telephone number 115;
• the provision of electronic accounts for individuals and businesses to identify themselves uniformly and securely in order to use federal, state and local government services;\(^2\)
• the examination of formal requirements for access to public administration and the reduction of barriers to access wherever possible.

Goal 4: Administrative matters can be dealt with from start to finish via the Internet
Administrative matters can be dealt with any time, anywhere. To this end, the federal, state and local governments strive, within their areas of responsibility, to
• give electronic and paper-based communications the same legal status, and
• reduce rules on documents in paper form and requirements as to form.

Additional areas of action:
• as far as possible, joint electronic implementation of administrative processes by federal, state and local governments;
• seamless interconnection via standardized open interfaces and infrastructure services;
• secure electronic exchange of data and secure identification of users and service providers while safeguarding data protection;
• legal, organizational and technical conditions to enable electronic processing from start to finish, to be created by the federal and state governments for suitable processes designed for businesses and public administration. The same applies to processes designed for individuals (for example in the field of higher education) as far as developments in society allow.

\(^2\) The IT Planning Council has adopted a set of recommendations for assigning levels of trust in communication between individuals or businesses and public administration; these recommendations are to be taken into account here.
Goal 5: The public administration has e-government skills
Public administration staff are prepared and trained to manage e-government tasks and challenges.

Areas of action:
- intensively sharing experience among federal, state and local administrations, coordinated by the IT Planning Council;
- expanding basic and advanced training in specific areas of e-government with the help of research and education institutions;
- recruiting and retaining staff having advanced e-government skills;
- promoting staff willingness to adapt to change in dealing with organizational and technical innovations;
- providing targeted information on the possibilities and uses of e-government within public administration.

Area B: Cost-effectiveness, efficiency and performance
The area of cost-effectiveness, efficiency and productivity covers cost-effective, rapid and high-quality task performance by public administration.

Goal 6: Cross-level, client-oriented optimization and seamless digitization of process chains
Critical assessment of tasks, bureaucracy reduction, structural modernization and client-oriented process optimization enable cost-effectiveness and efficiency in public administration.

Areas of action:
- creating cross-level process management which identifies potential for optimization from the client's perspective and realizes this potential by making improvements suitable for public administration;
- applying description standards across all levels;
• building a consistent, seamless electronic procurement and billing process, from the award of public contracts to payment;
• screening regulations to check whether it is necessary to require documents in writing.

Goal 7: Federal, state and local cooperation is regularly IT-assisted
Together with a critical assessment of tasks, structure and process optimization, e-government helps public administration perform its duties faster without a loss of quality, thereby helping to meet the expectations of citizens and businesses. The division of responsibilities between different levels of government is no obstacle to efficient cooperation. The same applies in a European context.

Areas of action:
• implementing and updating the standardization agenda for interdisciplinary standards of IT interoperability and IT security for data;
• ensuring the secure exchange of electronic files, processes and documents;
• using modern IT-based platforms to enable cooperation among teams in different secure locations which can access relevant documents at the same time;
• removing existing barriers to cross-border electronic communication and cooperation in Europe.

Goal 8: The expansion of IT is appropriately modular and simple
E-government processes are based on complex IT systems and software components which require significant financial and personnel resources to develop. The secure and cost-effective operation of e-government processes places high demands on the expert staff responsible for maintaining them. For this reason, solutions must be universally applicable, adaptable to changing needs and easy to use and manage.

Effective activities in this regard:
• dividing IT systems into appropriate modules. In the process, it is important to ensure that the solution is as simple as possible and scalable;
• implementing standards, ensuring interoperability and providing standardized and, if possible, open interfaces;
• continuing existing shared services and creating new ones;
• ensuring the secure exchange of electronic files, processes and documents.

Area C: Information security and data protection

E-government must be secure and ensure adequate data protection if it is to gain the trust of businesses and individuals. This requires state-of-the-art technological solutions, appropriate organizational measures and reliable providers of IT services. The principle of data minimization is to be followed.

Goal 9: Protective measures to ensure information security are appropriate and reliable

The dangers of cyber attacks as well as the constant development and growing professionalization of attackers and their methods of attack pose an increasing threat to information security, affecting individuals, businesses and public administration. The increasing use of cross-level communication and IT processes means that all communication partners must take protective measures.

Areas of action related to cross-level IT processes and communication:
• securing network infrastructure by requiring compliance with uniform (minimum) security standards and by defining and complying with uniform standards for the use of secure, interoperable solutions that meet data protection requirements;
• further developing uniform information security management;\(^3\)
• providing targeted information and advanced training for public administration staff and increasing their awareness of information security issues;

Goal 10: Technical and organizational data protection is ensured

Technical and organizational measures to ensure data protection refer to the protection goals of availability, confidentiality, integrity, isolation (the technical means to secure pur-

\(^3\) In accordance with the IT Planning Council guideline on information security.
pose limitation) and ability to intervene (the technical design of processes for data subjects to exercise their rights).

Aligning technical and organizational measures with modern regulatory goals requires adapting legal, technical and organizational framework conditions. The federal, state and local governments are taking coordinated action on this matter.

Areas of action:

- collecting and processing only those personal data needed to carry out the administrative task in question. In principle, user accounts are to be set up to take advantage of administrative services. As far as possible and reasonable, public administration will make it possible to utilize their services anonymously or using a pseudonym.

- Technical and organizational measures ensure that the data of individuals and businesses are protected; these measures result in a uniform standard of security.

- Individuals can easily find out which of their personal data are being processed by public agencies, as long as they have a right to request this information.

**Goal 11: E-government also functions during crisis situations**

Also during crisis situations, key applications must be available to a sufficient degree for all needs.

Areas of action:

- implementing necessary measures from the National Plan for Information Infrastructure Protection within the framework of the CIP Implementation Plan;

- carrying out the availability requirements and measures jointly defined by the federal, state and local governments.

**Area D: Transparency and participation in society**

E-government offers new ways to make policy and administrative processes more transparent and to enable citizens and businesses to participate in designing and carrying out public tasks.
Goal 12: Promoting Open Data and freedom of information

Freedom of information and Open Data are essential for the transparency and accountability of government action.

- Open information about policy-making and administration should be non-discriminatory, targeted to its audience and user-friendly for the various target groups, while paying attention to data protection and security, and should be made available in standardized and machine-readable formats.

Goal 13: Promoting participation by citizens and businesses

Information technologies give citizens and businesses better ways to participate in the process of forming policy positions, in planning and decision-making and in designing and carrying out public tasks.

- The federal, state and local governments are continuing to develop technical options for participation.

- It is important for citizens and businesses to recognize the impact of their participation. Results of participation and how they are handled should therefore be made transparent.

Area E: Innovation and sustainability

To remain viable in the future, information technology must offer solutions which are both innovative and sustainable.

Goal 14: Federal, state and local public administrations support the capacity for innovation and openness to change

Federal, state and local public administrations support the capacity for innovation and openness to change through their own high-performance and client-oriented e-government services.

Areas of action:
• Public administration creates the conditions for innovative solutions. This may include joint projects conducted with the private and research sectors.

• In order to pool the necessary competence from different scientific disciplines, the federal and state governments inform themselves when funding interdisciplinary e-government research and strive to provide funding that is as broadly distributed and non-discriminatory as possible.

Goal 15: Content, basic services, applications and infrastructure can be bundled and re-used

Content, basic services, applications and infrastructures used for e-government are bundled and made available to other agencies for their use.

Areas of action:

• Federal, state and local governments drive the re-use and bundling in their own areas of responsibility and with each other.

• Re-use is tested in a praxis-based way (e.g. in model regions). Establishing best practices in suitable areas in a coordinated way lays the groundwork for efficient transfer.

• Having independent third parties check IT components for certain functional features, data protection and security and issuing certificates for those that pass the test facilitates re-use.

• Spatial data are made available in the form of services (spatial data services) and offered via the Internet.

Goal 16: E-government makes a significant contribution to environmental sustainability

By electronically optimizing process chains, e-government helps reduce the energy consumption and CO2 emissions of both users and providers of public services, thereby promoting environmental sustainability.
Appendix A Overview of goals of the National E-Government Strategy

Appendix B Glossary

Action Plan: Plan Implementing the National E-Government Strategy, which includes projects, measures and applications developed by the IT Planning Council and is updated annually.

Article 91c of the Basic Law: Article 91c stipulates that the Federation and the Länder may cooperate in planning, constructing, and operating information technology systems needed to discharge their responsibilities. It also mandates the Federation to establish a connecting network pursuant to the IT Network Act (IT-NetzG) (cf. on www.it-planungsrat.de).

Basic services: The general systems and components needed to create the necessary e-government services, such as directory services, forms servers and payment platforms.

Single government service number 115: Single telephone number for direct enquiries or directing users to the person competent to answer questions.

Citizen accounts/Business (or service) accounts: Component to be used by individuals or businesses, enabling them to identify themselves to the public administration easily and securely and to use a mail box or document safe, if necessary, to
share data and documents with the administration.

BSI
Federal Office for Information Security (BSI) (cf. www.bsi.bund.de)

E-procurement
European regulations to govern public procurement have been overhauled: As of 18 April 2016, authorities in the member states are required to generally advertise and provide above-threshold calls for tender electronically. A project on e-procurement has been set up to bring together the activities taken by the Federal Government in this field.

Single point of contact
Single points of contact help citizens and businesses resolve their queries and direct them to the person competent to answer them. The organizational form varies between and within states. Depending on the regional organization, this may be one or more offices within the network (see also One-Stop Shop or citizens account)

E-invoicing
According to EU public procurement regulations, all contracting authorities placing what is referred to as above-threshold contracts are required to accept and process electronic invoices, provided they meet specific requirements.

Separation of informational powers
The separation between data collected by different areas of public administration for different purposes.

IT Network Act (IT-NetzG)
The German abbreviation IT-NetzG refers to the Act on Connecting the IT Networks of the Federation and the Länder – Act implementing Article 91 c (4) of the Basic Law of 10 August 2009.

State Treaty on IT
The State Treaty on IT (State treaty on the establishment of the IT Planning Council and on the principles of cooperation underlying the use of information technology in the administrations of the Federation and the Länder - or, in short, Treaty to Implement Article 91c of the Basic Law) defines the tasks, decision-making processes, members and types of operational work of the IT Planning Council (see also www.it-planungsrat.de).

KRITIS
Critical infrastructures: Organizational and physical structures and facilities of such vital importance to a nation’s society and economy that their failure or degradation would result in sustained supply shortages, significant disruption of public safety and security, or other dramatic consequences.

NEGS
The abbreviation stands for the National E-Government Strategy, which is a policy guideline drafted and followed by the federal, state and local governments to improve the use of IT and of the Internet within Germany’s administration.

NGIS
The German abbreviation stands for the National Spatial Data Strategy, which defines the goals pursued by the federal, state and local governments and forms the starting point for an innovative and sustainable policy in this field (see also www. gdi-de.org). Spatial data are data with a direct or indirect reference to a specif-
ic location or geographical area. Interdisciplinary and cross-border spatial data can be used to explain complex contexts.

| Screening of legal provisions | All administrative law provisions will be screened as to whether they can be amended to introduce electronic identification, rendering it unnecessary for citizens to submit documents in paper or appear in person. |
| One-stop shop | A point of contact offering all services, regardless of which level of administration is responsible. |
| Open Data | A policy according to which data are made available to the public in standardized and machine-readable formats for any use whatsoever, unless they are subject to obvious restrictions (data protection and security aspects). |
| Open Government | Open government refers to making the “knowledge” of policymakers and public administration available to the public. Within open government, different priorities may be set, such as transparency (open data), participation or collaboration. |
| Shared Services | Consolidating and centralizing service provision processes within an organization. |
| Smart City: | EU initiative for the further development of cities (see also www.smart-city-forum.de for the German Innovation Roundtable). |
| Standardization agenda | Implementation Plan to draw up and adopt national standards. |