Report by Germany on the measures taken to implement the Recommendation concerning the Promotion and Use of Multilingualism and Universal Access to Cyberspace

<u>General information</u>
Country:
Germany
Organization(s) or entity(s) responsible for the preparation of the report:
Federal Foreign Office
Officially designated contact person/institution:
German Commission for UNESCO
Name(s) of designated official(s) certifying the report:

Brief description of the consultation process established for the preparation of the report:
Written consultation between the Foreign Office, the German Commission for UNESCO and its expert network

1. Development of multilingual content and systems

<u>1.1 Please furnish detailed information explaining what measures have been taken to alleviate language barriers.</u>

Germany is home to four groups of national minorities as well as more than 16 million people from a migrant background (as of 2012). Thus, in many communities and schools, especially in larger cities, speakers of more than 30 native languages live and learn together. Most people, including speakers of minority and migrant languages, use cyberspace content in the official language German. Many people from migrant background also use online content in their native languages which is freely available.

In order to alleviate possible language and other barriers, the Federal Government has taken measures to support the preservation of minority languages online and offline (compare answers to questions 1.2 and 1.3) as well as to make public online content accessible for speakers of migrant languages and people with disabilities (compare answer to question 1.4).

<u>1.2 Please provide information on support given to capacity-building for the production of local and indigenous content on the Internet.</u>

<u>1.3 Please describe the measures taken for formulating appropriate national policies on the issues of language survival, revitalization, development and promotion in cyberspace. Please include information about main legislation and/or policy measures, if any, and date of their introduction/adoption.</u>

National Minorities in the Federal Republic of Germany are the Danes, Sorbs, Frisians as well as Sinti and Roma. Additionally, Low German is recognized as a regional language. By ratifying the Framework Convention for the Protection of National Minorities of the Council of

Europe as well as the European Charter for Regional or Minority Languages, the Federal Government has committed itself to protecting and promoting these languages.

The Federal Government, the *Länder* as well as the relevant municipalities actively support the members of the national minorities as well as the speakers of Low German in preserving their cultural heritage and their language. Publicly-funded minorities' institutions promote the preservation and use of minority languages, also in cyberspace, provide content in these languages and take capacity building measures.

The office of the Federal Government Commissioner for Matters Related to Ethnic German Resettlers was established in 1988 at the Federal Ministry of the Interior. In 2002, mandate of the office was expanded to specifically include national minorities. Due to Germany's federal structure, competence and responsibility for national minorities falls to the *Länder*. Therefore, many *Länder* have set up offices, which are responsible for giving due consideration to the concerns of the national minorities. The Council of National Minorities, together with the publicly-funded Secretariat for National Minorities in Berlin, serves as the liason point between national minorities and the authorities. Use of minority languages is an important topic in this cooperation. There are regular conferences between the Federal Government, the *Länder* and the national minorities on the implementation of the abovementioned Framework Convention and the European Charter for Regional or Minority Languages.

<u>1.4 Please provide information, including references, on major events, projects, publications and examples of best practices identified during the reporting period that contributed to the promotion of and use of multilingualism and universal access to cyberspace.</u>

The Federal Government furthers multilingualism and universal access to cyberspace by providing online content on public websites in several other languages. Almost all websites of public institutions are available in German and English, some also in French or Spanish. Furthermore, authorities and public institutions increasingly offer content in migrant languages, such as for example (but not limited to) Turkish and Russian, in order to make them truly accessible for migrants from different backgrounds who are not fluent in German. This especially concerns information on new laws and policies.

In addition, a law introduced in 2002 requires public websites to be accessible for people with disabilities. Therefore, online content and documents available for download are designed according to accessibility standards. Public websites also contain easy read information; some also offer information in sign language.

The *Deutsche Welle*, an international public broadcaster financed by federal tax revenue, started its web presence in 1994. Today, its online news site is available in 30 languages. In 2013, its online television programming was particularly improving as it received a set of new shows and channels. It basically involved new, language-based channels, regionalized programming and a variety of multimedia content that can be used online. Concerning the regionalized channels, the changes implied an expansion of the daily Spanish-language TV programming for Latin America from two to 20 hours. Moreover, Arab countries now receive ten hours of Arabic and 14 hours of English programming.

2. Facilitating access to networks and services

2.1 Please report on national efforts to recognize and support universal access to the Internet as well as to promote access to the Internet as a service of public interest.

2.2 Please also describe what mechanisms have been established at the local and national levels to facilitate universal access to the Internet through affordable and accessible telecommunications, and internet costs.

The internet can be accessed throughout the country. A wide range of public internet access points throughout the country, for example at public libraries, youth centres, train stations and public authority buildings complement commercial internet access. By adopting appropriate regulation and safeguarding competition, the Federal Government contributes to ensuring affordable internet costs for all regarding commercial access.

With its Broadband Strategy, adopted in 2009, the Federal Government has adopted a range of measures to achieve universal broadband access throughout the country and close remaining gaps. Among others by the expansion of LTE, another significant increase in broadband internet connectivity could be reached. As a result, by the end of 2013, basic broadband access with speeds of at least 1Mbit/s has been available for 99.9 percent of all households. At the same time, 59.7 percent of all households have had access via high-speed broadband with at least 50 Mbit/s. The Federal Government's declared aim is to make high-speed broadband access (≥ 50Mbit/s) available to all households by 2018. While the intermediary target to provide high-speed broadband connections to three quarters of households could not be fulfilled, the Federal Government has reaffirmed its commitment and has made major investments towards the overall goal in 2014.

In order to implement the Broadband Strategy broadly and effectively, the Federal Government has established several specific institutions. The broadband office (*Breitbandbüro des Bundes*) was, for instance, founded. Its tasks are to coordinate measures with the broadband competence centres of the *Länder*, to draw up practical guidelines on current issues and to organize dialogue events and workshops. Moreover, the website zukunft-breitband.de was launched in order to inform the public.

2.3 Please indicate the measures taken for encouraging the development of information strategies and models that facilitate community access and support cooperation on information and communication technologies (ICT) among public service institutions, including community telecentres, Internet access units, and others.

ICTs and the digital infrastructure are a priority for the Federal Government. Currently, all responsible ministries are together elaborating a comprehensive government strategy, "Digital Agenda 2014-2017", to accompany and shape digitalization and to ensure that citizens can benefit as much as possible from these developments. The strategy will deal with supporting digital infrastructure and the digital economy as well as safeguarding security and participation and increasing scientific research on relevant digital topics. The agenda will

be implemented jointly with the social partners, civil society, the private sector and the sciences.

An important part of the Federal Government's digital policy is media and information literacy. Particularly young people are addressed by the Government's efforts with regards to this. To name one example, the "digital voluntary social year" (*Modellprojekt Freiwilliges Soziales Jahr Digital*) has recently been introduced by the Federal Government. In the framework of this newly initiated model project, young people with knowledge and skills in the digital and ICT sector for one year support charitable organizations in realizing IT projects and in media and information literacy training. Thereby, media and information literacy is taught and community access to the internet is facilitated at the same time. For more, please refer to question 3.1 (c).

The Federal Government is also currently in the process of further developing its ICT strategy "Digital Germany 2015" (*Deutschland Digital 2015*). It stresses that information and communication technologies are the key for an innovative and sustainable German economy. Thus, research on smart services and green IT is, for instance, followed in the framework of the Federal Ministry of Education and Research's programme named ICT 2020 – Research for Innovations (*IKT 2020 – Forschung für Innovation*). The central platform of the ICT strategy, the national IT summit, is currently being transformed into a comprehensive dialogue platform to present implementation projects for the Federal Government's digital agenda.

2.4 What efforts have been made in order to encourage Internet service providers to consider provision of concessionary rates for Internet access in public service institutions?

This is not something that is subject to regulation, and so no rules have been laid down. The agencies introducing eGovernment services are free to conclude special arrangements with service providers.

3. **Development of public domain content**

3.1 Please explain the legal and administrative measures adopted to give effect to the provisions of this part of the Recommendation:

(a) recognizing and enacting the right of universal online access to public and government-held records,

Access to public and government-held records is regulated by the Federal Act Governing Access to Information held by the Federal Government, in short the Freedom of Information Act, which entered into force in 2006. This law stipulates a right of the individual to access to information held by federal agencies. There is no requirement that one has to be affected – legally or factually – by the information concerned. Upon an application at the relevant government agency, the agency is obliged to disclose the requested information. A request to information may only be denied for exceptional reasons such as national interest or the protection of personal data.

The Federal Government is currently elaborating its new programme on adapting public administration to the digital environment and increasing transparency and access to public information and records. The programme "Digital Administration 2020" (*Digitale Verwaltung 2020)* sets the goal to make all public administration available electronically and make paper requests and personal visits to the administration agency unnecessary by 2020. This will also improve online access to public and government-held information, as currently, some of the administration's work is still paper-based and not available online.

Already, the E-Government Act, passed in 2013, has established a wide range of measures to improve electronic communication with administration and the authorities and remove legal obstacles to electronic communications between public authorities, citizens and businesses. Federal authorities now accept electronic documents submitted using the e-ID feature of the ID card or via De-Mail. Also, it has established the principle of electronic document management, open data, electronic administrative bullets as well as facilitation of electronic certifications.

In February 2013, the Federal Government has established the Open Government Data Portal. The portal, named GovData, available at govdata.de, has been developed in consultation with open data experts from the private sector, academia and civil society. It contains data from all levels of administration – the federal level as well as *Länder* level and the municipal level. Six months after the portal's launch, an evaluation report showed that the available data is constantly increasing (February 2013: 1 100 data sets; August 2013: 3 700 data sets). Moreover, according to the report, citizens enthusiastically use the services provided by GovData: On average, 15,000 users visited the website monthly and accessed 2.7 million data sets (between February and August 2013).

(b) identifying and promoting repositories of information and knowledge in the public domain and making them accessible by all, in particular persons with disabilities, linguistic minorities, women and girls, and

In 2012, the Federal Government, the *Länder* and local authorities have jointly launched the beta version of the German Digital Library (*Deutsche Digitale Bibliothek, DDB*). The DDB links content from cultural and academic institutions throughout the country, with the goal to make scientific knowledge, but also cultural heritage easily accessible for everyone through a central access point. On 31 March 2014, the full version of the website has been launched. Currently, the digital content of more than 2,000 institutions is available through the DDB website.

In addition, the Prussian Cultural Heritage Foundation (*Stiftung Preußischer Kulturbesitz*) makes many of its collections and cultural and scientific content available online on its website "SPK digital". Its collections and catalogs of holdings contain archaeological and ethnological objects as well as literature and music. In 2013, the foundation has signed the Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities. On this occasion, the foundation has, together with partners developed practical guidelines for public cultural institutions on how to make scholarly and cultural content available freely, the "Recommendation for the Implementation of the Berlin Declaration of 2003 at Signatory

Cultural Institutions". The Foundation is directly responsible to the German Government and is co-financed by the Federal Government and the *Länder*.

Other examples include the German National Library (*Deutsche Nationalbibliothek*), which is currently digitalizing its complete collection of exile art. Minor private and public institutions use the power of synergy and collectively display their audiovisual material. This network of media libraries (*Netzwerk Mediatheken*) provides cultural and scientific information and services of archives, libraries, documentation centres, museums and research institutes.

On the *Länder* level, digitalization projects find great support as well. One example is the Service Center Digitization Berlin (*Servicestelle Digitalisierung*), established by the state of Berlin, with the aim of coordinating state-wide digitalization projects in the areas of libraries, museums, and archives, and interdisciplinary cooperation.

Most of the above named examples of websites are available in German and English language. Moreover, parts of the Prussian Cultural Heritage Foundation's website are available in an easy read version. Furthermore, the Prussian Cultural Heritage Foundation is planning to soon make parts of its online content available in sign language.

<u>(c) promoting and facilitating ICT literacy, as well as information and media literacy, including popularizing and building trust in ICT implementation and use.</u>

An important part of the Federal Government's abovementioned digital policy is to increase media and information literacy, particularly among young people. The Federal Government supports a wide range of projects and initiatives that promote parents' media education competences, foster attractive and age-appropriate media projects for children, and support childrens' creative and responsible use of the Internet, among others through the federal funding programme "A net for children" (*Ein Netz für Kinder*).

In 2012, the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth established the centre for child protection online (*I-KIZ – Zentrum für Kinderschutz im Internet*) which serves as a platform for all relevant actors to develop proposals and strategies on child protection in the web 2.0 era. The centre's work is accompanied by three expert commissions. The Ministry also supports other projects such as the "childrens' server" (*KinderServer*) which gives children the opportunity to surf only in protected spaces via computers as well as mobile devices. Furthermore, it publishes information materials with regards to a safe use of the internet and mobile phones.

In 2011, the Federal Government has adopted a national Cyber Security Strategy (*Cyber-Sicherheitsstrategie*) which lays out measures to safeguard security in cyberspace and protect critical information infrastructure. As part of the implementation of this strategy, the National Cyber Response Centre as well as the National Cyber Security Council was established. The Federal Office for Information Security, among others, runs a website dedicated to providing information on IT and cyberspace security issues and current security threats to citizens (*BSI für Bürger*).

3.2 Please also provide information on whether open access solutions and web accessibility of public domain information were advanced and how, including supporting data, reference to best practices, examples and solutions.

Considerably more web accessibility of public domain information was achieved by the latest amendments to the Act on Copyright and Related Rights, which entered into force on 1 January, 2014. Among others, these amendments make it easier for public institutions to digitalize orphan works and make them accessible online. Also, it establishes a second window right for open access publication of publicly-financed scientific work. For details, please compare answer to question 4.1.

Currently, the Federal Government is also developing a comprehensive open access strategy which is supposed to set the framework for guaranteeing effective and permanent access to publicly-financed publications and data. This strategy is supposed to especially provide for the open accessibility of educational resources and the establishment as well as national, European and international coordination of open databases, repositories and open access journals.

4. **Reaffirming the equitable balance between the interests of right-holders and the public interest**

4.1 Please indicate what action your Government has taken in order to update the national copyright legislation and its adaption to cyberspace. Please indicate also what consideration was given to the possibility of encouraging rights-holders and the lawful beneficiaries of limitations and exceptions to copyright and related rights protection to ensure that such limitations and exceptions are applied. Please provide information on open access policies adapted, conditions to access open scientific data and any favourable conditions applied for marginalized groups, such as persons with disabilities.

The German legislation on copyright law has been adapted to the development of new information and communication technologies three times within recent years. The first adaptation, the so-called "first basket", has made basic changes according to the Directive 2001/29/EC of the European Parliament and of the Council on the harmonisation of certain aspects of copyright and related rights in the information society in 2003. The "second basket" of changes has implemented optional elements of the abovementioned directive and has addressed further issues of the information society.

On 1 January 2014, the next copy right law reform, the so-called "third basket" of changes, has entered into force. This reform has introduced important changes to facilitate open access to publicly-financed scientific research as well as to make orphan works digitally accessible and has therefore been an important step towards the aim of facilitating open access and adequately balancing copyright and access to information.

The Federal Government supports the free exchange and circulation of knowledge through open access as it is the basic condition for excellent and innovative research. The Federal Ministry of Education and Research initiated a strategic dialogue with relevant actors in 2012

in order to discuss how copyright can be designed in such a way that it fosters research and education in a digital age and stimulates innovation.

The most recent amendment of the Act on Copyright and Related Rights has now introduced the demanded second window right for scientific data and papers of publicly-funded research. Changes to Article 38 of the Act on Copyright and Related Rights allow the author of a scientific work to make the accepted version (i.e. the version accepted by the journal, not the final edited version) of the manuscript publicly available twelve months after the initial publication, under the condition that at least 50 percent of the research has been financed publicly. This basically opens up new opportunities for the green road of open access.

Additionally, the latest amendment of the Copyright Act now allows publicly accessible and established institutions such as archives, libraries and public service broadcasters to digitalize orphan works and make them publicly accessible online, in accordance with Directive 2012/28/EU. Orphan works are defined as works "in the collections (holdings) of publicly accessible libraries, educational institutions, museums, archives and film or audio heritage institutions, if the holdings have already been published, the rightholder of which could not be identified or located despite a diligent search".

<u>4.2 Please also indicate what are the actions planned to give consideration to the development of technological innovations, including Free and Open Source Software (FOSS), and to their potential impact on access to information.</u>

The Federal Government has made technological innovations and ICT one of its priorities of publicly-funded research. The "ICT 2020 – Research for Innovations" long-term funding programme of the Federal Ministry of Education and Research supports research projects in fields such as IT and communication systems, IT security and human-technology interaction.

More recently, "IT security and privacy" has been added as an additional focus of the programme. In this funding line, the Federal Governments supports research projects which target the technological as well as the social aspects which arise in times of facebook and twitter as well as phishing and pharming. The goal is to develop procedures and tools which enable citizens to use the internet safely, to enforce their right to informational self-determination and thus to strengthen trust in ICT implementation and use. To name one example, the Federal Ministry has initiated a project to analyze the current situation of internet privacy. An interdisciplinary scientific advisory council is now assigned to design projects to specifically address the identified current challenges.

The Federal Government supports the use and further development of Free and Open Source Software (FOSS) as well as processes of standardization and interoperability as an alternative to closed digital ecosystems. The Federal Government is an active user of FOSS, for example, in communication between embassies or in the administration services directory. The Federal Office for Information Security (*Bundesamt für Sicherheit in der Informationstechnik*), which is responsible for maintaining IT security, is not only actively using FOSS itself, but also developing new FOSS tools, for example for safe email communication.

5. Final comments

5.1 What efforts has your Government made to establish a system of continuing monitoring of the implementation of the decisions taken at the World Summit on Information Society and other internationally agreed development goals and commitments and what time-related goals and benchmarks has your Government set in this respect?

Almost all relevant goals and benchmarks from the Geneva and Tunis documents have already been covered by domestic legislation and/or relevant action plans and strategies, as is evident, for example, in the answers to questions 2.1 and 2.2. regarding universal access and answers to questions 3.1 and 4.2 regarding confidence and security in the use of ICTs. The relevant action plans and strategies have their own inherent monitoring mechanisms at the appropriate level. For these reasons, no separate, WSIS-specific monitoring system has been put in place. To the extent possible and appropriate, the government involves civil society, the private sector and other relevant actors in the formulation and implementation of policy and strategies, according to the multi-stakeholder model of the WSIS process. Furthermore, the government relies on strategic cooperations, e.g. with the private sector to achieve universal access to high-speed broadband internet or with research institutions to further technological innovations in ICT.

The Federal Government is also implementing its WSIS commitments to international cooperation in the field of ICTs and to helping to bridge the digital divide. The Federal Ministry for Economic Cooperation and Development has actively embedded ICTs in its development cooperation strategies and supports multilateral programmes as well as bilateral initiatives, particularly with countries in sub-Saharan Africa. The Strategy Paper "ICT: Key technologies for sustainable development" identifies, among others, access to ICT, capacity building for local IT companies as priorities, but also exploiting ICT potential for environmental protection, rural development and participation. Also, the Ministry is currently planning to support partners to embed ICTs in their education strategies.

One exemplary bilateral project is the support of the expansion of cost-efficient broadband internet access in Namibia. Before, the broadband connection was based on access dependent on submarine cables, which are owned by monopolists. Thus, the German Government supported Namibia's Ministry of Information and Communication Technology in drafting and adopting a Universal Access/Service Policy. Moreover, it assisted the Communications Regulatory Authority of Namibia in implementing the policy.

5.2 What are, according to your Government, the main issues, new challenges and actions that need to be further addressed for promoting multilingualism and universal access to cyberspace, including the evolution of the Internet and its governance? Please provide a brief description in your final comments.

In today's circumstances, it is especially important to work together on an international level to ensure a free, save and open internet which furthers innovation, freedom and participation. It is important to ensure that the use of the internet is secure and to regain users' trust in ICT and the internet by ensuring privacy and human rights and values are upheld in using the internet. Therefore, it is important to develop the necessary technologies, but also to ensure that internet governance takes into account these values.

Further action is necessary to achieve universal access to the internet, also for those living in rural or remote areas. For Germany, the Federal Government is aiming to achieve high-speed access for all households through its Broadband Strategy, with a specific focus on rural areas where internet access is often less available and slower than in urban centres. At the same time, international cooperation is necessary to work towards universal access also in developing countries. Germany is working together with partners, for example in sub-Saharan Africa, to expand ICT infrastructure and internet access.

ICTs should furthermore be further promoted as a cross-cutting enabler for development and economic growth. With its ICT strategy "Digital Germany 2015" the Federal Government is currently implementing measures to harness the potential of ICT for innovation, growth and employment in Germany. Also, Germany is promoting the use of ICT across all sectors to promote sustainable economic, ecologic and social development.

<u>5.3 Please provide references to the main sources of information and data used in compiling this report and that could be of interest to share with other Member States, such as recent public policy strategies, reviews or evaluations; latest research or studies, and statistical data.</u>

Below, you may find the most important sources of information, data, and best practice examples which are referred to in this report:

1   Development of multilingual content and systems

Relevant Laws
Equal Opportunities for Disabled People Act (*Behindertengleichstellungsgesetz – BGG*), 2002; no official English translation available

Further sources of information
Federal Government Commissioner for Matters Related to Ethnic German Resettlers and National Minorities:
http://www.aussiedlerbeauftragter.de
Council of National Minorities and Secretariat for National Minorities:
http://www.minderheitensekretariat.de
Example for information on a new social policy provided in Turkish language:
http://www.bmas.de/SharedDocs/Downloads/DE/PDF-Publikationen/A857bt-bildungspaket-broschuere-tuerkisch.pdf;jsessionid=F8A8ACAAAA2D63464B8BCDDCD01084C1?__blob=publicationFile

2   Facilitating access to networks and services

Relevant documents
The Federal Government's Broadband Strategy:
http://www.bmwi.de/English/Redaktion/Pdf/broadband-strategy,property=pdf,bereich=bmwi,sprache=en,rwb=true.pdf

ICT Strategy of the German Federal Government "Digital Germany 2015":
http://www.bmwi.de/English/Redaktion/Pdf/ict-strategy-digital-germany-2015,property=pdf,bereich=bmwi2012,sprache=en,rwb=true.pdf

Further sources of information
Public information website on the Federal Government's Broadband Strategy:
www.zukunft-breitband.de
Federal Broadband Office:
http://www.breitbandbuero.de
Funding programme "ICT 2020 - Research for Innovations" of the Federal Ministry of Education and Research:
http://www.bmbf.de/en/9069.php

3 Development of public domain content

Relevant laws
Federal Act Governing Access to Information held by the Federal Government, 2013, English translation available here:
http://www.gesetze-im-internet.de/englisch_ifg/freedom_of_information_act.pdf
Act to Promote Electronic Government, 2013, English translation of abstract available here:
http://www.bmi.bund.de/SharedDocs/Downloads/EN/News/egovernment.pdf?__blob=publicationFile
Act on Copyright and Related Rights, last amended 2014, no English translation available of the newest amendments in 2014, text with amendments up to 2013 available here:
http://www.gesetze-im-internet.de/englisch_urhg/act_on_copyright_and_related_rights_(copyright_act).pdf

Relevant documents
Cyber Security Strategy for Germany:
http://www.bmi.bund.de/SharedDocs/Downloads/DE/Themen/OED_Verwaltung/Informationsgesellschaft/cyber_eng.pdf?__blob=publicationFile

Further sources of information
Overview over the Federal Government's programme "Digital Administration 2020"
http://www.verwaltung-innovativ.de/SharedDocs/Publikationen/Artikel/digitale_verwaltung_2020.pdf;jsessionid=3791B3DA2AF5B1EC8E41C674B4D4EEB3.2_cid371?__blob=publicationFile&v=1
Open Government Data Portal:
www.govdata.de
German Digital Library:
https://www.deutsche-digitale-bibliothek.de/?lang=en
Digital Archives of the Prussian Cultural Heritage Foundation:
http://www.spk-digital.de/
Information on the funding programme "A net for children" (*Ein Netz für Kinder*):
http://www.ein-netz-fuer-kinder.de/foerderprogramme
I-KIZ Centre for Child Protection Online:
www.i-kiz.de

Public information website on IT and cyberspace security by the Federal Office for Information Society:
https://www.bsi-fuer-buerger.de/BSIFB/DE/Home/home_node.html

4 Reaffirming the equitable balance between the interests of right-holders and the public interest

Relevant laws
Act on Copyright and Related Rights, last amended 2014, no English translation available of the newest amendments in 2014, text with amendments up to 2013 available here:
http://www.gesetze-im-internet.de/englisch_urhg/act_on_copyright_and_related_rights_(copyright_act).pdf

Further sources of information
Funding programme "ICT 2020 - Research for Innovations" of the Federal Ministry of Education and Research:
http://www.bmbf.de/en/9069.php
Federal Office for Information Security:
https://www.bsi.bund.de/EN/Home/home_node.html

5 Final comments

Information and Communications Technology: Key technologies for sustainable development. A Strategy Paper by the Federal Ministry for Economic Cooperation and Development:
http://www.bmz.de/en/publications/type_of_publication/strategies/Strategiepapier331_02_2013.pdf