Harnessing the digital revolution for sustainable development

The Digital Agenda of the BMZ
“The digital transformation is opening up major opportunities as new technologies streamline processes, make them more transparent and efficient, and enable more people to share more knowledge.”

Dr Gerd Müller, German Federal Minister for Economic Cooperation and Development
Dear readers,

Development policy is all about creating new prospects for the future. And that future is digital.

As digitalisation sweeps through all areas of life on every continent, it is also affecting development policy. New technologies help to overcome long distances that were deemed unbridgeable even a few years ago, connecting urban and rural communities, farmers and markets, universities and students.

New technologies are speeding up the pace of life, increasing transparency and efficiency and enabling more people to share more knowledge. Value chains are being redesigned and entrepreneurs in garages all over the globe are striving to make breakthroughs. Our world is already characterised by progressive digitalisation, as exemplified by driverless cars, digital currencies, virtual lectures and 3D printers. Digital technology has become part of our everyday lives.

Yet so far the ‘digital dividends’ have conspicuously failed to match our expectations. Despite all the positive developments, more than half the world’s population still has no access to the Internet. Many people do not even know how to use it. On top of this, in many countries around the world, new technologies are deliberately being used against people, as borne out by illegally collected data, state-sponsored oppression and restricted freedom of expression.

We must not lose sight of the challenges of digitalisation if we are to succeed in building ONE DIGITAL WORLD together. The BMZ’s Digital Agenda lays the foundations for this by setting out how to meet the challenges facing us and how we can enable everyone to exploit the opportunities presented by the digital transformation. We can shape ONE DIGITAL WORLD if we act in unison. So please make sure you do your bit!

Dr Gerd Müller
German Federal Minister for Economic Cooperation and Development
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I. Where we stand
The digital revolution permeates all areas of life, in both industrialised and developing countries. These changes are opening up unimaginable potential for development cooperation, but are also posing new challenges to all stakeholders. Together with our partner countries, we are aiming to rise to these challenges and harness the potential of the digital transformation for sustainable development. Our Digital Agenda constitutes the basis for guiding the implementation of digital projects within the framework of Germany’s development policy, adding substance to the German government’s Digital Agenda (Digitale Agenda 2014–2017) in this field.

**THE FACTS: WHERE WE HAVE TAKEN ACTION SO FAR**

Modern information and communication technology (ICT) is already an integral element of German development policy cooperation today. In addition, some 350 programmes are focusing on the opportunities presented by digitalisation. The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) is implementing 199 of these programmes, the KfW Entwicklungsbank (KfW development bank) 80, Deutsche Welle Academy 34, the Deutsche Investitions- und Entwicklungsgesellschaft mbH (DEG) 22, Engagement Global 8, the German Academic Exchange Service (DAAD) 6 and other institutions 3.¹

For a ‘Digital Africa’ alone the BMZ increased its funding to around 100 million euros between 2015 and 2017. The emphasis here is on connecting Africa and promoting ICT projects that focus on infrastructure, e-learning, good governance and developing the IT economy. We also intend to step up our support for ICTs in 2017 in Asia, Latin America and Eastern Europe.

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¹ These figures are based on a survey conducted among selected beneficiaries and implementing organisations of German development cooperation.

**NUMBER OF PROGRAMMES FOR DIGITAL TRANSFORMATION, PER REGION, IN 2016**

- **23** Global
- **23** Europe
- **117** Africa
- **34** The Americas
- **79** Asia
II. How we work
We adhere to the following:
- We focus on addressing the needs of our partner countries.
- We find the right combination of digital and analogue measures.
- We foster innovation and cooperation. Our partners are experts from civil society, the worlds of business and science, the media, church organisations and associations.
- We promote free access to information and publish the results of our work, reports and evaluations.
- We apply high standards, namely the international Principles for Digital Development and the BMZ’s guidelines on human rights.

IMPLEMENTING THE 2030 AGENDA

The 2030 Agenda for Sustainable Development is the new ‘pact on the world’s future’ (Weltzukunftsvertrag). Its implementation is one of our most important current, ongoing tasks. We will only succeed in attaining the 17 sustainable development goals (SDGs) by 2030 if we manage to enable all people everywhere to exploit the possibilities opened up by digitalisation.

Although ICTs are explicitly mentioned in just four of these 17 SDGs (“Quality Education”, “Gender Equality”, “Industry, Innovation and Infrastructure” and “Partnerships for the Goals”), we are working on long-term digital solutions for achieving the ambitious objectives set in all dimensions of sustainable development: socially, environmentally and also ensuring that everyone can derive economic benefits from them.

For example, the attainment of “Goal 3: Ensure healthy lives and promote well-being for all at all ages” requires digital health solutions that reach precisely the people who have hitherto been prevented from benefiting from them, due to spatial limitations.

Overall, ICTs influence all 17 goals and play a key role in enabling their attainment. This becomes particularly clear in the context of the so-called ‘Technology Facilitation Mechanism’, which focuses on making systematic use of science, technology and innovation to achieve the 17 goals.

ICTs are also important instruments for linking public-sector, private-sector and civil society actors, which is a key focus of the pact on the world’s future. Everyone is invited to do their bit. To this end, we need transparent processes and institutions, which will also help us meet the inclusivity requirements set out in the 2030 Agenda. Last but not least, we also see the deployment of ICTs as a way of closing current information gaps. Digital applications create new sources of data and analytic methods, allowing the improved measurement of impacts and also of progress in our implementation of the 2030 Agenda. For all these reasons, the pact on the world’s future is the central guiding principle directing our digital strategy.
Moreover, digital technologies help to organise administrative procedures more effectively and transparently, openly communicate data and information, reduce corruption and collect taxes more efficiently. Thus, not only can digitalisation boost government revenue, it can also improve the relationship between citizens and the state. Many countries are keen to develop such solutions together with German development policy. In addition, crowdfunding platforms are providing new ways of financing development projects without resorting to government funding, and development cooperation can help by promoting forums and exchanges on this.

**PROFOUND CHANGE, MAJOR CHALLENGES**

The digital transformation will have profound effects, accompanied by unpredictable radical changes. One thing is certain, though: there will be challenges as well as opportunities.
Electronic waste: In 2015, global production of electronic waste rose to over 41 million tonnes. How can we ensure that electronic waste is disposed of responsibly while new models of recycling and a circular economy are promoted to already reduce e-waste at the manufacturing stage?

The World Development Report 2016 published by the World Bank noted that ‘digital dividends’ – the title of the report – can only come about if investments are simultaneously made in basic ‘analogue’ domains like (vocational) education for all, democracy and accountability, effective institutions and a wise regulation policy. What form should development policy assume in the age of the digital revolution, so that it not only seizes the opportunities offered by technology, but also responds to such challenges? Our five strategic objectives provide an answer to this essential question.

New production methods and ways of working: There will be economic winners and losers. If production methods change, new jobs will be created as others are lost. Traditional ways of working will give way to digital automation, and new approaches will emerge. But who will orchestrate the digital revolution? Who will ensure that the right number of jobs is created in the right places? Who will retrain workers?

Digital divides: Whilst the ICT market is growing apace around the world, the differences between countries, urban and rural communities and generations and between genders are sometimes huge. Between 2000 and 2015, the number of Internet users increased eightfold, to 3.2 billion, but more than 4 billion people are still offline, the vast majority of them in the world’s poorest countries. Lack of Internet access is widening the economic and social inequality between industrialised and developing countries, as well as within countries.

Data protection and human rights: How are rights and freedoms guaranteed in the digital domain, which is difficult to control? How does the digital transformation affect human rights, data protection and personality rights? Who sets the online rules governing freedom of expression and banishing hate speech and incitement to hatred or violence?
III. Our objectives
The digital transformation is affecting all sectors of development cooperation: agriculture, climate, education, health, economic activity and public administration. By using promising new technologies we will attain our objectives better, faster and more sustainably.

We will increasingly embed ICTs in all sectors of our development cooperation and provide more resources for this purpose. However, ICTs are no universal remedy. We only apply technologies where they clearly generate added value. Appropriate use of ICTs can transform development in our partner countries and also make it more efficient, more equitable, more participatory, more transparent and more sustainable. This is how ICTs add value. The BMZ concentrates on those sectors and political priorities where ICTs efficiently and sustainably promise successful development, namely:

1. ICT infrastructure: enabling Internet access and expanding networks
2. Education and training, including vocational education and training
3. Good governance and modernisation of the state
4. Health
5. Nutrition, rural development and agriculture
6. Climate and energy
7. Sustainable economic development and financial system development

Objective 1:
Harnessing digital innovation for greater effectiveness
Facilitating networking: a German-African centre of digitalisation in Rwanda

Together with the Rwandan government we are building a centre of digitalisation to make sure that African markets can exploit proven digital solutions and tap into future trends. Accordingly, investments are being made in context-specific solutions through applied research and strategic partnerships with businesses, civil society and the world of science. The centre of digitalisation will be Germany’s first such initiative designed to help an African country play an active role in determining the framework conditions for digital innovation and the application of new technologies. This is in line with our approach of investing in new digital infrastructure, applications and IT qualifications. As Federal Minister Dr Gerd Müller pointed out during a visit to Kigali: “Rwanda offers every opportunity for more private investment. Together, over the next few years we will work to implement successful technology and innovation partnerships.”

1.1: PROVIDING ICT INFRASTRUCTURE

Billions of people today, especially in small towns and rural areas, are still unable to use the Internet because they lack access. For this reason, the BMZ is backing the continued expansion of networks in its partner countries, especially in rural areas. We are investing in broadband cable, as well as in cost-efficient and innovative network infrastructures that enable inexpensive Internet access even in small places. The progress made in East Africa shows how fast Internet connections can really boost development. There, a consortium of operators – helped by credits from German development cooperation, among others – laid the 10,000 kilometre-long Eastern Africa Submarine Cable System (EASSy). Thanks to this effort, as many as 250 million people are gaining faster, cheaper access to the Internet for the first time.

1.2: ENABLING ACCESS TO EDUCATION, TRAINING AND VOCATIONAL EDUCATION AND TRAINING

ICTs help to create new, virtual places of learning that are open to almost unlimited numbers of learners at any time, almost anywhere. The proliferation of virtual places of learning is also changing the learning process itself. Apps and learning programmes are often designed to resemble games, encouraging exchanges between learners, and connecting users without any formal obstacles. Through e-learning we reach people who were previously excluded from education, especially children and marginalised population groups. Together with our partners, we develop locally adapted digital educational content.

We also use digital learning over the Internet or by computer (e-learning) to qualify teaching staff for primary and vocational schools. At the same time, information systems are designed to enhance school administration. Both measures serve to improve education systems, help more students gain access to the digital world and enhance the overall quality of education.

However, Internet access alone is not enough to enable participation in digital life. Anyone wishing to send e-mails, do Internet research or educate themselves online must first learn how to use rapidly changing web media. This is why the BMZ actively promotes information and media literacy.
Together with our partners, we also develop training opportunities for future software developers, who often face difficult questions like: How can I develop suitable local IT solutions? Which business model do I need? Which opportunities do open or open-source technologies and global exchange offer? We supply IT professionals and trainers and foster the development of training structures for ICT-relevant occupations in our partner countries, for example through ICT graduate colleges.

Women still face worse career prospects than men and also have significantly fewer educational pathways open to them. Consequently, we will make a special effort to facilitate Internet access for women, strengthen the role they play online and qualify them for IT professions. For example, we are boosting women’s chances through an ICT mentoring programme and building a school for female programmers in Africa – the first of its kind. We also provide special courses for illiterate people, to ensure that they, too, have access to digital media.

1.3: CREATING PUBLIC ADMINISTRATIONS CAPABLE OF MEETING FUTURE CHALLENGES; COMBATING CORRUPTION

Digital technologies can help public authorities and governments become more efficient and transparent. They often enable novel mechanisms for political participation and accountability. The BMZ is supporting its partners in their digitalisation of state administrations. The state can generate higher revenues this way, whilst simultaneously becoming more transparent, more efficient and more citizen-oriented. Specially introduced apps for mobile phones, feedback portals and digital initiatives are also allowing citizens to directly influence policy. The BMZ is strengthening the constructive dialogue between citizens and their governments.

For instance, backed by German development cooperation a management information system was introduced in 60 municipalities in Armenia to improve services and involve citizens more closely in decision-making processes. Evaluations show that citizens now receive services and more transparent budgetary data faster and are more satisfied with their authorities, while greater transparency is prompting administrative staff to display a greater sense of responsibility.

1.4: IMPROVING HEALTHCARE PROVISION AND CONTAINING PANDEMICS

Many countries lack even basic primary healthcare. For the BMZ, ICTs are important tools for easing access to and improving the quality of healthcare provision and making countries’ administrative structures more efficient. We also want to use ICTs to contain epidemics and pandemics, for example through preventive measures. The South African NGO LoveLife built a digital platform with German support to inform young people about HIV.

3D printers and digital production sites – so-called 'maker spaces' and 'fabrication laboratories', or FabLabs – allow the free sharing and continued worldwide development of knowledge, software and blueprints.
Digital medicine: Bangladesh uses an information system to collect health information, reducing the administrative burden. Patients benefit too.

Bangladesh remains one of the world’s poorest countries. Yet it has achieved considerable successes in improving its citizens’ health. Life expectancy has risen, whilst child and maternal mortality are falling. All the same, the health sector remains fragmented. In addition to numerous private clinics there are 593 public clinics, 1,362 outpatient facilities and 12,527 municipal clinics. The sticking point up to now has been that all data were almost exclusively recorded on paper, making nationwide exchanges of information extremely laborious. Today, many local clinics are equipped with WLAN, computers, and a common software package that allows doctors to create individual patient files, forward aggregated reports and statistics to the ministry at the press of a button or analyse anonymised data. At the same time, human rights, patients’ personality rights and privacy are all guaranteed.

It was the Ministry of Health and Family Welfare (MoHFW), acting in conjunction with German development cooperation, that brought about this digital transition in Bangladesh. Today, more than 15,000 healthcare facilities across the country are using the information system, which is based on flexible, inexpensive open-source software. Digitised reporting has halved the administrative burden. Furthermore, having hard data enables sounder, swifter decision-making. At the same time, doctors can create digital files on individual patients. After all, having swift access to patient data can often play an important role in reducing child and maternal mortality.

More than 15,000 healthcare facilities nationwide use the information system built in Bangladesh with support from German development cooperation.
Delivering agricultural information by voice message, communicating with markets by text message, or using weather apps and digital financial services all help farmers in our partner countries organise their operations more efficiently and increase their earnings.

### 1.5: PROMOTING RURAL DEVELOPMENT

Digital technologies like smartphones or mobile phones bridge physical distances. This is particularly important in rural communities, where delivering agricultural information by voice message, communicating with markets by text message, or using weather apps and digital financial services helps farmers in our partner countries organise their operations more efficiently and increase their earnings. Geo-referenced data can be used to measure smallholders’ property and protect their rights.

### 1.6: LOWERING ENERGY CONSUMPTION AND IMPROVING CLIMATE PROTECTION

The World Bank estimates that applying ICTs could lower global CO₂ emissions by 20 percent over the next 15 years. How the world produces and consumes its energy will play a key role in this connection. In the past, the distances involved and a lack of suitable financial models prevented energy supplies from reaching rural areas.

This is one example from Tanzania and Rwanda: The solar home systems developed by the German company Mobisol are designed in such a way that their solar modules can easily be installed by locally trained Mobisol technicians. Customers use their mobile phones to pay monthly instalments of just 30 cents a day for the smallest systems. Under a develoPPP programme sponsored by the BMZ, Mobisol has already supplied more than 21,000 households in both countries with solar power systems. Today, these off-grid solar power systems are being used by more than 200,000 people in rural East Africa.
The BMZ is also supporting numerous other climate-related digital programmes. For example, scientists record weather data and devise adaptation strategies for farmers. German development cooperation uses inexpensive drones to map forests. The BMZ is also striving to ensure that in future more farmers are covered against climate-induced crop failures. In many partner countries, the insurance data needed to do this are missing, but ICTs can obtain the necessary information.

1.7: PAYING BY MOBILE TECHNOLOGY, REGULATING FINANCIAL SYSTEMS AND SHORING UP CONSUMER RIGHTS

Today in East Africa, many millions of people are already using their mobile phones to transfer money. Developing and emerging countries can revolutionise their financial systems by using payment solutions like M-Pesa, new financial technologies like digital wallet solutions or purely digital currencies, based on innovative blockchain technology. Digital payment systems are cheap, readily available and need no conventional current accounts or physical banks that often cannot be built, in rural areas in particular, which is why the BMZ is promoting the development of mobile payment systems. In Ghana, backed by the KfW Entwicklungsbank, the Central Bank of Ghana is expanding the use of the ‘e-zwich’ cashless payment system to rural areas, whereby people use a smart card to identify themselves in shops and deposit or withdraw money.

Furthermore, the BMZ is urging closer supervision of the financial systems in the digital space and greater protection of citizens. For example, German development cooperation is helping the National Bank of Uganda to regulate financial markets in a way that strengthens customers’ rights.
Objective 2: Reinforcing democratic processes

We are using ICTs to make development cooperation both more transparent and more visible. Citizens in our partner countries, as well as in Germany, have access to better information about ongoing, planned or completed programmes. Accordingly, digital technologies can draw on the knowledge of the very people intended to benefit from measures to enrich the planning and implementation of development policy projects.

We use ICTs to gather data, generate evidence and perform evaluations. This facilitates the related monitoring and comprehensive evaluation of programmes and projects. It also enables us to continually improve our measures, in keeping with impactful, results-oriented development cooperation, and do more to promote the most successful projects.

Many developing countries are still characterised by a lack of transparency in government action and inadequate accountability vis-à-vis the people. ICTs can help to create new possibilities. We want to enable citizens to understand how political decisions came to be made. We also apply these same standards to our development policy. We want to be as open and transparent as possible to our citizens in Germany and inform them about the BMZ’s work.
2.1: PROMOTING TRANSPARENCY

The BMZ uses public funds and must account for their effective and efficient use. ICTs help us to gather better, robust data more quickly and easily in our partner countries. These data can then be used to improve evidence-based decisions for existing and future projects.

We also harness the potential of ICTs to perform comprehensive evaluations of development projects and make the findings available to other donors and academics by publishing them online. The German Institute for Development Evaluation (DEval) conducts strategic evaluations, refines customised evaluation methods and promotes evaluation capacity in our partner countries.

In addition, the BMZ has been publishing extensive information on ongoing and newly authorised projects and programmes on its website biannually since 2013, in accordance with the standards of the International Aid Transparency Initiative (IATI). As one of the founders of the initiative, we are supporting its steady expansion (it currently has more than 400 members). Moreover, we are especially committed to ensuring that data are of high quality and thus provide a realistic picture and comprehensible overview of Germany’s development efforts. Germany has decided to apply to join the Open Government Partnership, committing itself to more open government action in all departments.

2.2: FORGING CLOSER RELATIONS WITH CITIZENS

The BMZ informs citizens about German development cooperation. This is not one-way traffic: we offer opportunities for dialogue, for example in the context of the Charter for the Future ONE WORLD – Our Responsibility (www.zukunftscharta.de), and promote individuals’ personal commitment to a better world through ICTs. Another aim of doing this is to make sure that our citizens and partners can have their say.
Responsiveness to the needs of citizens in the Palestinian Territories: the Dooz platform is promoting political dialogue between the population and local authorities in Nablus.

Political decisions are usually taken behind closed doors in the Palestinian municipality of Nablus. The inhabitants of the Palestinian West Bank are neither asked for their opinion, nor involved in decision-making. Consequently, they have no way of understanding what their taxes are spent on, for example. This prompted the Deutsche Welle Akademie (DW) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in Nablus to set up the online platform Dooz, the centrepiece of the BMZ-financed Go Local programme. The news portal is intended to initiate dialogue between citizens and politicians. However, it also reports on the public hearings held on local policy issues, which were introduced with assistance from German development cooperation. The aim is to prepare citizens fully for the hearings and provide them with background information. This way citizens can ask questions or make suggestions about issues that directly affect them, like public transport or the water supply, for example.
Around the world, there are nearly 250 million international migrants, people who are living in a country other than the one where they were born. There are currently more than 65 million people who have been forced out of their homes by war and persecution. About 40 million of them are internally displaced persons (IDPs). Digital solutions can help both to harness the potential of migration and improve the living conditions of migrants, refugees and IDPs. The communities hosting the displaced people can also share in these benefits.

For example, people moving from place to place use digital technology to stay in contact with their private and professional networks back home and can thus facilitate knowledge transfers between their host country and country of origin. Price comparison websites for remittances from migrants and refugees to their country of origin increase transparency and help to identify the cheapest money transfer service. Digital approaches can give displaced persons access to education and the labour market. This can improve their future prospects and create jobs.

We see huge potential in the IT sector as an engine of employment. Indeed, it is the sector with the highest growth rates in many migrants’ and refugees’ countries of origin. Demand for highly educated IT professionals on the labour market is rising every day.

Objective 3: Helping forcibly displaced persons
3.1: Harnessing the Opportunities Offered by Migration

We can use digital solutions to help migrants contribute towards improving living conditions in their countries of origin.

There are many opportunities, especially in financial services and financial education: the BMZ price comparison portal, www.geldtransfair.de, makes the market for foreign transfers more transparent, and already covers more than 20 countries. Migrants and refugees can use it to compare the costs and terms of remittances to their country of origin and learn about the opportunities and risks associated with international payment services. This offers them security and enables more money to reach their families and friends.

Refugees, too, send and receive money transfers. Digital financial services, like sending remittances and depositing savings by mobile phone, can be extremely helpful, especially in situations where access to a regular bank account is impossible. Mindful of this, the BMZ is supporting the establishment of digital services in Jordan to facilitate the sending and receipt of money transfers for the host population and for Syrian refugees.

Digital approaches can simplify not only capital transfers, but also exchanges of know-how. For instance, the BMZ is supporting cooperation between an Ethiopian and a Cameroonian migrants’ association. The objective is to make theoretical knowledge acquired at German universities and practical industrial experience available to university students in both countries of origin via an online platform. In addition to online resources and seminars, the offer ranges from supervising master’s theses to on-site seminars and exchanges with academics and practitioners among the diaspora and from the universities involved. This will not only reap benefits from the connection to Germany, but also promote South-South exchanges.

3.2: Not Leaving Behind Any Lost Generation

Many forcibly displaced children and young people have no access to education. They cannot complete their education (or even start it in the first place). Refugee situations are becoming increasingly protracted, raising the danger of creating a ‘lost’ generation. Our core principle on the basis of the 2030 Agenda and the obligations of the UN’s World Humanitarian Summit is to “leave no one behind”! Education improves people’s chances of employment and at the same time enhances their future prospects in life.

Consequently, one focus of our commitment is on education and vocational education and training for refugees and internally displaced persons. We provide university scholarships and training courses in Jordan to Syrian refugees and young people from their Jordanian host communities. Initiatives like the German organisation Kiron Open Higher Education give displaced persons an opportunity to continue their university studies online, conclude their degrees and shape their own future prospects. We will continue to step up our commitment to provide vocational ICT courses, for example in Iraq, Mali and Somalia.

3.3: facilitating the return home

We intend to offer advice and support services in digital form to refugees and migrants wishing to return to their country of origin. Often, once back home they find themselves with nothing. We want to offer debt counselling and use ICTs to highlight employment opportunities and create jobs.
Creating prospects: jobs for 8,000 software developers in Tunisia

Even five years after the revolution in Tunisia, high youth unemployment is a major problem facing the country’s young democracy. Young people between the ages of 15 and 29 account for just under 30 percent of Tunisia’s population. They are particularly hard hit, in many cases on a long-term basis, by unemployment and a lack of prospects. As a way of offering young Tunisians economic prospects in their home country, the BMZ is supporting innovative approaches to education and training. In a first step, more than 8,000 young people from all over Tunisia, selected from among more than 26,000 registered applicants, were trained to become software developers by following a six-month course on an online learning platform. As part of a youth employment project, they developed more than 1,000 new smartphone applications (apps) for the national and international market. Microsoft and several Tunisian private companies are supporting this innovative advanced training course.

The project stems from an initiative taken by the Tunisian Ministry of Communication Technologies and Digital Economy and is funded by the BMZ’s special initiative aimed at stabilising and developing North Africa and the Middle East. The objective is to develop the digital industry into an economic growth sector and promote business start-ups that create future-oriented and long-term job prospects for young people.
Objective 4: Creating future-proof jobs

We want to boost revenue for the local digital economy and create fairly paid jobs and opportunities. To this end, we are promoting employment and innovation in our partner countries by advising and mentoring start-ups and entrepreneurs, from the drawing board to market readiness. However, demand on the local market is often only weak, inhibiting sustainable economic development in our partner countries. For this reason, we want to work more intensively with the German, European and local digital business communities to support economic growth in our partner countries. Accordingly, we are forging new alliances with large and medium-sized companies as well as with start-ups. We focus not only on conventional IT companies, but on any company which has recognised that the digital revolution necessitates a rethink in all sectors (logistics, health, administration, mobility, transport, etc.). The aim is to promote partnerships for the benefit of the partner countries and Germany. This is why the BMZ developed its Development Partnerships with the Private Sector (develoPPP programmes) and two initiatives: the Strategic Partnership for a Digital Africa and the Tech-Entrepreneurship Initiative – Make-IT.
4.1: SHAPING THE DIGITAL TRANSFORMATION DYNAMICALLY AND FAIRLY

Germany’s digital economy has ‘global champions’ and ‘hidden champions’ in various industries, from Internet start-ups and digital medical technology innovators to developers of sensor technology, logistics and industrial process automation.

The German economy is a world leader in areas like logistics, health and energy in particular. Close interaction between applied research and practice in Germany and the presence of international networks of innovators and diaspora provide solid foundations for collaboration between development policy and German businesses. But if the climate for investment in the digital economy is to be favourable, there must be enough professionals with practical IT know-how on the ground. Basic laws, institutions and infrastructure for digital business models must also be in place. The BMZ is promoting these framework conditions in its partner countries.

Today already, key innovations are being made in many developing and emerging countries. We therefore see great potential in start-ups and in the developer scenes in Asia, Africa, Latin America and Eastern Europe. We want to encourage these young tech entrepreneurs and help them apply ICTs safely and profitably and deploy their innovations and business ideas for sustainable development.

For these reasons, the BMZ teamed up with the German private sector to initiate a Strategic Partnership for a ‘Digital Africa’. Through the partnership, we want to bring together the expertise and resources of Germany’s private sector with established ICT companies, start-ups and entrepreneurs in partner countries, to develop new business solutions for a digital Africa. We intend to support digital booms in the places where they occur, learning from and with Africa.
4.2: PROMOTING LOCAL INNOVATION AND GETTING IT ON TRACK

We support entrepreneurs and start-ups in all phases of their development, from the drawing board to the marketable product, and thereby promote innovation in our partner countries.

What innovations are we talking about here? We look behind buzzwords like ‘big data’, ‘mobile Internet’, ‘digitally manufactured goods’, ‘the Internet of Things’, ‘drones’ or ‘3D printers’. Together with researchers and our partners from developing countries, we identify how the megatrends underlying these concepts can be harnessed to attain development objectives: faster production of goods, better climate protection based on reliable data about pollution and traffic, the decentralisation of knowledge, and so on.

Open production processes and digital production sites – like so-called ‘maker spaces’ and fabrication laboratories or ‘FabLabs’ – promise special advantages for developing countries. They enable knowledge, software and blueprints to be shared freely and further developed worldwide. For example, the Global Village Construction Set – GVCS platform affords access to digital plans for agricultural machinery and also provides precise instructions. Such digital systems of networked, open production are still only in their infancy. Yet they have huge potential for innovation and development. In future, key goods may end up being designed more quickly, cheaply and decentrally and manufactured locally anywhere in the world.

Our Tech-Entrepreneurship Initiative – Make-IT combines the strengths of different support measures for entrepreneurs from the digital economy and helps them gain access to training, mentors, financing and contacts at all stages of their development. Our objective is to ensure that innovators can focus on their products and become attractive for investors. To achieve this, we enhance their ‘ecosystems’ and workspaces, such as innovation hubs, by bringing together local knowledge and international expertise. In this connection we will deliberately promote women as role models in the industry.
Objective 5:
Safeguarding human rights and ensuring participation

Who can view my data? How transparent am I? Who can retrace my tracks on the Internet? Personal data are being gathered and sold, and private facts are entering the public domain in new ways. This can have particularly fatal consequences in unjust regimes. The less power is legitimised by the people, the wider the spread of censorship and repression. On the one hand the Internet offers opportunities to participate, whereas on the other it is associated with intimidation, censorship and surveillance. Yet digitally organised resistance can destabilise regimes and strengthen good governance.

We want to protect and shore up human rights, fundamental rights and freedoms worldwide. That’s why we’re taking a stand internationally and developing principles for value-driven, human rights-based development cooperation in the digital transformation.
5.1: WE'RE TAKING A STAND ON INTERNET-RELATED POLICY ASPECTS OF THE DIGITAL TRANSFORMATION

In addition to offering many new opportunities, the digital transformation is also confronting our partner countries and Germany with fresh challenges. The Internet is being controlled in more and more places, content is being censored and freedom of expression online is being restricted. We’re championing the defence of democratic fundamental rights, like the protection of privacy and freedom of expression. As a major European player, German development policy is taking a stand on these rapid developments in Internet policy, imposing high technical and ethical standards on our own projects and advising partners on corresponding measures and policies.

At the international level, the Principles for Digital Development (see http://digitalprinciples.org) provide a valuable framework and forums for exchanges. In this connection, German development cooperation is pursuing a value-driven, liberal, democratic, human rights-based, rule-of-law approach. We raise our positions in political bodies like the global Freedom Online Coalition, guiding bodies like the Internet Governance Forum (IGF), at conferences and in relevant development reports.

German development cooperation promotes net neutrality and data protection. After all, only if we have a free and fair Internet can we create an open knowledge society in which people can shape their own environment.
5.2: PROMOTING DATA PROTECTION, SAFEGUARDING NEUTRALITY AND USING AN OPEN-SOURCE APPROACH

We advocate non-discriminatory Internet access. A free and fair Internet can create an open knowledge society worldwide and fresh opportunities for small businesses and citizens to shape their digital environment. Open standards for software, interfaces and data will also help to achieve this. Consequently, we champion open data and open-source software and knowledge, that can be safely used by everyone and freely adapted by users in developing countries and shared with others. In addition, open educational resources (OER) can be made available to a wide public at little cost and be adapted to local requirements.

Germany is a leader in data protection. The BMZ respects, protects and promotes fundamental human rights, such as the right to privacy and the right to freedom of expression. We want to apply and enforce data protection on the Internet.

*The Digital Safety training platform in Uganda: where journalists and bloggers learn how to protect their data*

In the Ugandan capital, Kampala, the main mass media are concentrated together in a small area, yet 87 percent of the country’s population lives in rural areas, where local radio stations are the most important – and often only – source of information. Approximately 75 percent of them are owned by members of the government and most of them are integrated into a complex, state-controlled system. Surveillance and eavesdropping are commonplace, too. Most journalists, bloggers and other media workers in Uganda are unaware how important data security is for themselves and their sources. Together with its partner organisations, DW Akademie trains journalists to become experts on digital security and qualifies them to train others as well. These mentors form a network that stretches right across Uganda. They advise their closest associates, boost their awareness of digital risks and offer practical assistance on securing computers, phones and other devices to protect against potential attacks or eavesdropping attempts from outside. At the same time, the Ugandan network of mentors is involved in developing an ‘open mentoring app’ specially tailored to their needs, providing up-to-date information and tools on data security.
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