The CDR Initiative & Sustainable Development Goals

Measures to help achieve the

17 Sustainable Development Goals (SDGs) of the United Nations

The Corporate Digital Responsibility Initiative
– a joint platform

The CDR Initiative was launched by the Federal Ministry of Justice and Consumer Protection (BMJV) in May 2018 in collaboration with companies from various industries. The following companies are currently actively involved in the CDR initiative (alphabetically): Allianz Deutschland, Daimler AG, Deutsche Bahn AG, Deutsche Telekom, IBM Deutschland, ING, Miele, Otto Group, Rewe Group, SAP, Telefónica and Zalando. Further details and documents about the CDR Initiative are available on the website: www.bmjv.de/CDR-Initiative.
[Note: This link is outdated. For more information, please refer to www.cdr-initiative.de]

No unified definition of Corporate Digital Responsibility (CDR) has yet to become established. Generally speaking, however, the concept refers to the principles of corporate responsibility within the context of the digital transformation process. It is not restricted to compliance with statutory requirements and existing standards: the broader field of voluntary commitment is also covered. Through its work, the CDR Initiative hopes to contribute towards defining and shaping the CDR concept and aims to advocate for responsible action in the digital world by working with companies, researchers and civil society.

The development of new digital technologies and the resulting digitalisation of many areas of work and life can play a key role in implementing the UN resolution "Transforming our World": The 2030 Agenda for Sustainable Development" along with its 17 Sustainable Development Goals (SDGs) and the German Sustainability Strategy. In particular, positive effects could be achieved with regard to sustainable development and production (SDG 12), the sustainable development of industry and infrastructure (SDG 9), ensuring barrier-free access to education (SDG 4), the fight against climate change (SDG 13), gender equality (SDG 5), reduced inequalities (SDG 10), strong partnerships (SDG 17) and solidarity in society in general (SDGs 8, 10 and 12 in particular). Responsible companies should identify and utilise the possibilities for sustainable development which are available to them as a result of digitalisation. At the same time, care should be taken to ensure that the digital transformation does not undermine the goal of sustainable development, for example through the increased use of energy and resources, rebound effects or negative effects on the environment.

17 Sustainable Development Goals (SDGs)

The SDGs that are the focus of this brochure are highlighted in the following overview:

1 NO POVERTY End poverty in all its forms everywhere.	**2 ZERO HUNGER** End hunger, achieve food security and improved nutrition and promote sustainable agriculture	**3 GOOD HEALTH AND WELL-BEING** Ensure healthy lives and promote well-being for all at all ages.
4 QUALITY EDUCATION Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.	**5 GENDER EQUALITY** Achieve gender equality and empower all women and girls.	**6 CLEAN WATER AND SANITATION** Ensure availability and sustainable management of water and sanitation for all.
7 AFFORDABLE AND CLEAN ENERGY Ensure access to affordable, reliable, sustainable and modern energy for all.	**8 DECENT WORK AND ECONOMIC GROWTH** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.	**9 INDUSTRY, INNOVATION AND INFRASTRUCTURE** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.
10 REDUCED INEQUALITIES Reduce inequality within and among countries.	**11 SUSTAINABLE CITIES AND COMMUNITIES** Make cities and human settlements inclusive, safe, resilient and sustainable.	**12 RESPONSIBLE CONSUMPTION AND PRODUCTION** Ensure sustainable consumption and production patterns.
13 CLIMATE ACTION Take urgent action to combat climate change and its impacts.	**14 LIFE BELOW WATER** Conserve and sustainably use the oceans, seas and marine resources for sustainable development.	**15 LIFE ON LAND** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.
16 PEACE, JUSTICE AND STRONG INSTITUTIONS Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.	**17 PARTNERSHIPS FOR THE GOALS** Strengthen the means of implementation and revitalize the global partnership for sustainable development.	

Source: www.17Ziele.de

Measures that can help achieve the SDGs

The following measures are selected examples and have been assigned to individual SDGs. The examples and their assignment to the SDGs are intended to serve as a basic guide and do not claim to be exhaustive. Moreover, they merely provide a snapshot, and any assessments carried out at a later date may lead to different conclusions.

Learning for all – a driving force for the future

Digitalisation is changing jobs, meaning that new skills are now required. Those who understand what lies ahead can more confidently respond to change. To prepare all employees for the future, it is important that digital education is made available to everyone regardless of their rank, profession or role. A learning culture must therefore be created in which learning is seen as an integral part of working life and employees are given the opportunity to understand digital topics and new ways of working. There are many different formats to choose from – whether it be method workshops, presentations on the digital transformation, or group testing of new working methods.

For example, as part of the TechUcation initiative, employees of the Otto Group can use the Masterplan video learning platform to develop a common basic understanding of the topic of digitalisation and deepen their knowledge in more advanced courses. Deutsche Bahn AG also offers a centralised web-based learning platform and holds "digital base camps" in order to provide fresh impetus. ING uses short explanatory videos ("*Quintessenzen*") to provide its employees with concise information on work-related topics such as programming or artificial intelligence, or on topics such as "What happens during a Google search?" or "Green Digitalisation".

Changing roles for the future

The ongoing digital transformation has not spared the world of work, where it has brought changes in the form of new digital business processes. The demand for IT specialists is increasing as a result, but the lack of qualified personnel is posing a major challenge to many organisations. Companies can address this problem by promoting digital skills in a targeted way, for example by cooperating with educational institutions for trainees.

In addition, specialised programmes can help existing employees to become qualified as IT specialists. ING, for example, offers its employees the opportunity to transfer internally to a job with better future prospects through its "Smart Movers" programme.
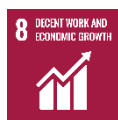
Digital learning formats within the supply chain

In the past, on-site training was often used to discuss the improvement of working conditions in production facilities around the world. Due to the Covid-19 pandemic, however, new digital formats have had to be created. Face-to-face events are being converted to remote workshops, supplemented by new interactive elements. Digital training helps to maintain the support of suppliers and factories in improving production conditions and enables a constant flow of information. With this in mind, the Otto Group has redesigned a multi-month training programme, which usually involves all-day group workshops and individual factory visits. The experience gained here will have an impact on training formats in the future.

Focusing on cybersecurity

With the pervasive use of technology and ever increasing volumes of data, the vital importance of information security (cybersecurity) is becoming more and more apparent. Companies have the fundamental task of ensuring that all customers, business partners and employees are protected, and this also means minimising the risk of cyber attacks. Given the ever-changing nature of these challenges, collaborations across company and country boundaries are essential. A strong network of Chief Information Security Officers (CISOs), for instance, can stimulate knowledge sharing between companies. Deutsche Bahn, for example, is taking this step and cooperating with other European rail companies, particularly in France, Austria and Switzerland, as these countries are facing similar issues with regard to information security.

Reducing inequalities using Open Data

Travellers with special mobility requirements often face obstacles on public transport that others may not even notice, such as a broken lift. The use of data can help to improve the travel experience – particularly for travellers with mobility impairments. The "open source" principle enables companies to develop such solutions in cooperation with external actors. One example is Deutsche Bahn's open data portal, which makes data freely available for applications such as the barrier-free app and the "Lift Watchdog", which monitors whether train station lifts are in working order. External companies such as the Berlin-based association Sozialhelden, for example, also use the real-time data to create solutions which facilitate the mobility of people in their everyday lives.

Smart lighting

Saving energy using intelligent lights – that is the ambition of Smart Street Lighting. The system is based on a central light management application with control points in or within the proximity of luminaries which enables cities to remotely control all street lights. Light cycles can be programmed and criteria can be set to specify brightness. Motion sensors are also used to detect pedestrians or road users, automatically switching on the light or changing it from dimmed to full brightness. Using this system, Deutsche Telekom is reducing energy consumption, optimising maintenance and saving between 40 and 70 percent in energy costs.

Communicating traffic

Hazards caused by certain road conditions such as traffic jams, areas of heavy rain and wintry roads are often not immediately apparent. Communication between vehicles and with the transport infrastructure, known as "Car-to-X" communication technology, can bring about safety improvements by providing relevant information. For example, if a vehicle's sensors detect slippery road conditions, this information – along with the relevant location data – is transmitted to the back end in real time via the mobile phone network. Furthermore, the technology can also preserve resources. In cooperation with the Zollernalbkreis district in Baden-Württemberg, Mercedes-Benz is trialling the use of Car-to-X communication for winter clearing services.

The anonymised information sent by the vehicles is displayed on digital maps in real time at the two road maintenance depots in the Zollernalbkreis district. This means that, in future, the winter clearing service can be deployed in a more targeted manner and the use of grit can be optimised.

Digital Rail for Germany

A high level of passenger and freight transport on the railways helps to reduce CO_2 and thus contributes towards climate protection. In the coming years, the German rail network is set to be equipped with the European Train Control System (ETCS) and digital signal box technology. In combination with the future technologies of digital railway operations, this promises an increase in capacity on the German rail network of up to 35 percent, higher quality and punctuality, lower costs in maintenance and operation thanks to the modern, uniform system architecture, as well as European interoperability of the systems and improved energy efficiency. The new company established by Deutsche Bahn AG, Digitale Schiene Deutschland (Digital Rail for Germany), coordinates projects for technological change on the railways and brings together the technologies of the future.

Supporting agriculture in the face of climate change

The effects of climate change will be felt everywhere and pose a major risk to farmers and their crop yields in particular. The innovative yield index insurance uses a range of geographical and meteorological data to determine the individual risk for specific farmers' fields and provide accurate yield forecasts. This allows farmers to gear their businesses – particularly their seed, fertiliser and crop protection strategies – towards the advancing climate change, to adapt to the various influencing factors such as heat, drought or frost, and to protect themselves against losses. The Allianz subsidiary Münchener & Magdeburger Agrar AG is helping farmers to better manage climate change by using digital tools.

Optimising public transport using mobile data

Around 70 per cent of global greenhouse gas emissions are generated in cities, which gives them a crucial role in the fight against climate change. A public transport system that is optimally tailored to users' needs can increase consumer acceptance, reduce private transport and therefore reduce CO_2 emissions. Data generated in everyday life, such as mobile phone data, can be used to carry out analyses and to implement innovative measures in order to help cities achieve their climate goals and clean air objectives. On the basis of anonymised statistics, the Berlin Transport Authority (*Berliner Verkehrsbetriebe*) optimises its service by analysing boarding, alighting and transfer behaviour as well as data on transport interconnectivity. This analysis is based on mobile phone data from the Telefónica Germany network, which are compiled in cooperation with the partner company Teralytics. This is done in strict compliance with data protection regulations, so that no conclusions can be drawn about individual persons.

Digital documentation of protected areas

Protected ecological areas are a key factor in sustainable urban and rural development and must therefore be given due consideration in infrastructural planning projects. Each of these areas has different restrictions and requirements, which are set out in protected area ordinances. With the help of geographical information systems, it is easier to take these areas into account and identify points of contact with nature. The information systems of Deutsche Bahn, for example, use data on railway lines and sites, as well as all of the digitally available information on protected areas in Germany, to assist in the planning of construction projects and maintenance work.

Preserving resources through 3D printing

Components can often be unique – particularly in the industrial goods sector – and a great deal of time and material is required to keep them all available, even in small numbers. 3D printing technology can provide a solution that preserves resources and ensures efficient production and maintenance. In the 3D printing process, digital measurement data are used to manufacture components. The original parts are measured or scanned in advance and then translated into digital measurement data.

The component is then assembled layer by layer, regardless of whether it is made of plastic or metal. Deutsche Bahn, for example, uses this process in order to produce spare parts for trains.

Predicting repairs

Technical defects in high-quality household appliances can often be repaired by customer service personnel. This requires a high level of expertise and elaborate logistics processes. By optimising job preparation in particular, customer service can be provided in a sustainable and resource-efficient manner. For this reason, Miele is developing an assistance tool to support its service technicians in troubleshooting and job preparation. The software uses artificial intelligence to detect faults and predict which replacement parts are needed. This avoids duplicate journeys and minimises the effort involved in spare parts logistics.

Blockchain unchained

Many consumers are interested in obtaining more detailed product information, such as the origin of goods. This information can help people to make sustainable purchasing decisions. Technologies such as blockchain can create transparency by tracking and tracing products. Bumble Bee Foods, a company that produces canned fish in North America, uses the SAP Logistics Business Network material traceability solution, which is based on blockchain technology. The technology allows consumers to track the journey of fish "from bait to plate" using a barcode search, providing detailed information on the origin of the products from their capture in Indonesia to being sold at retail. This kind of sustainable supply chain provides security for the income and work of fishermen, helps to protect the environment and increases food transparency and safety.

Creating transparency with QR codes

While additional product information is critical in helping consumers to make sustainable purchasing decisions, it can be difficult to place this information directly on loose products or on products which have a lot of packaging. However, QR codes make this possible and allow these products to be traced.

REWE and PENNY, for example, have been selling bananas marked with a QR code since mid-2019. When customers scan the QR code with their smartphone, they receive additional information on the origin of the bananas, the plantation on which they were grown, on projects aimed at improving local working, social and environmental conditions, and information on product certification. Digital tools can therefore help to identify the origin of products and provide additional information about their sustainability.

Sensible, environmentally-friendly travel

Digital applications can facilitate sustainable travel plans and raise consumer awareness of the sustainability of different modes of transport. For example, comparison calculators can be used to calculate the CO_2 emissions, energy consumption and pollutant emissions of different modes of transport. Data analyses on past behaviour can also raise consumer awareness for climate-friendly travel. Deutsche Bahn provides such a comparison calculator on its website. In addition, a dashboard also shows individual carbon footprints over the past quarter or year – across all modes of transport.

Optimising routes based on data

E-commerce is currently booming, with more and more goods being delivered to customers' doorsteps. It is therefore increasingly important that measures are taken to reduce the associated pollutant emissions. One such measure, intelligent route planning, involves the dynamic optimisation of shipment sequencing and routing on the basis of relevant data. This results in a more precise and efficient delivery process due to "smoother" travel (less stop-and-go) as well as a significant reduction in CO_2 emissions. The Otto Group subsidiary Hermes, for example, is currently already able to reduce its number of kilometres driven per day by around 7 per cent with the help of the digital route planning tool. This equates to an estimated 12-16 tonnes of CO_2 (depending on the fuel type and average consumption of the vehicle).

Reducing returns with AI

In online shops, consumers are given size recommendations which are helpful and specific to varying degrees. With the help of artificial intelligence, recommendation tools can respond even better to the needs of customers. While such measures generate additional personal data which must be handled responsibly, they have been proven to reduce overbuying and returns. This significantly increases customer satisfaction, as it gives them a clearer sense of which size is right for them and avoids unnecessary trips to the parcel collection point. Furthermore, the reduction in the number of returns considerably lowers CO_2 emissions.

This type of a recommendation tool is used by bonprix, for example. Similarly, Zalando is also exploring new technologies such as visual fitting. In the future, methods such as the use of smartphones to generate 3D images of customers will be explored. This will ensure that customers receive their correct size with a single click and that no returns are required. A prerequisite for this is that the consumers are willing to provide such information.

Sustainable shopping

The call for sustainable consumption is also growing louder in the fashion industry. However, in the boundless world of online shopping, it can be difficult for consumers to identify sustainable fashion. In order to provide the necessary transparency, OTTO and Zalando now allow users to search for sustainable fashion directly by means of a "sustainability filter". In addition, it is important to enable industry-wide comparisons in the fashion industry in order to identify areas for optimisation and to work together on solutions. To this end, Zalando is working with the Sustainable Apparel Coalition (SAC) and Higg Co in order to introduce a binding sustainability rating for all brands sold on the platform. By means of a rating tool, brands and retailers will have the opportunity to be measured on the basis of ethical and ecological parameters such as human rights, fair wages or CO_2 emissions.

Better packaging

More and more people in Germany are ordering products online. But this also means more packaging waste – and this has to change. Accurate digital calculation models allow packaging to be customised and utilised to its optimum capacity, meaning that air pockets (e.g. in boxes) can be minimised. This means that truck capacity can be utilised more efficiently and CO_2 emissions per shipment are reduced. In addition, traditional packaging can be replaced by reusable shipping bags, for example, or by plastic bags that have been collected from the environment and recycled by globally networked initiatives. Such alternative solutions are being piloted by OTTO together with the start-ups WILDPLASTIC, RePack and Cadel Deinking.

Decision-making aids for switching to electric vehicles

While electromobility can make a major contribution to achieving the German government's climate goals, many consumers have reservations about the practicality of electric cars for their own everyday lives – for example when it comes to the vehicle's range. Data on individual mobility behaviour can create transparency in this respect, providing an objective basis on which to make the decision to switch to an electric car. Corresponding analyses can show whether regular destinations could be reached with an electric motor and can provide information about the energy requirements and available infrastructure. One digital application that enables such an analysis is the EQ Ready App from Mercedes-Benz. After recording the driving routes – irrespective of the vehicle brand – the app calculates whether an electric or hybrid vehicle would suit the individual's mobility behaviour.

Better driving with digital assistance

Emissions of CO_2 and other pollutants can not only vary between car models, but also according to how the vehicle is driven. The networking of various types of data in assistance systems can help with anticipatory driving and therefore reduce pollutant emissions. Navigation data, traffic sign recognition and information from intelligent safety assistants (radar and stereo camera) are linked together for this purpose.

The ECO Assistant from Mercedes-Benz, for example, provides information on when to take the foot off the accelerator (e.g. because a speed limit is approaching) and optimises vehicle behaviour when coasting, in particular to determine whether driving resistance should be minimised ("sailing") or the battery should be charged efficiently ("recuperation").

Using technology to prevent the death of bees

The bees are dying. The number of bee colonies has fallen dramatically over the last fifty years. Pollination by honey bees is indispensable for agricultural production. If they were to become extinct, researchers believe this would have fatal consequences for humans. Together with the start-up BeeAnd.me, Deutsche Telekom has developed an energy-efficient technology that uses various sensors to store information in the cloud regarding the weight, humidity and sounds of a beehive. This allows beekeepers to assess the condition of the bee colony online. Thus, there is no need for additional travel and the bees are not disturbed.

Increasing crop yields using AI

All over the world, climate change is severely putting farmers to the test. Farmers from coffee-growing regions in Latin America and Africa, most of whom live on less than two US dollars a day, are being hit particularly hard. A chemical analysis of the soil is crucial to increasing crop yields. However, this process is complicated, time-consuming and expensive. Together with the non-profit organisation Enveritas, IBM is piloting the AgroPad prototype. With the help of artificial intelligence, the AgroPad can chemically analyse soil in under ten seconds. The technology will be made available free of charge to farmers in coffee-growing regions.

Publication information