

Sustainable Digitalization



Guidelines For A Digitalization We Need For The Future We Want

Digitalization is coming. And in many cases has already arrived. But the impact it will have on societies, human lives and the planet still remains to be seen. If digitalization truly is an element of great social change, it has to be sustainable, fair, and relevant to all people and working for the common good. Without proper discussions on benefits or risk, without democratic control and regulations, technologies have the potential to lead to more and new social, economic and ecological problems.

Important first steps have been made to discuss the role of technology and the digital world. Yet we have to continue to actively shape the path of a truly sustainable digitalization.

As a framework, in this paper we propose one of the most comprehensive sustainability concepts ever agreed on by the world: **The 2030 Agenda with its Sustainable Development Goals (SDGs)**.

In 2015, all UN Member States adopted the SDGs. These goals tackle the most important challenges of our times and propose a large variety of sustainable policy solutions. Among them are goals to reduce poverty and hunger, establish sustainable economies and sustainable use of resources, bring peace, as well as access to free and fair institutions and justice. All these aspects and more are crucial for a sustainable digitalization.

With this discussion paper,

we want to contribute to the discussion on sustainable digitalization. All our suggestions are just that: Ideas to find ground rules for a sustainable digitalization, widening the discussion on specific elements of digitalization, and strengthening the dialogue between environmental, development, social and IT/digital NGOs.

The ideas are structured along the SDGs, some goals are combined to avoid duplication. Many of our ideas and suggestions were inspired by publications and positions from fellow civil society organizations.

Get Involved

This is an attempt to foster an exchange and collect a wide range of positions on sustainable digitalization.

Do you have suggestions? Disagree or agree with something? Anything missing? Who else should be involved? Where to go from here?

Let us know and get in touch!

www.sustainable-digitalization.net

Ground Rules for a Sustainable Digitalization

- (1) A healthy environment and planet, the protection of human rights and a good life for all are more important than digitalization.
- (2) Digitalization is nothing new per se, let alone a break in our social, economic and political lives, but follows trends that have been ongoing for decades. To be sustainable, digitalization must serve the common good within the planetary boundaries. It has to be decoupled from the exploitation of people and planet. This can only be achieved if digitalization does not promote further deregulation and privatization, or the growth of a few all-powerful state and corporate monopolies. In order to be truly relevant for all, digitalization has to be anchored in global democratic discourses.
- (3) The non-digital world must continue to exist freely. Not everything that can should be connected. Not everyone and every place has to be part of the digital development.
- (4) Any technical and digital advancements have to serve humanity and subject to fundamental and human rights, rule of law and democratic principles. Governments and private actors need to be held accountable.
- (5) Digital technologies can be tools for mass surveillance, with the power to silence free speech and freedom of information. They are also the basis for an ever growing business model. Thus, the control of data has to lie with people providing the data. Governments and international or regional institutions, such as the EU, have a responsibility to protect the rights, privacy, self-determination and autonomy of its citizens and ensure a free basic democratic order. Governments and corporations must follow the principle of data minimization. Governments have to prosecute offences against data privacy violations by commercial enterprises and government institutions. Data-driven business models need to be regulated properly.
- (6) Even in a tech- and algorithm-based world, responsibilities of decisions must always lie with and be controlled by humans. In order to ensure sovereignty of decisions and self-determination of individuals we need to have transparency on commercially and state-run technology, and especially on algorithms. We need public discussion on what happens once algorithms exceed human comprehension both in ethical and legal terms as well as in terms of responsibilities of governments and private entities.



End poverty in all its forms everywhere and reduce inequality within and among countries

(1) Access to the internet should be a fundamental human right as it is often the basis for cultural and political participation. We need policies for free, equal and affordable access to the internet for all to be developed with users and concerned parties. Governments have to commit to a just distribution of digital resources. At the same time, digital skills or access to the internet cannot be a condition or requirement for full participation in society, politics or economies.

(2) When it comes to developing state-led digital strategies, all stakeholders need to be involved. These strategies need to be relevant for the wider public and not just selected groups. Collaboration between governments and IT-companies for public digital development have to be transparent and monitored by relevant actors, in order to prevent further commercialization of data, expansion of monopolies and limitations of democratic principles such as freedom of information. Governments should support decentralized, citizen-based projects.



2 End hunger, achieve food security and improved nutrition and promote sustainable agriculture

(1) Globally, a decreasing number of corporations controls food production and distribution, leading to a growing centralization of agricultural skills and knowledge. Digital technologies such as precision-farming have become a new field of investment for these corporations. At the same time, IT-companies are entering the food sector. In order to ensure sustainable, people-centered food systems, governments have to limit market shares controlled by single corporations and create and implement legal instruments to dissolve agricultural oligopolies. Digital genetic information should not be a tradeable good. Intellectual property rights of agricultural knowledge as well as respective data have to lie with peasants, farmers, farming communities the landless, nomadic communities and indigenous peoples.

(2) Digital farming technologies must serve the farmers, support them in their daily life and not create further structures of dependence. A cooperation between farmers and digital experts based on open source technologies should be strengthened and supported.

(3) A non-digital kind of agriculture, with agro-ecological farming methods, peasant seed systems, free access to and exchange of seeds, local markets with public infrastructure and a democratic food system, has to continue to exist and be guaranteed eg. by governments.



3 Ensure healthy lives and promote well-being for all at all ages

(1) Investments in the health sector must first and foremost be directed towards realizing key demands of employees and trade unions such as decent pay and work, as well as a fair, accessible, and affordable health sector.

(2) Use of (Big) Data in health and care sectors has to be regulated and monitored. Online services in the health sector have to follow the highest security standards with offline options remaining in place. In health and care facilities, the protection of privacy has to be ensured by applying high data protection standards. Commercializing patient data has to be prohibited. The use of data must not lead to deterioration in insurance services. Limited capabilities to agree on the use of digital services must not be abused.

(3) Digital Services, such as care robots or communication and management software, have to service staff and patients, and not lead to even more work and financial pressure in health and care facilities. They have to be developed and applied in collaboration with staff, patients and relatives and respect patient's rights and dignity.

(4) The responsibility and final decision on medical procedures must always lie with humans. Transparency on digital measures and algorithms has to always be a priority and be accessible to patients and relatives with opting-out options.



4 Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

(1) Public projects and programs on digitalization should focus on overcoming the digital divide. Their purpose has to be to increase capabilities of all citizens and public institutions in e.g. data protection or virtual communication as well as to provide the basis for an inclusive discussion on possibilities and risks of technologies and the digital world.

(2) Governments, companies, schools and other institutes have to ensure the protection of children's data based on international ethical standards. IT-companies should refine tools, eg. password protections, age verification, filter or access granting, in order for parents to create an appropriate online environment for children.

(3) Teaching digital skills and supplying schools with digital equipment can be one element of a modern education system. However, lack of digital technology is in most cases not the most urgent issue of schools and other educational institutions. Funds and resources have to be allocated considering the needs of students for a proper and rights-based education.

(4) Ethics, sustainability and humans rights need to be compulsory subjects in computer science, informatics and other IT education.

(5) Public institutions and agencies have to urgently increase their digital literacy and better understand the role and impact of technology, software and algorithms, and of proper regulation. E-Government has to serve the people. This also includes the improving online accessibility of official documents and information, as well as strict regulation on the use of citizen's and non-citizen's data.

(6) Publicly financed science, their outcomes and content must be openly accessible and not be patent-protected. Publicly relevant data such as statistical records, weather data, geographical data and maps, satellite pictures and more should be open access even if they are not publicly financed. Cooperation between science, civil society, governments, companies and media on issues concerning digitalization has to be improved and supported.



Achieve gender equality and empower all women and girls

(1) In the work place, access to new digital technology and the design of flexible work hours and types must include gender sensitive measures and be in the interest of all the staff.

(2) Any developments leading to gender or otherwise based discrimination has to be properly regulated. This is especially the case for crowd-working platforms in the services sector. Standards of decent work must not be undermined by new work forms. Proper control and guidelines for platform economies is urgently needed.



Ensure availability and sustainable management of water and sanitation for all

(1) Digital technologies can help improve water infrastructure in many ways, including its collection, transport, cleaning, use and monitoring. Guiding principle for any integration of digital technology in the water sector has to be to make water provision sustainable, high-quality, socially just and economically viable.

(2) Digital technologies must not bring a further push for liberalization or privatization of water provision or disposal, limit the right to water or lead to a rise in prices of water services. Their use should be sufficiently regulated and prohibited if need be.



Ensure access to affordable, reliable, sustainable and modern energy for all and Take urgent action to combat climate change and its impacts

(1) First and foremost, we need an immediate fossil fuel phase-out. Digital policies, new digital research fields and economic interests should not obscure this political necessity. Similarly, nuclear energy is not a clean energy source and no alternative to fossil-based energy production. A sustainable digitalization can only be based on efficient, clean, fair, accessible, decentralized renewable energies.

(2) National, regional and global strategies and effective legislation to decrease the energy use of IT and communication technology are urgently needed. This includes ecodesign policies and comprehensive energy efficiency labeling. Future regulation should prohibit glued-in batteries or accumulators in electronic devices in order to ensure users to freely and autonomously replace them.

(3) The interlinkage between decentralized renewable energies and decentralized internet infrastructure has to be supported and expanded.

(4) Big IT-companies carry a social, ecological and economical responsibility to fight climate change. IT-companies have to move to 100% renewable energy in the next years, improve their energy efficiency and transparently disclose the source of their energy supply.



Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

(1) In order to prevent an increase of unemployment due to changes in a digital world's work place, we suggest a reduction of working hours down to 35-30 hours a week with a minimum of 30 vacation days. Freelancers and contract workers need to get the same social protection as the regular work force. Proper regulation of temporary work and contracted services need to be introduced and implemented. There should be no exceptions from minimum wage. This is especially important for platform economies.

(2) Clear rules and rights for unavailability and conditions for a healthy work-life balance need to be established in every company. Introducing efficiency or behavior controls, such as inactivity protocols, have to be prohibited. To counter cutback on labor standards, staff associations should be a requirement.

(3) Any introduction of new technologies in a company has to follow proper staff participation processes. This includes clearly stating their usage, goals, details of software etc. and appropriate staff training.

(4) A free and fair internet needs space and competition for alternative, non-commercial, non-monopolistic products. Therefore, antitrust and competition laws have to be rigorously applied – including in the case of digital companies. IT and digital companies have to pay taxes where they generate revenue. Effective measures against tax evasion and fraud have to be applied nationally and internationally, including the strengthening of tax bodies and international tax cooperation within the EU and in an open and democratic UN institution.



Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

(1) IT-systems have to be safe, thus private and public infrastructure has to be better protected by i.a. a security by design regulation of IT-technology. Governments and companies need to adequately protect citizens and customers against malware and hacker attacks. Not everything that can be connected to the internet should and has to be. In order to not endanger the right to privacy and freedom of the internet, decisions on internet safety measures have to be justified publicly or towards democratically elected decision-makers.

(2) Net neutrality should be protected by law to guarantee free and fair sharing of content online.

(3) When it comes to new technologies, such as blockchain, questions concerning access or design for e.g. human and civil rights, the protection of data, abidance to laws and regulations, responsibilities, as well as its environmental footprint need to be in the center of any discussion. Therefore, governments have to become more knowledgeable, act faster, and not be primarily guided by economic criteria.

(4) Dependence of public institutions on big IT-companies is a troublesome misuse of public money, a problematic interpretation of competition and procurement laws and often a safety issue. Public money should only be used for open source programs.

(5) Algorithm-based technology, including artificial intelligence (AI), has proven to exhibit biased outcomes due to the underlying data or social context. Human judgment is still needed to ensure AI supported decision making is fair. If needed, AI development and usage have to be subjected to much more rigorous public discourse and proper regulation in order to ensure its usage for the common good. The public interest should always be the main driver for public funding of AI. To ensure this, only open source software AI projects should be publicly funded.



Make cities and human settlements inclusive, safe, resilient and sustainable

(1) The reduction of any kind of cars or trucks and the expansion of a sustainable mobility sector, concerning both individual and commercial traffic, should be the main political goal in the face of the climate and air pollution crisis. In order to truly have a positive impact on climate change mitigation, any electricity for e-mobility has to come from renewable, decentralized sources. Due to its high material and energy costs and usage, self-driving cars can – if at all – only constitute one element in any modern traffic system.

(2) Higher taxes on parcels and packages along with decent wages for delivery staff, and the introduction of reusable packaging need to be linked to the discussion of digitalization in order to counter the socially and environmentally problematic increase of deliveries.



Ensure sustainable consumption and production patterns

(1) Fundamental human rights cannot be limited by terms and conditions of business. IT and digital corporations have a responsibility to uphold human rights. This has to be an integral part of business practices as well as national, EU and international regulation. Similar to the corporate accountability index, IT-companies should have to ensure that their technologies, algorithms and software do not violate human rights. The supervision of these processes needs to be independent, transparent and publicly accessible. Governments need to start meeting their obligations to protect human rights and the environment against harmful activities of corporations. Thus, the introduction and regulation of corporations' liabilities nationally and internationally is needed, including through the UN process towards a Binding Treaty on Business and Human Rights as well as the implementation of transparency initiatives along the value chain such as the Kimberly Process, conflict mineral laws or the UK Modern Slavery Act.

(2) The principles of privacy by design and privacy by default have to be applied. Governments should introduce data protection regulation and continue to improve and implement existing legislation such as the GDPR. E-privacy legislation needs to be adopted as soon as possible, including a regulation on the use of search engine data and communication software. Tracking has to be limited. Data processors have to ensure all regulations of data protection are applied during the whole process of data handling. A violation of data protection law or against fundamental rights has to be prosecuted. This includes rigorous and consequent follow-up on nuisances and scandals even if commercial interest might be impaired.

(3) Warranties need to become much more consumer-friendly. Transparency of a product's durability has to increase through a mandatory identification of its life span by the producer. This includes a labeling system that transparently and comprehensibly informs customers of maximum service life (e.g. of expandable parts), of durability, reparability and modularity of a product. Any case of planned obsolescence should be considered a criminal offense on the bases of "willful deception", and be regulated accordingly through consumer protection laws.

(4) The fundamental right to property should include the right to repair. All producers and retailers should make expandable parts accessible to all market actors during the service life of a product. The price of expandable parts needs to be reasonable and justifiable in relation to production costs. A legal claim for accessible expandable parts has to be ensured. Any data or documentation relevant for repairs as well as specific tools should be supplied to repair facilities at low to no costs. Information concerning repair-friendliness of a product has to be easy to spot for customers.



Conserve and sustainably use the oceans, seas and marine resources for sustainable development and Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

(1) Digitalization must not be a justification nor a driver for further exploitation of planet, nature and people. As most minerals and resources needed for digital technologies are still mined under terrible violations of human rights and environmentally disastrous conditions, all states and industries involved in mining and processing raw materials need to take responsibility in protecting human rights and the environment along the supply chain with proper due diligence. The purchase of raw materials cannot be primarily dominated by cheapest prices. This needs to be reflected in foreign trade and economic policies as well.

(2) Resource consumption, especially in countries of the Global North, has to be reduced to a globally just and sustainable level. Changing economic priorities towards a circular economy, ambitious recycling goals, and a product design based on reusage, reparability, durability and recycling, can significantly decrease resource needs for digitalization. Resource intensive products with no apparent benefit to society, such as RFID tags, should be banned.

(3) The advertisement of new products should have to include references on the resource and energy consumption in its production process.

(4) Any political and economic processes looking for new mineral resources within the deep sea have to stop. Any member state of the International Seabed Authority (ISA) as well as the ISA itself should rather work according to the convention's mandate towards the protection of the oceans for all of humankind. No scientific projects for the research of deep sea mining in the High Sea or the Exclusive Economic Zones of any state should be financed by public money. Civil society in the Pacific needs to be supported, as they are standing at the forefront of this dangerous new destruction of the planet for ever more resources.



Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

(1) Freedom of speech, press, information and communication are essential values for democratic society and need to be applied and protected offline as well as online.

(2) Hate speech poses grave dangers for our democracies, the protection of human rights and the rule of law. It covers many forms of expressions which spread, incite, promote or justify hatred, violence and discrimination against a person or group of persons for a variety of reasons. Proper contact points within governmental institutions need to be in place to support victims of hate speech. Hate speech has to be a matter of public prosecution, including proper investigations, and structural, financial as well as legal support for victims. Furthermore, we call for a stronger culture of digital courage actively countering hate speech and voicing solidarity with victims.

(3) Removal of hate speech and violation of terms of use in social media is currently overwhelmingly being handled by people in the Global South. Often this means having to review graphic and violent content for hours. There needs to be proper protection and support of content removers, including a global discussion on how to not leave them behind in a digital world.

- (4) The right to privacy has to be ensured. Data encryption as a mean of self-protection is a fundamental right and must not be restricted. This includes the right not to supply any authority with passwords or encryption keys. Anonymity is an important right in the real as well as digital world.
- (5) Any data that is not objectively needed must not be collected by the state or companies. Any incidental data has to be deleted immediately if no reason for storage can be named. The dissemination of illegally or wrongly obtained data as well as data abuse has to lead to appropriate penalties. Data protection laws have to include the fact that legal access to data does not allow for junction of data. A violation of e.g. the EU GDPR by security agencies has to be transparently and publicly accounted for. Anonymous mobile communication has to be protected legally and technically. The right to be forgotten has to be implemented. This has to apply to all people independent of their citizenship.
- (6) Surveillance by the government has to be punished by law. The global trade with surveillance technology has to happen in compliance with the rule of law and be properly controlled by an independent international agency.
- (7) Whistleblowers have to be protected. No one brave enough to publicly show hidden grievances should be discriminated.
- (8) The use of autonomous technology for warfare has to be banned. The dehumanization of war victims by remote killing is leading to a further escalation of violence and a climate of fear in many regions and countries. The militarization of civic IT-technology and technology development by the military must not be financed by public money. Any government should rather internationally engage for peace and ban drones, KI and other digital technology in warfare.



Strengthen the means of implementation and revitalize the global partnership for sustainable development

- (1) Technology transfer, fair trade policies, development of local and regional markets and exchange of knowledge and funds are the basis for a sustainable economy for all people. E-Commerce can be a tool for development if it enables fair and equal access to economic development and participation. The development of local and regional alternatives of IT-products independent of the world market has to be made possible for developing countries. Similarly to other products, e-commerce has to ensure that developing countries can participate in the world market if the people living in those countries want to. It should not undermine other offline markets relevant for people's survival and well-being. There needs to be a space for offline economic activities as well.
- (2) The goal of a common European digital strategy should not primarily be the creation of a common digital or e-commerce market or a European Silicon Valley with its own IT-companies. Regulations should rather focus on the protection of European citizens and consumers as well as the actual adherence of laws, including competition and antitrust laws. A European IT market can only develop with fair market conditions benefitting people and economies. The use of the internet as a common good has to be supported, including open source software and publicly available data.
- (3) Digital services should be settled outside of trade agreements. If they are already included in trade agreements, transboundary flow of data, data localization, protection of personal data and privacy, transfer of and access to open source code, accountability, regulatory cooperation, net neutrality among other things have to be regulated.



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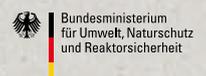
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