FINAL REPORT



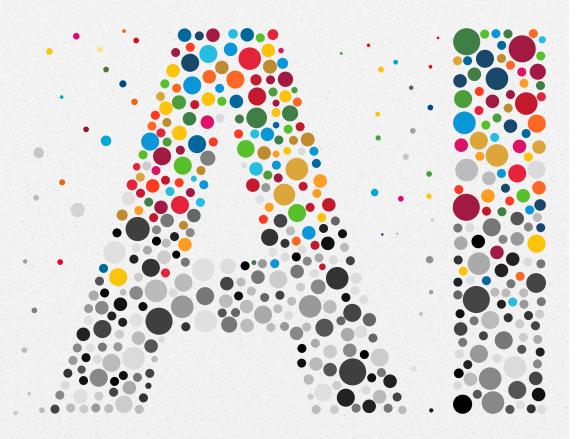
Swiss Confederation

Federal Office for Spatial Development ARE



SUSTAINABILITY THANKS TO ARTIFICIAL INTELLIGENCE?

Opportunities and challenges for the 2030 Agenda



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Introduction

The 2030 Dialogue for Sustainable Development, hosted by the Federal Office for Spatial Development (ARE) in Bern on 4 November, explored the role of artificial intelligence (Al) in advancing sustainable development and implementing the 2030 Agenda. Around 300 representatives from science, politics, business, civil society, government agencies and international organisations discussed the opportunities, risks and general frameworkfor a sustainable Al transformation. This report summarises the key insights from each programme segment.

Al and a good future

Gerd Leonhard, The Futures Agency

Gerd Leonhard opened the event with a clear message: Al is neither a promise of salvation nor a threat – it is a tool. What matters is how we use it and, above all, the values we embed in it. Al should follow the 4P model: People, Planet, Purpose, Prosperity. Leonhard warned against a 'technology-first' mentality and stressed that Al must be integrated into broader technological, environmental and social change.

How can we achieve a sustainable AI transformation?

Katharina Frey, Director, International Computation and Al Network (ICAIN)

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Katharina Frey stressed the importance of global standards and international cooperation. In the context of Agenda 2030 and global initiatives such as the Digital Compact, it becomes clear that effective Al policy can only be shaped through international collaboration. She presented ICAIN, which aims to advance the UN's Sustainable Development Goals (SDGs) with the help of Al. ICAIN draws on expert knowledge and seeks to broaden access to the world's foremost supercomputing resources to develop Al models that benefit society worldwide. It is currently running pilot projects across three action pillars: Education, Research and Application.

General framework for AI in Switzerland: Socially meaningful, economically effective

Panel discussion



This panel discussion addressed governance, social responsibility and policy guidelines. The consensus was that Switzerland should promote innovation while avoiding uncritical adoption of technologies. Trust ensues when the public, government, science and industry all row in the same direction. Thomas Schneider, Deputy Director of the Federal Office of Communications (OFCOM), took an historical perspective, arguing that the digital revolution is comparable to the industrial revolution. Progress cannot be stopped,



but broad civil participation is required to define which technologies are needed and for what purposes. Ladina Caduff, Director of Corporate Affairs at Microsoft Switzerland, pointed out that Switzerland has the essential prerequisites to play a leading role in Al, including energy, infrastructure, data centres, expertise and interfaces across the national languages. Sabine Süsstrunk, President of the Swiss Science Council (SSC), underscored the importance of investing in research and innovation to ensure the sustainable development of Al. Switzerland is well positioned in this regard with the ALPS supercomputer and the large language model (LLM) Apertus. Gerhard Andrey, Co-Founder of Liip and National Council member for the Green Party, called for the involvement of the entire population in the creation of digital commons that ultimately benefit everyone. Angela Müller, Managing Director of the Swiss NGO AlgorithmWatch CH, stressed that using Al to achieve sustainability goals requires sustainable technology and that this technology must also be used sustainably. She further explained that this would only be possible if society is involved in shaping the general framework for Al.

Energy-hungry AI? Environmentally compatible paths to greater efficiency

Panel discussion



The afternoon began with a panel discussion of the energy-policy dimensions of Al. Participants examined the opposing dynamics of innovative power and resource requirements. Marcel Lenzin, Head of Grid Strategy at Swissgrid, and Matthias Galus, Head of the Geoinformation and Digital Innovation Division at the Swiss Federal Office of Energy (SFOE), agreed that Switzerland's stable power grid makes it attractive for investments in data centres and Al clusters. It was repeatedly emphasised that training large models consumes significant amounts of energy and could lead to regional grid bottlenecks. The SFOE continuously monitors digital developments and, under the Energy Strategy 2050, has laid the groundwork for introducing smart metering systems. Franz Grüter, National Council member for the SVP and Chairman of the Board of Directors of Green.ch, emphasised that Al creates a major opportunity for Switzerland as a business location. The acceptance of large, powerful and sustainable data centres greatly depends on the level of involvement of the local population in the planning process. Pamela Delgado, Associate Professor at HEIG-VD and at the Swiss AI Center for SMEs, explained that Swiss businesses want to accelerate the rollout of AI in the digital transformation process. She explained that the associated socio-economic challenges include boosting competitiveness, limiting relocations and building new skills through collaboration between laboratories and companies This discussion also highlighted a recurring theme throughout the event: Al creates new opportunities but also entails conflicting objectives and certain boomerang effects.

Sustainability thanks to artificial intelligence?

Opportunities and challenges for the 2030 Agenda





Global rules as the key to sustainable development?

Bilel Jamoussi, Deputy to the Director of the Telecommunication Standardization Bureau, International Telecommunication Union (ITU)

Bilel Jamoussi outlined how the ITU acts as a global platform for Al governance and international standards. With over a thousand members from industry, academia and international organisations, the ITU plays a key role in developing common standards. It also promotes global cooperation through the Al 4 Good Global Summit, held annually in Geneva. The recently published Al Governance Report 2025 underscores the importance of globally coordinated rules. Jamoussi pointed out that hundreds of Al-related standards are being developed or have already been published – including topics such as multimedia authenticity, energy efficiency, green digitalisation and secure network operations. He underscored in particular the potential of Al in protecting the climate and environment, for example in emissions reduction or disaster preparedness. He also highlighted sectoral initiatives such as the Global Initiative on Al for Health and sustainability projects for digital agriculture and emphasised the importance of close international cooperation. In his closing remarks, he stressed that Al must be designed responsibly and that global partnerships, transparency and clear technical standards are crucial if its potential is to be harnessed for the benefit of all.



Silicon Valley - What's next?

Emilia Pasquier, CEO Swissnex San Francisco

Emilia Pasquier noted that the public debate on AI in Europe is often undifferentiated and not very objective. She explained that in Silicon Valley, the general level of knowledge is markedly higher; AI is far more than the now widespread LLMs. Recent developments mentioned included self-driving taxis, rapid progress in robotics, and agentive AI, which is increasingly shaping everyday life. Overall, the sentiment in Silicon Valley can be summed up as 'Build, build, build'. All the big tech companies are engaged in fierce competition to attract the best and the brightest.





Turbo-charged progress with AI: Speed or attainment?

Jan Bieser, Professor of Digitalisation and Sustainability, Bern University of Applied Sciences BFH

Jan Bieser showed how ambivalent the effects of AI on sustainability can be. He reminded the audience that AI has already enabled scientific breakthroughs in some areas – for example solving the decades-old protein folding problem. He linked these technological advances to the broader political vision of a 'twin transition', in which digitalisation and decarbonisation must be considered together – an approach also advocated in the European Green Deal. Bieser presented studies showing considerable savings potential through digital applications: by 2030, up to 50 million tonnes of CO₂ could be saved in Germany, primarily through smart energy grids, efficient construction technology, industrial optimisation and precision agriculture. If the pace of digitalisation accelerates, these effects could be even greater. At the same time, he made clear that technology does not invariably lead to sustainability. AI may also drive opposite trends: increased use of resources, rising consumption and addition of new fossil fuel reserves. Self-driving vehicles or data-driven optimisation of consumption are vivid examples of this. Depending on how it is used, AI may reduce emissions – or massively increase them.

He also addressed the phenomenon of 'hypersuasion' – the ability of AI to profoundly influence behaviour through personalised data strategies, with potentially far-reaching social implications. Bieser emphasised that it is not technology itself that determines whether it fosters or hinders sustainable transformation, but the interests of the actors who design and use it. AI is not a sure-fire solution for climate protection: without clear policy guidelines, conscious goal-setting and value orientation, AI could even exacerbate existing challenges.



Technology and ethics

Dorothea Baur, Baur Consulting

In her presentation, Dorothea Baur argued that AI does not automatically deliver on the sustainability promise of 'Leave no one behind'. While AI has enormous potential as a general-purpose technology, its impact depends heavily on whose perspectives, data and interests are taken into account. Many AI systems have been developed by men for men and therefore reproduce existing inequities; AI can only reveal what the data allows – and that data often reflects an unequal past. Poor or distorted datasets lead to poor and inequitable decisions.

Baur also highlighted the environmental dimension: within the AI sector itself, it is recognised that large models consume vast amounts of energy. Despite this, proponents of AI view it as a solution to every kind of crisis – a dangerous shift in responsibility. She criticised the rapid normalisation of AI, which suggests that machines can truly replace human capabilities, even though models often merely reproduce what is already known. In doing so, AI increasingly blurs intellectual property: content is ingested, exploited and regurgitated without clear attribution.

In her concluding remarks, she emphasised that dealing with AI raises not only technical but primarily social and ethical questions. The debate should not trail technological progress but instead must be pursued actively.





Practical AI applications

Labs

The labs showcased how AI can contribute to sustainable development across diverse domains. One focus was on improving digital public discourse – for example, detecting hate speech without jeopardising freedom of expression. Further discussions revolved around the use of precise AI technologies in agriculture, e.g. using pesticides and water resources more efficiently and making animal husbandry more sustainable. The field of medicine was also considered: AI promises advances in diagnosis and treatment, yet poses challenges with regard to sensitive data, quality assurance and integration into existing systems. Another area of focus was education, where AI can generate teaching materials at scale – raising the issue of how to ensure pedagogical quality and responsible use of artificial intelligence. The role of AI in democratic processes was also discussed, particularly the question of who should decide on the use of such technologies. In addition, the impact of AI on intellectual property rights was considered alongside works or inventions created without human authorship. Finally, participants discussed how AI can be used to monitor changes in the landscape and where the methodological boundaries of such approaches lie.

CONCLUSION

The 2030 Dialogue demonstrated that AI can accelerate progress towards the UN's Agenda 2030 SDGs – but only if it is designed responsibly.

Four key takeaways emerged:

- Al is neither a blessing nor a curse; its impact depends on conscious social and political choices.
- 2. Technology must be driven by values and objectives, not the other way around.
- 3. Sustainability and digitalisation need to be considered together systematically from the outset.
- The general framework for AI must be inclusive and shaped by all stakeholders in society to ensure that it serves the common good.