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ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

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Contribution by Switzerland

to the CSTD 2024-2025 priority theme on “Diversifying economies in a world of  
accelerated digitalization”

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**PRIORITY THEME 1: Diversifying economies in a world of accelerated digitalization**

**United Nations Commission on Science and Technology for Development (CSTD)**

Dear CSTD Member

The CSTD secretariat selected “Diversifying economies in a world of accelerated digitalization” as one of the priority themes for its 28<sup>th</sup> session (2024-25 period). This theme directly addresses SDG 9 “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” at the 2030 Agenda.

Although the contribution of science, technology and innovation (STI) to the achievement of other sustainable development goals (SDGs) is discussed in every session of the CSTD, its role in upgrading and diversifying industrial capabilities and the linkages with industrial policies have not been specifically addressed for several years in the Commission. Economic diversification, including through the upgrading of industrial capabilities, is an essential component of economic development and a key area of SDG 9, which aims at enhancing scientific research and accelerating technological upgrade of industries through innovation, particularly in developing countries.

Under this priority theme the Commission could discuss challenges and opportunities brought about the rise of new digital technologies, as Artificial Intelligence, for industrial and innovation policies aiming at increasing productive capacities and diversifying the industrial structure toward higher value productions to benefit all while preserving cultural identity, including indigenous knowledge. The accelerating pace at which frontier technologies emerge and develop makes policymakers struggle to navigate and design responsive policies. Under this theme, the Commission can examine the challenges and opportunities specific to countries at different level of development, and what can least developed countries do to face the disproportionate challenges they face; work to identify best practices and inform inclusive policies for innovation and economic diversification; discuss how to leverage international cooperation to guarantee that uneven technological capabilities will not worsen inequality.

The CSTD secretariat is in the process of drafting an issues paper on the theme to be presented at the CSTD inter-sessional panel meeting to be held in the second half of October 2024 in Geneva. In this context, we would like to solicit inputs from CSTD member States on this theme. We would be grateful if you could kindly answer the following questions based on your experience in your country.

1. What are the specific challenges your economy is facing to develop or adapt frontier technologies and AI?

A key prerequisite for companies to be able to take advantage of the opportunities offered by digitalization is entrepreneurial freedom. The digital transformation should therefore not be hampered by premature and inappropriate regulation. Otherwise, regulation inhibits innovations. Switzerland faces several challenges in terms of regulation.

Digital business models such as online platforms are advantageous from an economic perspective, as they simplify the matching of supply and demand and thus reduce searching- and transaction costs. Digital platforms also facilitate market entry, especially for SMEs and start-ups, and therefore also have a positive impact on innovation. Nevertheless, the effects of online platforms on competition can be ambivalent in some cases, meaning that there may be a need for regulation. This is the case when large online platforms control certain markets due to network effects. In Switzerland, no fundamental change to competition law is necessary, but improvements are currently being made in several specific areas.

Another issue with regulation concerns the statutory formal requirements, which remain a hurdle for certain digital business models. Even if most legal transactions in private legal relations are possible form-free, there are formal requirements in various legal decrees that make the purely digital handling of procedures more difficult. The obstacle most frequently cited by companies and business representatives is the written form requirement in many laws and regulations. Qualified electronic signatures, which could be used in this context, are not yet widespread in practice.

There are further hurdles in terms of communication with the authorities by electronic means. In some cases, the requirements for the processing of electronic transactions with public authorities are not met or electronic processing is not practical enough. The coexistence of electronic and analogue documents then leads to unnecessary administrative effort and prevents efficient and continuous business processes. The planned expansion of the central platform for public authorities EasyGov will significantly improve online services for companies in the future.

2. Can you provide successful examples of AI and other frontier technologies uptake in your country?

### **Open Quantum Institute (OQI)**

On 13 October 2023, the head of the FDFA announced the launch of the Open Quantum Institute (OQI), a joint initiative of the FDFA, GESDA, CERN and UBS. Based in Geneva, its aim is to put quantum technologies at the service of the common good. Among other objectives, the OQI will help to accelerate the achievement of the United Nations' Sustainable Development Goals (SDGs). The OQI responds to the need to unite around this theme. It also aims to harness quantum technology to accelerate progress towards the SDGs, and to facilitate access to this cutting-edge technology worldwide.

### **Swiss AI Initiative**

The Swiss AI Initiative from the ETH Zurich and EPFL aims to provide Swiss research with an open platform for large language models (LLMs) and seeks to position Switzerland as a world-leading hub for transparent and trustworthy Artificial Intelligence (AI). The requisite infrastructure to achieve this comes in the form of the new Alps supercomputer. In the spring of 2024, it will begin operations at the Swiss National Supercomputing Centre (CSCS), which ETH Zurich operates out of Lugano in the canton of Ticino.

As detailed in a press release issued by ETH Zurich, access to this supercomputer enables Switzerland to keep pace with the largest tech firms in the world in terms of computing power. "Science must assume a pioneering role in such a forward-looking field, rather than leaving it to a few multinational corporations. The computing capacity of Alps will be used to develop new, industry-specific open source base models based on transparent LLMs for generative AI. These could then be used in fields such as robotics, medical diagnostics and climate sciences, for example, and should additionally "be transferable as openly and directly as possible to society and industry". SMEs, start-ups and public services all stand to directly benefit from this. The initiative aims to pool the expertise of around a dozen Swiss universities, technical universities and research institutions. According to the press release, a total of 75 professors have already been brought on board.

### **Deep Tech Nation Switzerland Foundation**

In May 2024, the Deep Tech Nation Switzerland Foundation was launched as an independent, non-profit foundation established by the private sector. The foundation will invest in the various programs to change the framework conditions in Switzerland in the long term and strengthen Switzerland's competitiveness in the global innovation race. Improved framework conditions and strengthening Switzerland as a business location. The foundation proposes four measures to sustainably change relevant framework conditions: a Venture Hub Switzerland is to be created which will have internationally competitive financial and legal structures and offer attractive framework conditions for institutional and strategic investors, a so-called Unicorn Factory, start-ups and scale-ups with particularly high potential will be supported even more in positioning themselves as an attractive investment for investors, a platform for information on the Swiss innovation ecosystem will be created offering investors a transparent and International promotion ensures that Switzerland is recognized globally as a leading Deep Tech nation and that the Swiss innovation ecosystem receives the necessary visibility.

3. Has your country put in place inclusive policies for innovation and economic diversification specifically tailored to diffusion of digital technologies and AI?

In the context of the digital economy, it is the task of the state to create a positive environment with attractive economic policy framework conditions. This includes a high degree of entrepreneurial freedom, legal certainty, a well-qualified workforce, a high-quality and secure infrastructure, appropriate support in protecting against cyber risks and a strong foundation in education, research and innovation.

Given the uncertain and dynamic background of digitalization, industrial policy interventions in the sense of targeted support for individual companies, sectors or technologies do not seem sensible. There is a risk that the associated expenditure will turn out to be a misinvestment and distort competition. When it comes to regulating digital technologies, it is also essential to ensure that this does not lead to the protection of individual technologies or business models.

4. Do you have examples of policy instruments in place to favour the diffusion of frontier technologies in the economy and targeting specific sectors?

Switzerland's approach to AI focuses on achieving a delicate balance between adequate regulation and fostering innovation. This strategy aims to protect fundamental and human rights while encouraging technological advancements.

Switzerland is fostering an environment open to innovation and is actively participating in international dialogue to share best practices. By balancing these aspects, Switzerland aims to harness the benefits of AI while upholding its commitment to human rights and innovation.

More specifically, Switzerland has developed the Digital Switzerland Strategy, a comprehensive framework established by the Swiss government positioning Switzerland as a leading nation in the digital realm. It aims to harness the potential of digital technologies to drive economic growth, enhance quality of life, and ensure sustainable development. The Digital Switzerland Strategy sets the guidelines for Switzerland's digital transformation. The aim is for the population as a whole to benefit from a digital transformation that is responsible and sustainable (ecologically, economically and socially). This is being driven forward jointly by the authorities at all federal levels, as well as by actors from civil society, business, academia and politics.

For 2024, the Federal Council has identified three focus themes: cybersecurity, a Swiss approach to regulating AI systems, and application programming interfaces (APIs). The Digital Switzerland Strategy provides a framework to achieve its climate and environmental goals and the Sustainable Development Goals set out in the United Nations 2030 Agenda.

Furthermore, The Federal Council wants to harness the potential of AI while minimizing the risks it poses to society. At its meeting on 22 November 2023, it therefore instructed DETEC (the Federal Department of Environment, Transport, Energy and Communications) to prepare an overview of possible regulatory approaches to AI, which is expected to be available by the end of 2024.

5. Has your country put in place mechanisms to strengthen industrial capabilities through partnerships among different stakeholders (e.g., university-industry, or private-public)?

International cooperation plays a key role for ensuring equitable access to capacities, for instance computing, in order to train AI models. That is why we are working with several partners in the project ICAIN, "Rebalancing the Global AI Landscape", with Universities in Switzerland, the EU and Africa.

6. How can international cooperation support the uptake of new technologies and the development of technological capabilities in your country and ensure that industrial policies will benefit all and do not worsen inequality?

Global cooperation and political will are essential to harness the benefits of technology. This includes the work of the public and private sector alike. Both multilateral and multistakeholder approaches play critical roles in this process. By engaging with diverse parties across various forums, we can ensure that policy-making is inclusive and comprehensive. The WSIS architecture, including the leading UN agencies, the WSIS Forum and especially the UN Internet Governance Forum (IGF) offer useful platforms and mechanisms to further international cooperation.

The IGF acts as a core multistakeholder platform, facilitating dialogue and collaboration among governments, private sector, civil society, and technical experts. This helps to address the broad challenges and opportunities of new technologies. The IGF, amongst other foras, offers guidelines and

frameworks that can help shape national policies to foster inclusive growth and sustainable development.

More specific issues related to technology governance and ethical considerations are tackled within specialized organizations such as the Council of Europe and the OECD. On 17 May 2024, the Committee of Ministers of the Council of Europe adopted the Convention on Artificial Intelligence (AI) at its 133rd Ministerial Session. The aim of the convention is to ensure compliance with the legal standards applicable to AI in terms of human rights, democracy and the rule of law. Switzerland was actively involved throughout the negotiations, which lasted a year and a half. This convention is a benchmark, acting as a ground basis in the governance of AI internationally.

Sharing best practices is another vital aspect of international cooperation. People can benefit from the experiences of other countries that have successfully integrated new technologies into their economies. By participating in international forums and working groups, policymakers can adopt and adapt these best practices to the local context, ensuring that technological advancements are inclusive and equitable. Switzerland will continue to support the work of the Diplo Foundation and its Geneva Internet Platform, which amongst other things offers state of the art quality information and capacity development resources, including on policies to foster access to networks and services.

7. What can do the UN CSTD to support an economic transformation that enhances your country productive capabilities and foster an inclusive digital transformation?

The CSTD could enhance international collaboration by serving as a platform for cross-border partnerships. The CSTD can ensure Member States can leverage global expertise and resources, addressing common challenges, sharing best practices and using synergies. The CSTD could also bolster existing institutions by providing access to global networks, funding opportunities, and technical assistance, thus amplifying their capacity to drive innovation and support digital transformation initiatives.

The existing WSIS architecture, with the WSIS action lines under the responsibility of ITU, UNESCO, UNDP and other UN entities, the CSTD as focal point for follow-up and the UN IGF, offers a solid basis that can and should be adapted to address the growing challenges in the fields of new technologies, artificial intelligence and data governance. Switzerland believes that the CSTD could be the appropriate platform to ensure the follow-up of the GDC. As underlined in the upcoming WSIS resolution<sup>1</sup>, Switzerland and the other CSTD Member States believe that it is key to ensure synergies and avoiding duplication across various entities.

The IGF also plays an important role here, having shown its ability to constantly evolve in a bottom-up and needs-based fashion, and to adapt to the growing relevance of digital governance matters, in the spirit of an “IGF+” as envisaged by the UN Secretary-General’s Roadmap for Digital Cooperation. In addition, it is playing a vital role in offering multistakeholder insights and inputs. The CSTD has a key role in the digital landscape, in taking pulse of the major issues underlined at the IGF and turning them into agreed international language in the resolutions.

Finally, the CSTD could facilitate the sharing of information and best practices among Member States, enabling them to learn from successful digital transformation efforts worldwide. By promoting policy coherence and integrating digital transformation with broader economic and social policies, the UN CSTD could help create an enabling environment for sustainable and inclusive growth. This multifaceted support will allow Member States to lead in creating a robust, inclusive digital economy while advancing its productive capabilities.

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<sup>1</sup> Assessment of the progress made in the implementation of and follow-up to the outcomes of the World Summit on the Information Society (based on E/RES/2023/3).