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ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

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Contribution by Switzerland

to the CSTD 2020-2021 priority theme on “Harnessing blockchain for sustainable
development: prospects and challenges”

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PRIORITY THEME 1: Harnessing blockchain for sustainable development: prospects and challenges

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

Dear CSTD member,

As you are aware, the CSTD 23rd annual session selected “Harnessing blockchain for sustainable development: prospects and challenges” as one of the priority themes for its 24th session (2020-21 period).

In an increasingly digitalized economy and society, the security and accountability of data transactions are critical elements for creating trust and enabling breakthrough innovations in the digital world. In this regard, blockchain technology has been perceived as a game-changer, with the potential to revolutionize processes from finance to pharmaceutical industries, from humanitarian work to development aid. The blockchain serves as the base technology for cryptocurrency, enabling open (peer-to-peer), secure and fast transactions. The application of blockchain has expanded to include various financial transactions (online payments and credit and debit card payments) as well as IoT, health and supply chain. However, issues associated with scalability, privacy concerns, uncertain regulatory standards and difficulties posed by the technology in integration with existing applications are some of the potential market constraints. The priority theme will focus on the importance of developing a local financial infrastructure that avoids financial exclusion of the most vulnerable communities. There is also the risk that the potential of blockchain for solving developmental problems had been somewhat inflated by its early adopters and the tech media and may not be as applicable for developing and least developed countries. What are the emerging uses of blockchain that can be breakthroughs in accelerating progress towards the SDGs? What are the potential negative unintended social and economic effects of this technology? How could governments maximize the opportunities and minimize the risks? The CSTD could consider this priority theme to examine the potential of harnessing blockchain for sustainable development.

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. In this context, we would like to solicit inputs from the CSTD members on this theme. We would be grateful if you could kindly answer the following questions based on your experience from your country or region.

1. Could you share specific examples, projects or initiatives that have used or plan to use blockchain technology for the SDGs in your country? What are the main challenges confronted while trying to implement these projects/initiatives? (Examples may include blockchain solutions for financial inclusion, trade facilitation, supply chains, health, energy, e-Government, etc.)

[Please note that with this contribution, Switzerland gives an oversight over its blockchain activities in international cooperation only]

In the context of its development and cooperation work, Switzerland is currently especially active with regard to remittances and climate change.

Remittances

Remittances and savings by migrants are a source of income for millions of households in low and middle-income countries. They act as a lifeline for migrants and their families, helping households overcome financial constraints and cover necessities such as food, healthcare and education. At the same time, by spurring entrepreneurship and investment, remittances and migrants' savings can have a positive effect on the economic development in their countries of origin. If remittances and savings are channeled into productive investments, they can directly boost domestic demand and generate economic activity. Thus, remittances are a major factor for the achievement of the SDGs both at individual household level as well as in macroeconomic terms.

Blockchain-based mobile payment systems have the capacity to outdo traditional wire transfer systems by offering a fast, cheap, and secure system to transfer money from one part of the world to another. They do so by solving the problem of friction in cross-border payments. There are three core friction problems that blockchains can solve:

- **Digital identification and acquisition of customers:** A blockchain-based ecosystem allows for the creation of a ledger that is linked to a customer profile. This ledger can be accessed by multiple providers within an enterprise blockchain network, irrespective of where the customer goes/is located. This significantly brings the costs for Know Your Customer (KYC verification) requirements down.
- **Cost of Liquidity:** A blockchain system does not require corresponding banking accounts, reducing significantly the costs of liquidity. Furthermore, banks of a blockchain network can access a convert a physical currency into digital currency and back into another physical currency in real time. This helps reduce the forex risk and allows for a much thinner forex spread to be charged to the customers as part of the transaction cost.
- **Reducing cost of errors:** The new digital infrastructure for modern payment systems allows for reduced errors through a complete digitization of processes. This allows for increased transparency as well as better supervision and compliance.

Climate Change

Switzerland provides a contribution to the Climate Ledger Initiative (<https://www.climateledger.org/>), which assesses and tests the potential of blockchain/Distributed Ledger Technology for implementing the Paris Agreement based on concrete applications in developing (and developed¹) countries. The CLI addresses policy and research questions and identifies specific innovation opportunities to contribute to climate change mitigation and adaptation and accelerate the implementation of the Paris Agreement by:

- Providing an **international platform** to bring together the climate and technology communities to facilitate exchange of learnings and knowledge sharing and engage innovators
- Enabling the testing of concepts and approaches in concrete **use cases**
- Extracting and documenting lessons learnt and making them publicly available in **knowledge products** and our flagship **Navigating Report**

As an example, WTP (Wood Tracking Protocol) uses blockchain technology to bring transparency and traceability to the wood industry in South America, and help to save the Amazonian Rainforest (<https://www.wtp-project.com/>).

2. National systems of innovation affect how different countries can harness blockchain for increasing competitiveness, growth and sustainable development. Please share information about the ecosystem of innovation in blockchain in your country by informing: What are the key industries/specific sector that are pioneer in blockchain innovation in the country? What are the key actors in the national ecosystem of innovation (entrepreneurs, development teams (firms), venture capital, Banks and financial services, academia, regulators)? What are the key networks of the ecosystem in your country (including online networks, innovation hubs, forums, etc)? What are the national strategies, policies, laws and regulations (in place or preparation) related to blockchain?

[No contribution from Switzerland at this point]

¹ The Swiss contribution is earmarked for activities in developing countries.

3. What are the challenges that your government have faced or may face for promoting innovation and competence building in blockchain in your country, to contribute to national development priorities and accelerate the progress towards the SDGs?

Blockchain is an interesting new policy area. With increasing areas of application and use cases, the interest in this technology is constantly growing and will likely continue to do so. However, at the same time there is currently limited institutional and technical knowledge.

4. What are the actions that the international community, including the CSTD, can take to contribute to harnessing blockchain for sustainable development?

Switzerland believes that Blockchain/Distributed Ledger Technology has the potential to contribute to effective and efficient development activities and outcomes. However, it is crucial that the technology is used as *means of implementation* and that it is an integral part of a coherent and inclusive development initiatives, especially in sectors like health, migration and climate change. We are convinced that it is always the wider development objective and not the technology or application itself that should be at the centre of efforts.

Until today, governance issues are still often vaguely defined. They have to be considered carefully from the beginning of initiatives or activities based on blockchain/distributed ledger technology. This is an area that could be of interest for further engagement in the international community.

5. Could you suggest some contact persons of the nodal agency responsible for projects/policies and international collaboration in this context as well as any experts (from academia, private sector, civil society or government) dealing with projects in this area? We might contact them directly for further inputs or invite some of them as speakers for the CSTD inter-sessional panel and annual session.

6. Do you have any documentation, references, technological assessments, future studies or reports on the priority theme in your country or region?

Please send your responses and any further inputs on the theme to the CSTD secretariat (stdev@unctad.org) by 7 October 2020. We look forward to receiving your valuable inputs.

Sincere Regards,

CSTD secretariat