Recommendation 5:

Blockchain technology

Faster and transparent access to public sector services

Using '*blockchain technology*' to meet the societal need '*Faster and transparent access to public sector services*'

Actual solutions and services:

There are many possible ways that blockchains can make government more accountable, transparent, efficient and fraud-proof, which include contract management, electronic voting and health care.

There are already several pilot projects in different countries regarding the use of block chain technology in e-health, e-resident systems, elections and especially land and property registration.

A prominent country which has already several applications of blockchain technology in use is Estonia. Other countries include for example Sweden, Hong Kong, Ghana, Kenya, Nigeria or Georgia.

SWOT Analysis	
Strengths	Weaknesses
• **Trustful exchanges without the oversight or intermediation of a third party.** • **High quality data - blockchain data is complete, consistent, timely, accurate, and widely available.** • **Durability, reliability, and longevity.** • **Process integrity – transactions executed exactly as the protocol commands.** • **Transparency and immutability** • **Ecosystem simplification - single public ledger, instead of multiple ones.** • **Faster transactions – transactions are processed 24/7** • **Lower transaction costs - third party intermediaries and overhead costs are eliminated.**	• Irreversible transactions. • Nascent technology - challenges exist with regard to transaction volume and speed, the verification process, and data limits (data storage). • Uncertain regulatory status, impeding widespread adoption. • Large energy consumption • High initial capital costs. • Concerns on control, security, and privacy. • Integration concerns - significant changes to, or complete replacement of, existing systems are needed. • Complex to implement and maintain (especially private blockchains).
Opportunities	Threats
• **Verify integrity of transactions.** • **Reduce fraud and corruption.** • **Openness and Transparency** • **Distributed Control of Operations**	• Widespread adoption is challenging. • Blockchain's linkage with illegal activities. • Large scale deployments are necessary to ensure integrity.

Faster and transparent access to public sector services:
The societal demand for a trustworthy public sector resonates until today. This need also includes issues such as better quality public services – fairness and customer service standards in public service provision . Informants mentioned establishing trust in governance, voicing their opinions, accessing timely and accurate information, unlinking public sector and politics as some of the key needs under this header. One informant expressed his opinion as: "A clear point of authority to be established (often have to roam offices because it is not clear the authority for a particular task)."

Blockchain:
Blockchain is a peer to peer software technology that protects the integrity of a digital piece of information. It is a type of distributed ledger or database in which value exchange transactions (in bitcoin or other token) are sequentially grouped into blocks. Each block contains a timestamp and is chained to the previous block and immutably recorded across a peer-to-peer network, using cryptographic trust and assurance mechanisms. The data in a block cannot be altered retrospectively.
Though originally invented to create the alternative currency titled "Bitcoin", blockchain may be used for other cryptocurrencies as well, as the digital ledger underpinning them. In fact, not only information, but anything of value - money, titles, signatures, deeds, music, art, scientific discoveries, intellectual property, and even votes – can be moved and stored securely and privately.*

* MinuteVideos Blockchain Introduction,. http://minutevideos.com/project/blockchain-introduction-mgm0hv8m/pub?gclid=Cj0KEQjw3ZS-BRD1xu3qw8uS2s4BEiQA2bcfM3wG0lOXHXvCkQoPLy_xlLri5C9IrHMm1THERDyG34MaAizX8P8HAQ. Accessed 18 July 2017.
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