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Frontier Technologies for Public Service Delivery to Realize the 2030 Agenda for Sustainable Development

3rd SDGs Youth Summer Camp

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1. Introduction – Emerging Trends of Technologies

The Current State of ICTs

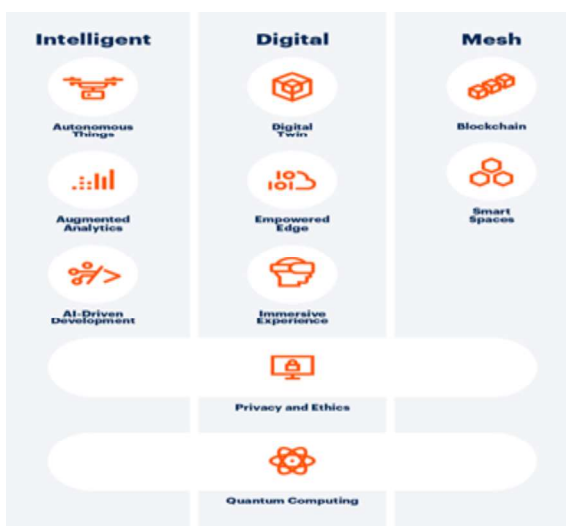
- More than half of the world's population is now online.
- There continues to be a general upward trend in the access to and use of ICTs.
- Mobile access to basic telecommunication services is becoming ever more predominant.
- Broadband access continues to demonstrate sustained growth.
- Almost the whole world population now lives within range of a mobile-cellular network signal.
- Internet access at home is gaining traction.
- Growth in international bandwidth and Internet traffic has been even stronger than growth in access to ICTs and the percentage of the population using the Internet.

ITU, Measuring the Information Society Report 2018



1. Introduction – Emerging Trends of Technologies

Top 10 Strategic Technology Trends for 2019



<https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-technology-trends-for-2019/>

1. Introduction – Emerging Trends of Technologies

Tech Trends 2019 Beyond the digital frontier



<https://www2.deloitte.com/insights/us/en/focus/tech-trends.html>

2. Why Frontier Technologies?

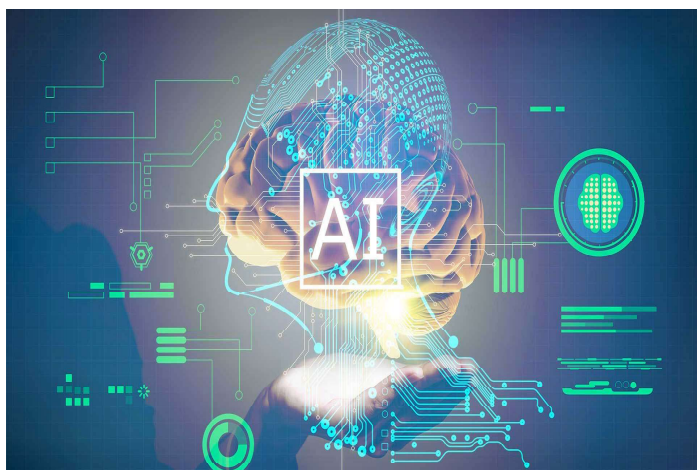


Photo: <https://code.fb.com/ml-applications/facebook-to-open-source-ai-hardware-design/>



Photo: <https://elements.envato.com>

2. Why Frontier Technologies?

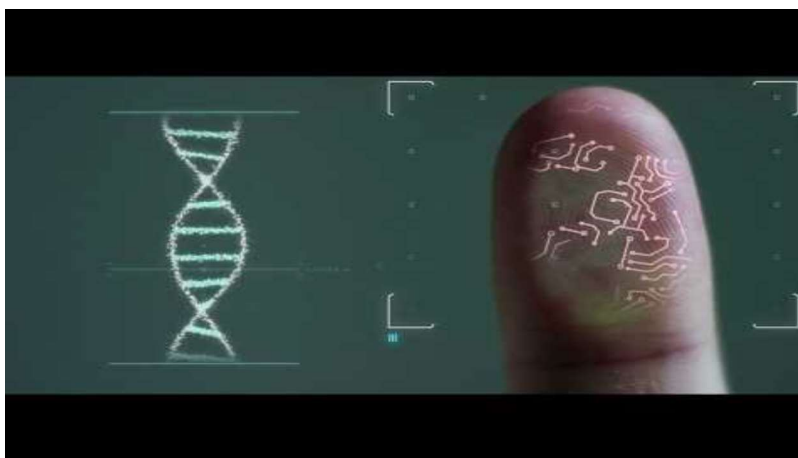
Challenges of Humankind



Photos: <https://elements.envato.com>

2. Why Frontier Technologies?

Frontier Technologies for Sustainable Development



<https://youtu.be/NzFTbhmiMyk>

Frontier Technologies and Leapfrogging

- ***“Frontier technologies” refer to the new technologies that have the potential to drastically change the way people live and work, while re-arrange values within the society.***
- ***“Leapfrogging” is the concept of bypassing intermediate stages of technology through which countries have historically passed during the development process.***



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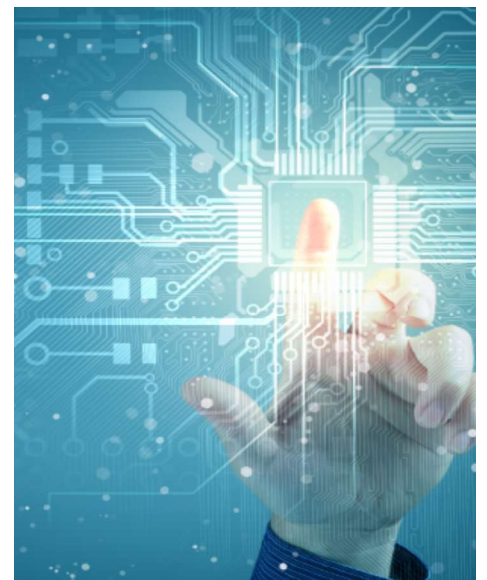
Introduction

- **“Frontier Technologies”** are not a silver bullet that could automatically solve all sustainable development challenges.
- **Realistic adaptation** to the context of least developed countries (LDCs) should consider:
 - **Affordability**
 - **Access/Quality**
 - **Inclusion**
 - **Transparency/Accountability**



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Key Issues/ Challenges for Public Service Delivery

Member States recognize public service delivery as a major undelivered challenge.

No blueprints are available.

The public sector is the world's largest service provider: a multi-billion dollar industry annually.

Delivering public services so that no one is left behind remains a key challenge to implement the SDGs.

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2. Why Frontier Technologies?

Agile Governance

Agile governance refers to adaptive, human-centered, inclusive and sustainable policy-making, which acknowledges that policy development is no longer limited to governments but rather is an increasingly multi-stakeholder effort.

Presentation by Danil Kerimi "Globalization 4.0: Technology Driven, Human Centric"



2. Why Frontier Technologies?

Agile Governance

When should agile governance be used?

- Mutual interests between private and public sectors
- Limitations of traditional regulatory approaches
- Ability of this sector come develop solutions to address regulatory concerns

What can agile governance achieve?

- ✓ Proactively address concerns
- ✓ Develop forward-thinking policies much faster and with a much broader reach
- ✓ Leverage experience and expertise of both the private and public sector
- ✓ Ensure long-term sustainability through monitoring and iteration mechanisms

Presentation by Danil Kerimi "Globalization 4.0: Technology Driven, Human Centric"

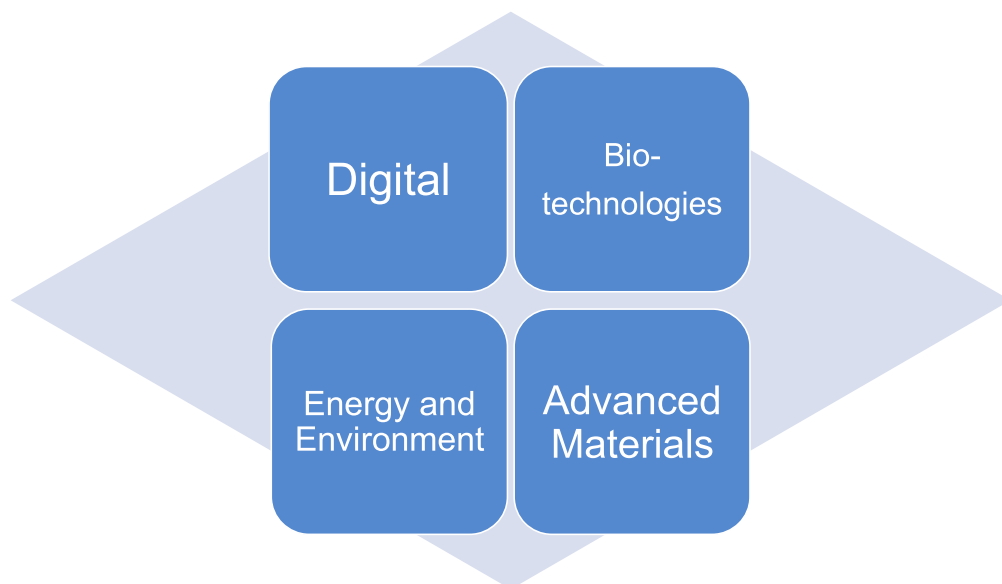


3. Frontier Technologies for Public Service Delivery to Achieve the SDGs

Importance of Public Service Delivery for Achieving the SDGs

- ✓ **13 Goals** relate to public service delivery
- ✓ **59 targets** of 169 targets require delivery of specific public services
- ✓ Among 230 indicators, **66 indicators** require some public service to be delivered by public institutions

Potential Areas for Technologies Leapfrogging



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Cases on Technology Leapfrogging



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3. Frontier Technologies for Public Service Delivery to Achieve the SDGs

Blockchain-based Humanitarian Food Distribution System (World Food Programme)

- 70% of refugees in Jordan have limited access to humanitarian assistance due to their lack of official identification
- Refugees can receive humanitarian aid even without bank accounts and documents
- “Building Blocks” distribution system links information for distributing food vouchers, such as how much each refugee should receive and their unique ID number, to biometric data stored in the refugee database

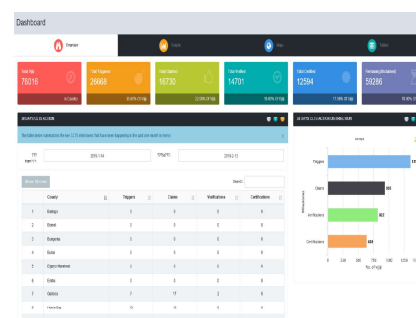


GSMA (2017). Blockchain for Development: Emerging Opportunities for Mobile, Identity and Aid
<https://innovation.wfp.org/project/building-blocks>

3. Frontier Technologies for Public Service Delivery to Achieve the SDGs

Real-Time Monitoring System for Community-Led Total Sanitation (Kenya)

- Ministry of Health implemented an online monitoring and evaluation system to track sanitation levels and progress toward their Open Defecation Free Mission.
- Region-specific progress and related data can be easily accessed in the Dashboard. More resources can be provided to the regions that are lagging in progress, improving access and enhancing efficiency.



<http://wash.health.go.ke/clts/user/loadGuestDashboard>

M-PESA in Kenya



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- M-PESA is now the leading mobile money transfer, financing and microfinancing service in Kenya.
- This project is aligned with the SDG number No. 1 No Poverty), and 8 (Decent Work and Economic Growth).



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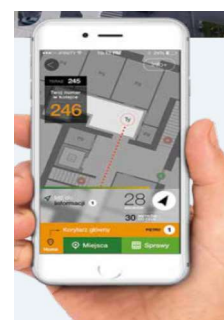
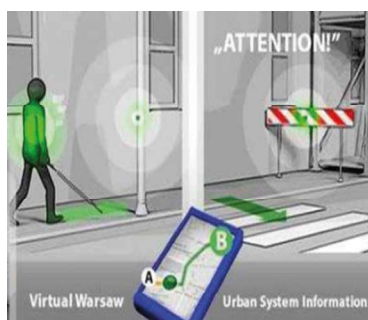
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3. Frontier Technologies for Public Service Delivery to Achieve the SDGs

Virtual Warsaw (Poland)

- Smart city based on Internet of Things (IoT) technology that gives eyes to the visually impaired residents
- Deploying a network of hundreds of thousands of beacon sensors
- Enable them to move independently with assistance from their smartphones

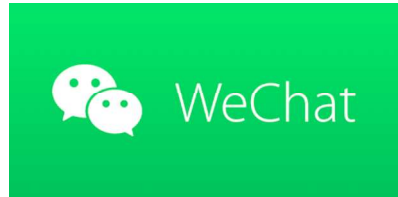


<https://www.oecd.org/gov/innovative-government/embracing-innovation-in-government-poland.pdf>



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- WeChat Pay and Alipay became two biggest payment service in China that integrates social media, ecommerce, payment and financial functions into a single app.
- This is aligned with SDG No. 8 (Decent Work and Economic Growth).

WeChat and Alipay in China

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- Schulgenie is an educational video platform that are powered through solar panel, without the need of a working internet connection and electricity.
- This project is aligned with the SDG No. 4 (Quality Education)

Schulgenie in Zambia

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3. Frontier Technologies for Public Service Delivery to Achieve the SDGs

ID for All – Aadhaar (India)

- The biometric identity programme for Indian citizens and residents
- Each Aadhaar recipient receives a unique 12-digit ID number, and users' photo and biometric data in the form of fingerprints and iris scans are submitted.
- Widely used in many parts of people's everyday life in India, such as bank transactions and activating a mobile phone



<https://uidai.gov.in/>

OECD, Embracing Innovation in Government: Global Trends 2018

Participatory Approaches

- A participatory approach must establish objectives (**WHY**), a content to be focused on and addressed (**WHAT**), the stakeholders to be engaged (**WHO**) and a transparent process to be followed (**HOW**).
- Participation can be applied to various jurisdictional levels: national, provincial / state, municipal, community or neighborhood. It can encompass different types of content and intent: policy (design, implementation, evaluation including social audits), planning and budgeting (participatory budgeting design and implementation), service delivery and accountability.
- It has been demonstrated that citizen engagement can bring about improvements in decision-making, service delivery, transparency and accountability. On the other hand, it is important to match a participatory architecture with the composition of different audiences and, most important, with the ability to deliver.
- Creating expectations through participatory approaches without realistic considerations about delivery may lead to frustration.



Capacity for Participatory Decision-Making

- local administration and local council laws and practices that facilitate civic engagement or inclusion of civil society organizations/NGOs in local government planning and development;
- existing capacity references and frameworks for civil society engagement in local governance including planning, budgeting, service delivery, social audits and accountability;
- elements towards a qualitative criteria for assessing the capacity and accreditation of CSOs for inclusion into public policy development and implementation, including assessment of capacity development needs and a framework for issue-based civic engagement.

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4. Frontier Technologies for Effective, Transparent and Inclusive Public Institutions

M-Voting (Seoul Metropolitan Government)



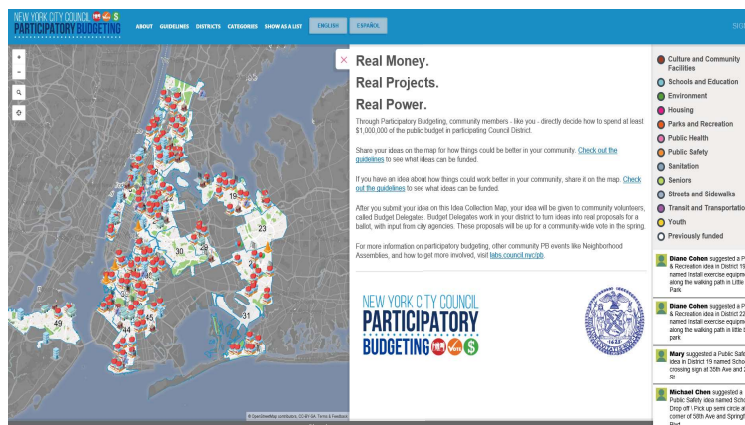
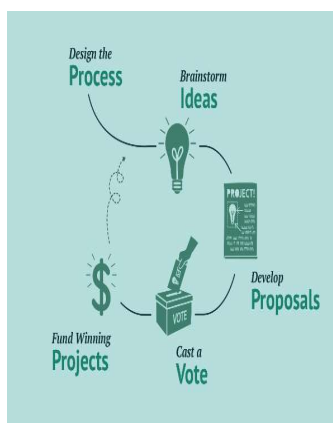
- Sharing the policy decision-making process with citizens
- Promoting citizens' participation on policy determination
- Increasing the public policy quality
- Significantly alleviate the cost of voting
- Location based vote with GPS and QR (G2C)

<https://seoulsolution.kr/en/content/%E2%80%98mobile-voting-app%E2%80%99-m-voting>



4. Frontier Technologies for Effective, Transparent and Inclusive Public Institutions

Participatory Budgeting



<https://www.participatorybudgeting.org/>
<http://ideas.pbny.org/page/about>

Towards a Framework for Considering Frontier Technologies

Assessment of National Ownership

Utilization of Toolkits and other appropriate tools

Whole-of-Government Approach

Institutional Coordination Aspects

Use of ICTs in line with institutional maturity, affordability and existing human resources

Address Capacity Development Gaps in Implementation

Lessons Learned

- Technology itself - no matter how advanced - would not help implement the SDGs unless public institutions are working in a coordinated manner.
- Inclusive public service delivery and participatory decision-making depends not only on changing rules and regulations, but mainly on changing values and mindsets in the civil service.
- Transformative leadership and effective governance are therefore as important as frontier technology approaches.
- Capacity development at individual, institutional and societal levels is fundamental to promote desirable change.



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Thank you

**Questions:
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