e-Governance Conference 2019
21 May 2019 | Tallinn, Estonia

DIGITAL TRANSFORMATION
AS SUSTAINABLE DEVELOPMENT PATHWAY
Overview

• The global imperative
  • The Sustainable Development Goals (SDGs)
  • Key trends and issues
• Digital Transformation
  • Key concepts and approaches
  • The Estonia-UNDP cooperation and framework
  • The digital transformation diagnostic tool
• Key priorities and next steps
  • Piloting of the tool, capacity building, multilevel/multistakeholder efforts
• Dialogue [Q/A/Comments/Insights]
The SDGs: Five years on

Open ocean sites show current levels of acidity have increased by 26 per cent since the start of the Industrial Revolution.

**Economic losses** attributed to disasters were over $300 billion in 2017.

Proportion of population covered by a 3G mobile broadband network was lower in the LDCs in 2016.

- **LDCs**: 61%
- **Globally**: 84%
All 232 SDG Indicators: What data is available?

This visualization shows for which of the 230 Sustainable Development Goals (SDGs) Indicators data is available at SDG-Tracker.org.

- Green boxes = Indicators for which recent official metrics are available, or for which alternative good-quality cross-country source are available (e.g. estimates from independent research institutes).
- Orange boxes = Indicators that do not have official metrics, but for which available data is very incomplete or outdated.
- Yellow boxes also mark Indicators for which there are no official metrics, but for which closely related estimates are available that allow informative but imperfect monitoring.
- Red boxes = Indicators for which – to the best of our knowledge – global monitoring is not currently possible.

You can find all data on SDG-Tracker.org, a sister project of OurWorldInData.org. In case you are aware of relevant data we have not included yet please let us know via SDG-Tracker.org.
Key trends and issues

- Quickening Fourth Industrial Revolution (implications)
- Quickly evolving societies and economies
- Increasingly digital and urban (~70% by 2050)
- Rising risks: inequality, violence and conflict, environmental pressures, etc.
- Risks to the promise to “leave no one behind”

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Note: *Estimate
Source: ITU World Telecommunication/ICT Indicators database
Accelerating progress towards 2030

- Keeping people out of POVERTY
- GOVERNANCE for peaceful, just and inclusive societies
- Crisis prevention and increased RESILIENCE
- ENVIRONMENT: nature-based solutions for development
- Clean, affordable ENERGY
- Women’s empowerment and GENDER equality
No room for “random acts of digital”
Digital transformation as sustainable development pathway

Digital strategies to achieve the SDGs

Transforming digital landscapes to transform societies and economies for sustainable future
Estonia-UNDP cooperation & framework

- Leveraging shared goals and strengths
- Priorities: development of a diagnostic tool; capacity building (internal UNDP and programme countries, knowledge exchange, network-building, etc.; e-Identity and Smart Cities

On the ground in about 170 countries and territories, UNDP works to eradicate poverty while protecting the planet. We help countries develop strong policies, skills, partnerships and institutions so they can sustain their progress.

we have built a digital society and so can you

Named ‘the most advanced digital society in the world’ by Wired, ingenious Estonians are pathfinders, who have built an efficient, secure and transparent ecosystem that saves time and money. e-Estonia invites you to follow the digital journey.
The diagnostic tool

Components

- Rapid Integrated Assessment (RIA): applied in over 65 countries (national and subnational)
- Digital Landscape Survey
- Accelerator and Bottleneck Assessment (ABA)

* Towards a digital transformation roadmap

Rapid Integrated Assessment

• Assess the level of alignment of digital/ICT targets within a country’s national development framework with the SDG targets, and identify the gaps.

• Identify:
  • Linkages across targets as made explicit in national plans
  • Relevant indicators as captured in national plans
  • Landscape of entities responsible for specific targets

• Primary audience: the Government, including line ministry/department in charge of development planning.
1. Gather national/sub-national development plans and relevant sector strategies, including digital/ICT strategies

2. Desk review of planning documents to identify:
   • and exclude SDG targets not relevant to the assessment based on country context
   • digital/ICT targets within development plans and sector strategies that align with SDG targets
   • relevant gaps in alignment i.e. the SDG targets that are not addressed by the digital/ICT targets
   • intersectoral linkages and institutions responsible for digital/ICT target implementation

3. Prepare observations document based on assessment
<table>
<thead>
<tr>
<th>SDGs Goals/Targets</th>
<th>Thematic Area/Sector, as Identified in Key Government Planning Documents</th>
<th>National Development Plan</th>
<th>Identify National Indicators for the Specific Targets</th>
<th>Institution Responsible for Target implementation (line ministries)</th>
<th>Any relevant comment related to this priority target area in the National Development Plan?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 8. Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</strong></td>
<td>Information and Communication Technology &amp; Media</td>
<td>Contribution to GDP and number of job created$^{263}$ ✓ No. of Bhutanese employed (IT/ITES) by gender</td>
<td>Ministry of Information and Communications</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Goal 13. Take urgent action to combat climate change and its impacts</strong></td>
<td>Hydromet</td>
<td>Improved availability &amp; access to reliable, high quality hydro-meteorological data$^{159}$ Delivery of hydrological and related environmental information &amp; services to the public, government and other users enhanced$^{158}$ ✓ Central Data base system with GIS (Nos) ✓ Access to online hydrological information (%)</td>
<td>Ministry of Economic Affairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
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<td>--------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>1</td>
<td>Education</td>
<td>X¹</td>
<td>X²</td>
<td>X³</td>
<td>X⁴</td>
</tr>
<tr>
<td>2</td>
<td>Health</td>
<td>X⁷</td>
<td>X⁸</td>
<td>X⁹</td>
<td>X¹⁰</td>
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<tr>
<td>3</td>
<td>HR Development &amp; Management</td>
<td>X</td>
<td>X¹³</td>
<td>X¹⁴</td>
<td>X¹⁵</td>
</tr>
<tr>
<td>4</td>
<td>Employment</td>
<td>X¹⁸</td>
<td>X¹⁹</td>
<td>X²⁰</td>
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<td>5</td>
<td>Tourism</td>
<td>X²⁴</td>
<td>X²⁵</td>
<td>X²⁶</td>
<td>X²⁷</td>
</tr>
<tr>
<td>6</td>
<td>Trade, Industries &amp; Mines</td>
<td>X³⁰</td>
<td>X³¹</td>
<td>X³²</td>
<td>X³³</td>
</tr>
<tr>
<td>7</td>
<td>Hydropower, Renewable Energy and Hydromet</td>
<td>X³⁶</td>
<td>X³⁷</td>
<td>X³⁸</td>
<td>X³⁹</td>
</tr>
<tr>
<td>8</td>
<td>ICT and Media</td>
<td>X⁴²</td>
<td>X⁴³</td>
<td>X⁴⁴</td>
<td>X⁴⁵</td>
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<td>9</td>
<td>Human Settlement and Housing</td>
<td>X⁴⁸</td>
<td>X⁴⁹</td>
<td>X⁵⁰</td>
<td>X⁵¹</td>
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<td>10</td>
<td>Emerging Social Challenges</td>
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<td>X⁵⁵</td>
<td>X⁵⁶</td>
<td>X⁵⁷</td>
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<tr>
<td>11</td>
<td>Sports</td>
<td>X⁶⁰</td>
<td>X⁶¹</td>
<td>X⁶²</td>
<td>X⁶³</td>
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<td>Preservation and Promotion of Culture</td>
<td>X⁶⁶</td>
<td>X⁶⁷</td>
<td>X⁶⁸</td>
<td>X⁶⁹</td>
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<tr>
<td>13</td>
<td>Conservation of Environment</td>
<td>X⁷²</td>
<td>X⁷³</td>
<td>X⁷⁴</td>
<td>X⁷⁵</td>
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<tr>
<td>14</td>
<td>Good Governance</td>
<td>X⁷⁸</td>
<td>X⁷⁹</td>
<td>X⁸⁰</td>
<td>X⁸¹</td>
</tr>
</tbody>
</table>

**SDG targets addressed by multiple sectors**

**SDG targets addressed by one sector**

**SDG targets not addressed**
Profile per 5 Ps of the 2030 Agenda

<table>
<thead>
<tr>
<th>Goal #</th>
<th>Short Title</th>
<th># Targets</th>
<th># Targets Covered</th>
<th># Targets w/ Indicators</th>
<th>% Targets Covered</th>
<th>% Targets w/ Indicators</th>
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<tbody>
<tr>
<td>1</td>
<td>No Poverty</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>60%</td>
<td>100%</td>
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<tr>
<td>2</td>
<td>Zero Hunger</td>
<td>5</td>
<td>3</td>
<td>2</td>
<td>60%</td>
<td>67%</td>
</tr>
<tr>
<td>3</td>
<td>Good Health and Well-being</td>
<td>8</td>
<td>4</td>
<td>2</td>
<td>50%</td>
<td>50%</td>
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<tr>
<td>4</td>
<td>Quality Education</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>14%</td>
<td>100%</td>
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<tr>
<td>5</td>
<td>Gender Equality</td>
<td>6</td>
<td>4</td>
<td>3</td>
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<td>75%</td>
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<tr>
<td>6</td>
<td>Clean Water and Sanitation</td>
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<td>3</td>
<td>60%</td>
<td>100%</td>
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<tr>
<td>7</td>
<td>Affordable and Clean Energy</td>
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<td>2</td>
<td>2</td>
<td>67%</td>
<td>100%</td>
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<tr>
<td>8</td>
<td>Decent Work and Economic Development</td>
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<td>7</td>
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<td>100%</td>
<td>57%</td>
</tr>
<tr>
<td>9</td>
<td>Industry, Innovation, and Infrastructure</td>
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<td>3</td>
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<td>75%</td>
<td>33%</td>
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<tr>
<td>10</td>
<td>Reduced Inequalities</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>75%</td>
<td>100%</td>
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<tr>
<td>11</td>
<td>Sustainable Cities and Communities</td>
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<td>2</td>
<td>2</td>
<td>67%</td>
<td>100%</td>
</tr>
<tr>
<td>12</td>
<td>Responsible Consumption and Production</td>
<td>8</td>
<td>5</td>
<td>2</td>
<td>63%</td>
<td>40%</td>
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<tr>
<td>13</td>
<td>Climate Action</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>67%</td>
<td>50%</td>
</tr>
<tr>
<td>14</td>
<td>Life below Water</td>
<td>7</td>
<td>1</td>
<td>1</td>
<td>14%</td>
<td>100%</td>
</tr>
<tr>
<td>15</td>
<td>Life on Land</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>50%</td>
<td>33%</td>
</tr>
<tr>
<td>16</td>
<td>Peace, Justice, and Strong Institutions</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>67%</td>
<td>50%</td>
</tr>
<tr>
<td>17</td>
<td>Partnerships for the Goals</td>
<td>7</td>
<td>2</td>
<td>0</td>
<td>29%</td>
<td>0%</td>
</tr>
</tbody>
</table>

| People   | 45% |
| Planet   | 44% |
| Prosperity | 45% |
| Peace    | 46% |
| Partnerships | 15% |
Balance across 17 SDGs and 5 pillars
130+ countries, 200+ organisations
5500+ participants in training events
Digital Landscape Survey

Analysis of current e-governance situation

Positioning on development levels

Recommendations

Input to accelerator and bottleneck assessment

Possible digital transformation roadmap (in a later phase)
Analysis of current e-governance situation

Positioning on development levels

Recommendations

Input to accelerator and bottleneck assessment

Possible digital transformation roadmap (in a later phase)
Example: Development levels of digital identity

**Basic level**
- Identity register is established
- Unique personal identification mechanism is agreed
- Technical solution for digital signature is deployed

**Useful level**
- ID token issuing system is established
- A significant amount of citizens have ID tokens
- Digital signature is recognized by law
- Digital identity and digital signatures are used by citizens
- Programs to make digital identities and signatures known and usable for the public are established

**Sustainable level**
- Secure technologies is introduced
- Trust services exist
- Digital identity is used when communicating with government agencies
- Digital signature is used by citizens in everyday life
ABA Methodology

Step 1: Identifying ‘accelerators’ and drivers that enable progress across the SDGs

Step 2: Identifying interventions that drive progress on the accelerator

Step 3: Identifying bottlenecks to acceleration

Step 4: Identifying bottleneck solutions

Step 5: Preparation of an implementation and monitoring plan for bottleneck solutions
Theory of Change
Identifying an accelerator and related challenges

Key Challenges:
- Sustainable Prosperity
- Low levels of economic diversification
- Business development ecosystem incomplete
- Limited data, fragmentation in the provision of support
- Risk aversion by investors and banking sector
- Limited investment in innovation, research and development
- Education systems not equipped to promote entrepreneurship
- Government bureaucracy affects the ease of doing business
Identifying an accelerator and its drivers

Accelerator and Drivers

Support ecosystem for SMEs

Investment in research and innovation

Ease-of-doing business reforms

Entrepreneurship integrated in education

Entrepreneurship and innovation
Potential accelerators, drivers and interventions

E-payment for public services: taxes, customs, trade, permits
E-platform for investments and innovation opportunities
Administrative and legislative reforms for e-business

Ecosystem for SMEs

Investment in research and innovation

Economic diversification

Explore Green Economy opportunities
Align skills with productive opportunities

Strengthen Competitiveness and Productivity for Inclusive Growth (A)

ICT infrastructure for private sector competitiveness
Potential driver and interventions

ICT Infrastructure for Private Sector Competitiveness

E-platform for investments and innovation opportunities

Administrative and legislative reforms for e-business

E-marketplace to facilitate development of value-chains and business clusters

E-payment for public services: taxes, customs, trade, permits

SME – ecosystem on virtual platform

E-procurement and e-tendering

E-platform for investments and innovation opportunities

Potential driver and interventions

ABA Results
<table>
<thead>
<tr>
<th>Bottleneck categories</th>
<th>Policy and planning</th>
<th>Budget and financing</th>
<th>Service delivery (supply)</th>
<th>Service utilization (demand)</th>
<th>Cross-cutting</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sub-categories</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political will and concerned interests</td>
<td>Political will and concerned interests</td>
<td>Resource mobilization</td>
<td>Geography and demography</td>
<td>Empowerment and self-efficacy</td>
<td>Engagement and advocacy</td>
</tr>
<tr>
<td>Strategies, policies and plans</td>
<td>Strategies, policies and plans</td>
<td>Resource allocation</td>
<td>Human resources, skills</td>
<td>Acceptability</td>
<td>Coordination and alignment</td>
</tr>
<tr>
<td>Legislation and enforcement</td>
<td>Legislation and enforcement</td>
<td>Resource expenditure</td>
<td>Equipment and supply</td>
<td>Accessibility and affordability</td>
<td>Accountability and transparency</td>
</tr>
<tr>
<td>Institutional capacities</td>
<td>Institutional capacities</td>
<td>Resource expenditure</td>
<td>Quality and equitability</td>
<td>Inclusiveness (are there barriers for specific groups to access services?)</td>
<td>Communication</td>
</tr>
<tr>
<td>Coordination and alignment</td>
<td>Coordination and alignment</td>
<td>Resource expenditure</td>
<td>Inclusiveness (are adequate services offered for marginalized groups?)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accountability and transparency</td>
<td>Accountability and transparency</td>
<td>Resource expenditure</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Potential driver and interventions

Support ecosystem for SMEs
- Impact hubs – start-up labs

Entrepreneurship and Innovation
- Investment in research and innovation
- Entrepreneurship integrated in education
- Entrepreneurship programs at secondary and tertiary levels
- Innovation awards and networks
- Selected public investments in infrastructure and logistics

Ease-of-doing business reforms
- Single access window for MSME services
- Coordinated MSME support services
- Review corporate taxes and incentives
- Review commercial licensing

Reforms for e-business
- De-risking to facilitate access to capital
- Vocational schools for the jobs of the future
- E-procurement and e-tendering

Reforms for capital
- Start-up labs
Cooperation and priorities

Next Steps

- Piloting the diagnostic tool [then finalize report and launch]
  - Introduce pilot at UNGA high-level event
  - Application at city level

- Capacity building, network-building
  - Workshop on the tool and digital transformation approaches
  - Online resources building: e-Courses, tools, networks
  - [City2City network launch]
Q/A/Comments/Insights

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Thank you!