

**Response to the Call for Inputs of the
UN Secretary-General’s High-Level Panel on Digital Cooperation**

The following is a synthesis of contributions from the [UN Expert Group Meeting on “Role of Public Institutions in the Transformative Impact of New Technologies”](#), a multistakeholder and multidisciplinary experts and practitioners meeting convened on 6-7 December 2018 at UN headquarters, with support provided by the [UN Department of Economic and Social Affairs \(UN DESA\), Division for Public Institutions and Digital Government \(DPIDG\), Digital Government Branch](#)¹.

I. Values and Principles from the Perspective of Public Institutions

New technologies can fulfil the promise to make public services more accessible, responsive, predictive, personalized, inclusive and people-centric. Technologies such as artificial intelligence (AI), Internet of Things (IoT) and blockchains are increasingly used in public sectors such as healthcare, education, trade, transportation and smart city applications. At the same time, rapid technological changes raise concerns regarding their social impact, inclusiveness and interoperability. Generally, technological change inevitably produces winners and losers, affecting efficiency, equity and ethics. While markets may take care of efficiency concerns, consideration of equity and ethical matters is not guaranteed. Public institutions in partnership with other relevant stakeholders own the collective responsibility and role of assessing and managing the equity and ethical impacts of new technologies in societies.

The world economy is also moving towards the digital economy. The digital economy is, however, fundamentally different from the traditional economy. While traditional resources such as coal or food crops are depletable, rivalrous, and warrant the conventional “control approach”, data and information are seen as non-depletable, non-rivalrous and non-excludable. Technology as a resource has increasingly moved towards the non-rivalrous side, but technology continues to rely on raw materials and will consume energy. Technology will hence feature aspects of a rival resource, with the implied societal costs, but not to the same degree as traditional resources. In addition, there are strong network externalities in technological products or services. This means there is an associated social risk of “winner-takes-all”, resulting in monopolies or near-monopolies. Data is both a critical input and output of technologies in general. Given that there are more than quintillion bytes of data created each day, another important perspective of public policy in technologies is the need to ensure data security and personal privacy. Public institutions, along with other stakeholders, have to bear responsibility for “what technology does” (its uses) and “what technology results in” (its impact). All these considerations should prompt public institutions to avoid a “hands-off approach” and to adopt appropriate policies and approaches that mitigate the negative impacts.

Furthermore, public institutions have different roles in the mobilization of new technologies in both the public sector and the private sector. But the evolutionary morphing of new technologies to everyday technologies will not benefit sustainable development in these current siloed approaches. It is also important to understand the local and cultural context of technology applications, despite the cross-boundary nature of technologies. For instance, it is important to consider reliability versus availability of telemedicine and e-health in rich versus low-income communities; so is the use of AI chatbots as gender-neutral agents to remove potential human biases. It requires the active, genuine and continued engagement of governments with technologists, the private sector, civil society organisations, think tanks and academia. The effective use of relevant standards will enable these technologies to effectively deliver to their full potential. The need to involve non-technology stakeholders in evaluating the development, use and impact of technologies cannot be over-emphasized.

¹ EGM website: http://bit.ly/DGB_EGM_Dec2018; List of participating experts: <http://bit.ly/2S4xBZH>

II. Methods and Mechanisms of Digital Cooperation and the Role of Public Institutions

In advancing digital cooperation, public institutions own different roles at different times in different contexts, including but not limited to producer, consumer, facilitator, incubator or regulator roles. For economic efficacy, there is potential to leverage on technologies to do more with less, bearing in mind that technologies have a lot more to offer beyond economic gains. For instance, social inclusion for sustainable development is guided by the mantra of leaving no one behind, highlighted in the 2030 Agenda for Sustainable Development, while public accountability could be strengthened through open data sharing and e-participation mechanisms. Public institutions also have a role in promoting innovation, encouraging start-ups and providing an enabling environment for the small-medium enterprises, thereby building local capacity, local competency and improving local productivity. Specifically, public institutions could steer digital cooperation through the following approaches and mechanisms:

Institutional dimension

- 1. Reflect on current institutional arrangements or reforms needed in managing technologies in the public sector;** In order to foster a whole-of-government and whole-of-society approach in technologies, there is a need to reflect on “who’s in charge of new technologies”, e.g. the role, function of Chief Information Officers, Chief AI Officer, Chief Innovation Officer or their equivalents; as well as an institutional culture to learn, un-learn and re-learn technologies and their innovative applications. There should also be provision for failures to be embraced in the institutional space, unlike the traditional intolerance of failures in public administrations, in considering the multi-faceted complexities and dynamic nature of technologies. It is also important to share not just best studies or use cases, but also examples of failures.
- 2. Facilitate multistakeholder and multidisciplinary experimentation in regulatory processes** through non-biased regulatory sandboxes to study various forms of co-regulation and co-design of technology use rather than the extremes of zero-regulation/market-regulation versus State-regulation, e.g. in blockchain use; and experiment and study the need for “new regulations” versus “new tools for existing regulations”.

Policy Dimension

- 3. Minimize the social risks of technological changes; prevent abuse, embrace and manage the ethical risks of dehumanizing technology applications;** there is a need to understand the dehumanizing risks of technologies on the one hand and to build digital trust on the other hand. In that connection, regulations and efforts that promote digital literacy and social good will generate trust in the use of technology and will allow technologies to be adopted in more conducive ways to achieving sustainable development. Moving from smart cities to smart societies, the human dimension of technologies should not be undermined; there is a need for social incubation time, to allow people and public institutions the space to adopt and adapt to new technologies. This includes deliberate efforts and evidence-based approaches to strength “digital readiness” of society, including through (i) increased and shared public awareness programmes of the emerging technology landscape and its potential impacts; (ii) digital inclusion initiatives to define specific actions to support vulnerable groups such as women, people with disabilities, older people, indigenous people and people with poor technological and linguistic capabilities; and (iii) redistributive tax policies and strong social safety nets to ensure that no one is left behind in a digital society.
- 4. Balance “carrot and stick” approaches;** a balance of careful regulation (“stick”) and incentives (“carrot”) for markets in digital cooperation is required. For instance, a call for collaboration of multistakeholders could be initiated in choosing and deploying new technologies in a specific public sector, guided by a regulatory framework to promote ethics and competition, prevent excessive

concentration of market powers, and also allowing sufficient space to allow creativity and innovation through new funding and business models.

5. **Demonstrate genuine public engagement and alignment to the SDGs**, including through e-participation and digital engagement modalities, such as through the sharing of useful open government data, by involving civil society organizations (CSOs) in the design of people-centric public services. Examples include through formulating a new manifesto that articulates what technological changes could mean for humanity; or to develop a “Data Commons” where free and open government data can be globally accessed to reduce the entry barriers for anyone to work with technologies such as AI and blockchains, among others.

6. **Devise a set of metrics and indicators** in tracking and reviewing the adoption and the impacts of new technologies, following, for instance, the development-tool approach of the [UN E-Government Survey](#) in assessing e-government development; this relates to establishing agreed definitions for terms such as ‘smart cities’, ‘digital engagement’, etc.

Technological dimension

7. **Amplify the central role of data, both as an input and output, in steering technology development**; there is a need to ensure the availability of disaggregated data, as well as to ensure data protection and privacy for all individuals in the evolution of technology. One useful reference is the [General Data Protection Regulation 2016/679](#) in the European Union.

8. **Identify the “low-hanging fruits” and quick-wins of new technologies to demonstrate and share success stories**: for instance (i) shadow blockchain for cross-agency or public-private-people-partnership (PPPP) data sharing; (ii) high-touch (possibly low-tech/low-cost) adoption of technologies in last-mile service delivery, e.g. assistive technologies to help older people, IoT in preventing road accidents, AI in natural language processing, identity management for migrants, refugees and orphans.

9. **Adopt a three-prong approach to capacity development**: building individual capacity, institutional capacity, and an enabling environment to embrace digital cooperation; this is particularly important for countries in special situations, especially least developed countries, small island developing States and landlocked developing countries.

Global Dimension

10. **Support and advance a global compact on digital cooperation** to foster common principles and approaches in digital cooperation; to foster innovation and diffusion of appropriate new technologies and to facilitate their transfers within and across countries; and to strengthen international cooperation to close regulatory loopholes and prevent regulatory arbitrages especially for large cross-border technology firms. There are various initiatives that could be galvanised through cooperation at the global level (for instance, the [Cities Coalition for Digital Rights](#)).