

Summary and key messages



Connecting everyone, everywhere remains the absolute priority.

2.7 billion people worldwide remain unconnected. The digital divide persists in rural areas, across income, gender and age groups – and new, deep divides have emerged for vulnerable groups. Change is needed in policy and regulation. Iteration, trouble-shooting and incremental improvement are decisive in policy implementation – without this agile approach, one-third of the world's people will be left behind.

Five tensions will characterize policy and regulation.

The new equilibrium will require a systems thinking approach to leverage the connection between digital technologies, public goods and economic activities, and to move towards lean governance models. The five tensions set out below frame policy and regulatory models into the future:

- *Tension 1: Fast vs slow regulation.* Market players expect both flexibility *and* predictability – flexibility when new products are on the way to markets, and predictability when investment plans are made. Hence regulatory processes will continue to evolve at several speeds.
- *Tension 2: Hardwired vs 'soft-wired' regulation.* Should we regulate new issues using old methods? Is formal, hardwired regulation better than self-regulatory practices? Decentralized regulatory models will likely thrive in the digital environment – sitting closer to market players and tailored to their business models and goals.
- *Tension 3: The watchdog vs the ecosystem builder approach.* Next-generation digital regulators will be both community builders *and* facilitators of access to inclusive digital opportunities for businesses and users. They will need to rebalance their portfolios, fulfilling several roles at the same time.
- *Tension 4: Sustainability vs economic growth.* The traditional GDP approach will fade while sustainability and energy efficiency will grow in importance – underlined by rising adoption of ESG measures and matching private sector CSR initiatives. Shifting to the broader focus will be slow, exacerbating divides and failing to reshape policy in the short term in developing and least developed countries.
- *Tension 5: National vs global regulation.* Governments need robust legal instruments – both national and international – to navigate the digital transformation. A global framework may be the only way to address issues such as two-sided markets, global digital platforms, digital currencies, privacy, ethics, transparency and taxation. New international and regional treaties will need to set boundaries, reframe rules and adapt them to digital markets.

These five policy and regulatory strategies will drive digital transformation.

- *Strategy 1: Build ambidextrous leadership.* When the only constant is change, sound policy leadership is imperative. Policy and regulatory leaders must blend traditional and experimental approaches, combining rule-making and enforcement. Policy leadership

embraces ambiguity and uncertainty, with a growth mindset and openness to experimental techniques such as sandboxing, policy labs and high-level frameworks for experimentation.

- *Strategy 2: Bridge silos and break through insularity.* Silos are still common in national institutions and policy implementation – but the global pandemic has shown the need for a whole-of-government approach. 60 per cent of ICT regulators now collaborate beyond their traditional sector with ministries of education, health and government services. In 70 per cent of countries, coordination and collaboration have increased between the ICT regulator and the national agency driving digital transformation.
- *Strategy 3: Develop a common language.* Consultation is core to effective, pro-market regulation. While public consultation on regulatory decisions is today commonplace in 80 per cent of countries, only a fifth use public consultations to guide regulatory decision-making. Most regulators still need to adopt a thorough, evidence-based approach to emerging issues, and to far-reaching regulatory decisions.
- *Strategy 4: Reframe and operationalize policy agendas.* How to plan ahead through uncertainty and ambiguity? Crafting a vision must balance needs and wants, translating them into goals while weighing the required resources. More than half of countries have digital strategies covering multiple economic sectors, underpinning economic recovery. However, most countries still need to define digital policy priorities and implementation frameworks.
- *Strategy 5: Skill up, and up again.* In the ‘new normal’, speed of learning provides a competitive edge for national decision-makers and regulators. Regulatory expertise needs to be developed continuously to integrate new technologies, competencies and skills – and to allow for data- and evidence-based decision-making.

Gen 5 is the baseline for agile, lean policy and regulation

- Gen 5 has a clear focus on digital, on cross-sector instruments, marks a shift from rules to principle-based regulation, offers innovative regulatory options, calls for regional integration of national regulatory approaches, heralds a move from ‘regulation as remedy’ towards managing harms to consumers, markets and governments – and challenges regulators to focus on an ecosystem approach.
- Gen 5 reflects five core elements that define national readiness for digital transformation. These elements are policy implementation, governance, regulatory reform, policy implementation and policy culture.
- Gen 5 is based on three decades of experience – of codified telecom and digital regulation best practice that form a gold standard for lean digital governance.

The state of digital regulation worldwide – we need a more strategic and concerted approach

New overlapping emergencies call for a more strategic, systemic and concerted approach to digital policy if we are to enhance public services, build long-term economic resilience, and spearhead innovation and social entrepreneurship over the mid- to long term.

Globally, we would score 5 out of 10 in 2022 as we quantify the readiness of national frameworks for digital transformation. Both developed and developing countries have come a long way, but the work isn’t complete. Vast gaps separate the most and the least advanced countries in their digital transformation.

Nine issues on every regulator’s radar screen

1. Challenges in Internet regulation

- Neither *ex-ante* or *ex-post* regulation effectively addresses Internet-related issues alone.

- How can individual national regulators regulate platforms with global reach?
- The speed of tech evolution will continue to outpace lawmakers.
- Many digital technologies bridge historical silos, calling for profound collaboration between regulators.
- Does regulation consider issues like anonymity, identity and privacy from technical, efficiency or rights perspectives?
- Who will regulate the metaverse, or job substitution of computers for human workers, ICTs' carbon emissions or the 'right to be forgotten'?

2. Cybersecurity

Telecom/ICT regulators' mandates differ and there is no one-size-fits-all solution. It is important to highlight initiatives that ensure cybersecurity governance by operators, foster best practice, diagnose incidents, promote awareness, share information – and protect critical infrastructure.

3. Is it possible to regulate artificial intelligence (AI)?

Popular applications of AI include facial recognition systems, self-driving cars, neural networks, photo or object identification, translation and search software, and text chatbots. Regulators need to monitor and consider the implications – present and future – of this fast-moving area. Guidance on AI development include the European Commission's Communication on AI¹ and Ethics Guidelines for Trustworthy AI²; the OECD's Principles for AI³ ; and the UNESCO Recommendation on the Ethics of Artificial Intelligence.⁴

4. Online financial services – growing calls to regulate cryptocurrencies

Crypto-currency regulation is challenging because of complexity, anonymity, and online ubiquity across borders. Nascent regulatory approaches build on the tradition of banking regulations. Regulations could extend these and include: 1) defining asset classes; 2) licenses to operate within a certain territory (difficult to enforce); 3) minimum capital and liquidity requirements; 4) maximum exposure, gearing or leverage and risk limits; 5) customer deposit or customer protection guarantees, including protection against fraud.

5. ICT regulatory sandboxing for innovation

Regulatory sandboxes are resource intensive, can increase risk for the regulator (in terms of competition and collusion) and can be difficult to scale to meet the demand. These risks need to be constantly monitored and considered from conceptualization, operationalization, as well as at reporting on and exiting the sandbox. ICT regulators in Colombia, Mexico, France, Thailand and Saudi Arabia have set up sandboxes as an alternative to traditional initiatives.

6. Can regulation support green *and* digital transitions?

Higher regulatory pressure to report climate data is needed to cement digital transformation and a company's green innovation. NRAs can work with public bodies' in efforts to increase available data and support harmonizing standards and methodologies.

¹ European Commission. 2018. [Communication Artificial Intelligence for Europe](#).

² European Commission. 2019. [Ethics Guidelines for Trustworthy AI](#).

³ OECD. 2019. [Principles for AI](#).

⁴ UNESCO. 2021. [Recommendation on the Ethics of Artificial Intelligence](#).

7. e-Waste

Only 40 per cent of countries have a national policy, legislation or regulation governing the management of e-waste⁵, with very few of these are legally binding or even in the implementation phase. A strong national framework where ICT regulation meets environmental management regulation is imperative in order to lay out the legal obligations which will help boost e-waste collection and recycling and hold certain actors in the electronics sector accountable for the environmental impact of their businesses. Government ministries and agencies (including for ICTs and the environment) and regulators need to work together to improve e-waste compliance frameworks and practices.

8. Early warning systems

Early warning systems have been largely unregulated. In 2018, the EU passed a new law stipulating each Member State should have early warning systems that send alerts via mobile networks. This approach has been effective, with all European countries responding. A clear regulatory framework, appropriate incentives and financial alignment to funding programmes accelerate drastically the roll-out of early warning systems, at a reasonable cost, and with massive impact on public safety.

9. Regulating the use of earth orbits by objects

Some best practice, studies, standards and rules exist. The Radio Regulations manage the spectrum and its use from an orbital location and prevent harmful signal interference. ITU Recommendation ITU-R S.1003.2 (12/2010) addresses environmental protection of the geostationary-satellite orbit, the GSO 'graveyard' and limiting debris in general. The United Nations Office for Outer Space Affairs (UNOOSA) maintains a register of space objects within limits – it involves non-mandatory registration. Soft law, sharing practices and standards will not be enough to ensure space sustainable activity. Even though needed sooner rather than later, the development of formal regulation will take time and will be costly.

For more information please visit the [website](#)

⁵ bid: <https://www.itu.int/en/ITU-D/Environment/Pages/Toolbox/Global-Ewaste-Monitors.aspx>