

# Using Experiments in New Technology Policy and Regulatory Sandboxes for Digital Transformation

## Pilot initiatives in the Republic of Kazakhstan UN DESA and ESCAP



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# Global UN SG “Our Common Agenda”

## KEY PROPOSALS ACROSS THE 12 COMMITMENTS

From the declaration on the commemoration of the seventy-fifth anniversary of the United Nations

All proposed actions are in line with and designed to accelerate the achievement of the Sustainable Development Goals.

### 1. Leave no one behind

- Renewed social contract anchored in human rights
- New era for universal social protection, including health care and basic income security, reaching the 4 billion unprotected
- Reinforce adequate housing, education and lifelong learning and decent work
- Digital inclusivity
- World Social Summit in 2025
- Identify complementary measures to GDP

### 2. Protect our planet

- Leaders meeting ahead of the global stocktaking in 2023
- Commit to the 1.5 degree Celsius goal and net-zero emissions by 2050 or sooner
- Declarations of climate emergency and right to a healthy environment
- Package of support to developing countries
- Measures for adaptation and resilience
- No new coal after 2021 and phasing out fossil fuel subsidies
- Account for the environment in economic models, carbon pricing mechanisms and credible commitments by financial actors
- Post-2020 biodiversity framework
- Transforming food systems for sustainability, nutrition and fairness
- Action by the General Assembly on territorial threats of climate change and to prevent, protect and resolve situations of environmental displacement

### 3. Promote peace and prevent conflicts

- New agenda for peace to:
  - Reduce strategic risks (nuclear weapons, cyberwarfare, autonomous weapons)
  - Strengthen international foresight
  - Reshape responses to all forms of violence
  - Invest in prevention and peacebuilding, including Peacebuilding Fund and Peacebuilding Commission
  - Support regional prevention
  - Put women and girls at the centre of security policy
- Peaceful, secure and sustainable use of outer space, including through a multi-stakeholder dialogue on outer space

### 4. Abide by international law and ensure justice

- Human rights as a problem-solving measure, including by comprehensive anti-discrimination laws and promoting participation
- Application of human rights online and to frontier issues and new technologies
- Universal access to the Internet as a human right
- Human rights mechanisms on a more sustainable financial footing
- Legal identity for all, end to statelessness and protection of internally displaced persons, refugees and migrants
- New vision for the rule of law
- Global road map for the development and effective implementation of international law

### 5. Place women and girls at the centre

- Repeal of gender discriminatory laws
- Promote gender parity, including through quotas and special measures
- Facilitate women's economic inclusion, including investment in the care economy and support for women entrepreneurs
- Include voices of younger women
- Eradication of violence against women and girls, including through an emergency response plan

### 6. Build trust

- Global code of conduct that promotes integrity in public information
- Improve people's experiences with public institutions and basic services
- Inclusive national listening and "envisioning the future" exercises
- Action to tackle corruption in line with the United Nations Convention against Corruption
- Reformed international tax system
- Joint structure on financial integrity and tackling illicit financial flows

## PROPOSED KEY MOMENTS



### 7. Improve digital cooperation

- Global Digital Compact to:
  - Connect all people to the Internet, including all schools
  - Avoid Internet fragmentation
  - Protect data
  - Apply human rights online
  - Introduce accountability criteria for discrimination and misleading content
  - Promote regulation of artificial intelligence
  - Digital commons as a global public good

### 8. Upgrade the United Nations

- High-level Advisory Board led by former Heads of State and Government on improved governance of global public goods
- System-wide policy that puts people at the centre, taking into account age, gender and diversity
- More listening, participation and consultation (including digitally), building on the seventy-fifth anniversary declaration and Our Common Agenda
- Gender parity within the United Nations system by 2028
- No establish the Secretary-General's Scientific Advisory Board
- "Quintet of change" for United Nations 2.0, including innovation, data, strategic foresight, results orientation and behavioural science

### 9. Ensure sustainable financing

- Global Summit between the G20, the Economic and Social Council, the Secretary-General and the head of International Financial Institutions to establish a sustainable, inclusive and resilient global economy including to:
  - Support a Sustainable Development Goal Investment boom, including through a last-mile alliance to those furthest behind
  - Provide more flexible research development incentives
  - Resolve weaknesses in the debt architecture
- Fairer and more resilient multilateral trading system, including a reinvigorated WTO
- New business models
- Improve the United Nations budget process

### 10. Boost partnerships

- Annual meetings between the United Nations and all heads of regional organizations
- Stronger engagement between the United Nations system, international financial institutions and regional development banks
- More systematic engagement with parliaments, subnational authorities and the private sector
- Civil society focal points in all United Nations entities
- United Nations Office for Partners to consolidate assets and include including accessibility online



## 7. Improve digital cooperation

### Global Digital Compact to:

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- Avoid Internet fragmentation
- Protect data
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## ☐ Research and Policy Advice

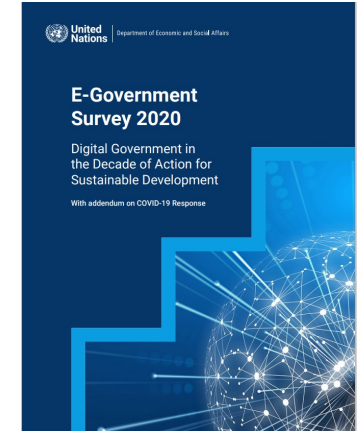
- ✓ UNDESA E-Government Survey
- ✓ Digital Transformation Framework – ESCAP (upcoming)

## ☐ Technical Cooperation

- ✓ Specific requests from the UN Member States

## ☐ Capacity Building Activities

- ✓ Regular Expert Group Meetings, workshops, conferences
- ✓ Pilot projects funded by or jointly with Member States
- ✓ **UN Development Account** for innovative projects



## Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

# DA2124B - Frontier Technology Policy Experimentation and Regulatory Sandboxes in Asia and the Pacific

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Objective	To improve the institutional capacity of developing countries to <b>understand, conceptualize and implement policy experiments and regulatory sandboxes</b> on frontier technologies for Sustainable Development
Project Timeline	<b>June 2021 – Dec 2024</b>
Target countries	<b>Bangladesh (LDC) Kazakhstan (LLDC) Maldives (SIDS)</b>



# Project Outputs and outcomes

## Outputs

1. National and regional capacity development workshops and study visits
2. Conduct research and national studies
3. Draft strategy, policy and regulatory documents
4. Implement policy experiments and/or regulatory sandboxes

## Outcomes

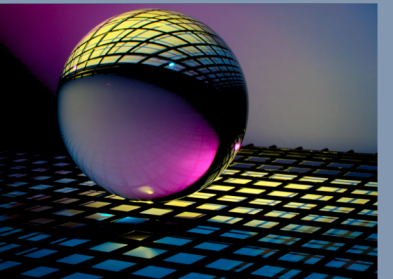
1. Enhanced **institutional capacity to identify opportunities and gaps** (institutional, policy, regulatory, and infrastructure support)
2. Improved **capacity** of target countries **to conceptualize and implement solutions**
3. Enhanced global and regional dialogue and cooperation among countries and stakeholders, for **possible replication and scale-up** in other regions and countries

# Project Countries

Project Country	Bangladesh	Kazakhstan	Maldives
Focal Point	A2i, ICT Division + other national stakeholders	Ministry of Digital Development, Innovations and Aerospace Industry, Ministry of Energy +other national stakeholders	Ministry of Environment, Climate Change, and Technology + other national stakeholders
Proposed Focus Areas	(1). Cottage Micro SME Hub for Digital Acceleration (2). Broadband equity	(1). Autonomous vehicles (2). Decentralization, digitalization & decarbonization in the Energy Sector	(1). Central Bank Digital Currency (2). Stable Coins

# Why Regulatory Sandboxes?

## Frontier Technologies



### Mechatronics

Drones  
Robotics  
Sensors  
Autonomous vehicles  
Autonomous marine technology

### Software Applications

Big data  
Data analytics  
Machine learning  
AI  
Gaming  
Cybersecurity

### Infrastructure

Cloud computing  
Solar grids  
Blockchain  
5G

### Trans-disciplinary

Quantum technologies  
Space technology  
Energy efficient technologies  
Bio-based innovation systems



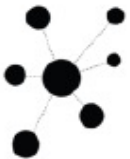
# Why Regulatory Sandboxes?

## Various institutional approaches in sandboxing and experimenting<sup>a</sup>



### Innovation Hubs

A **defined space** (physical, virtual, or both) with **dedicated facilities and resources** to nurture new ideas and innovations.



### Policy Experiments

A **policy experiment** allows policymakers ministries and government agencies test new ways to **solve policy problems within a control group**, e.g., in randomized controlled trials (RCTs).



### Regulatory Sandboxes

A framework or environment that is **insulated from current regulations, or the absence of**. It allows for the **live testing** of services and business models **in the market**, with real customers, while benefiting from **relaxed/flexible regulatory requirements**, often at **a smaller scale**, on **a time-limited basis**, and with **appropriate safeguards** in place.



Regulatory sandboxes correspond to frameworks or environments designed with **lenient and flexible regulations**.

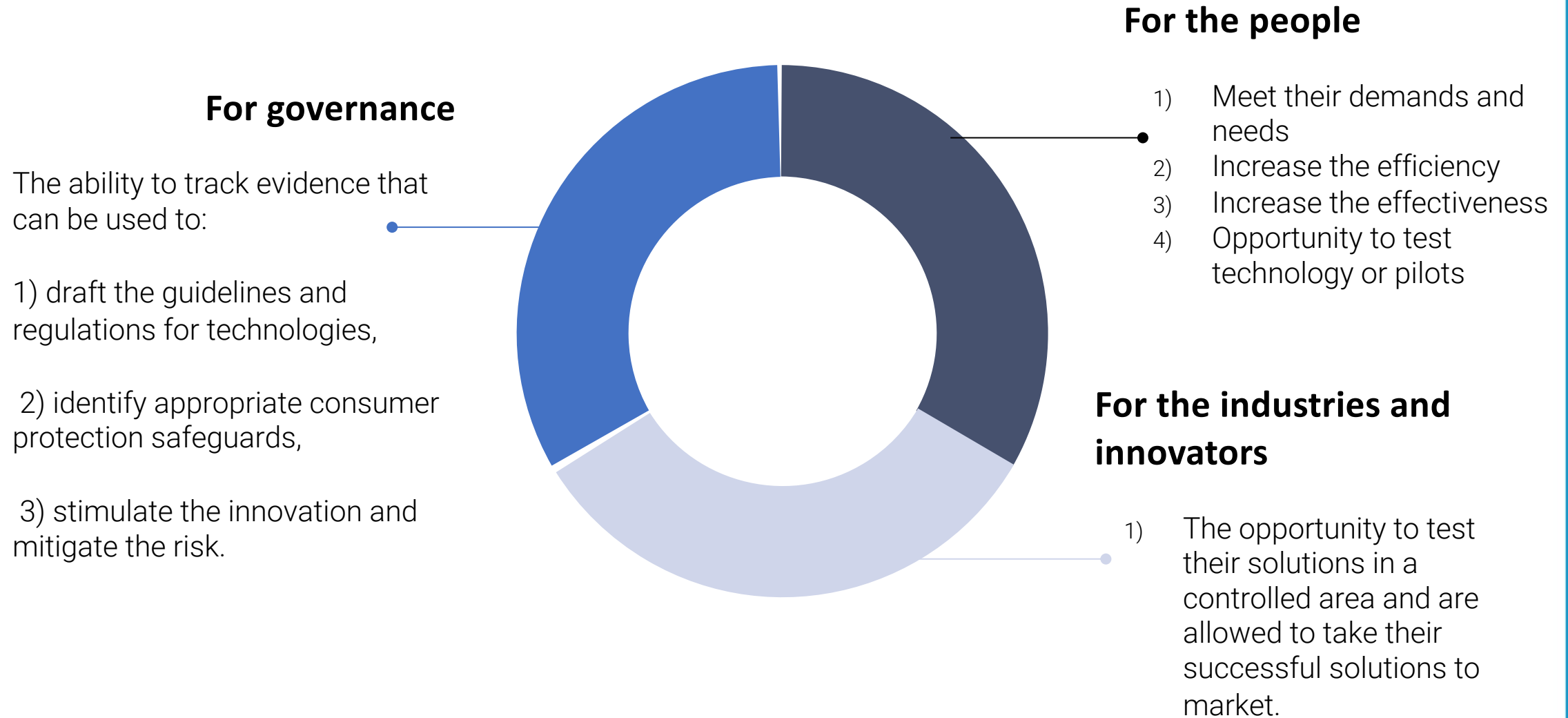
Regulatory sandboxes allow for the **live testing** of innovations, services, and business models **in the market**, with real customers, while benefiting from relaxed regulatory requirements at a smaller scale, on a time-limited basis, and with appropriate safeguards in place.

Their aim is to **facilitate** the development of emerging innovative technologies, as well as their **rapid** and effective inclusion within the economic market, through parallel **adjustments** of innovations and the regulations in place.

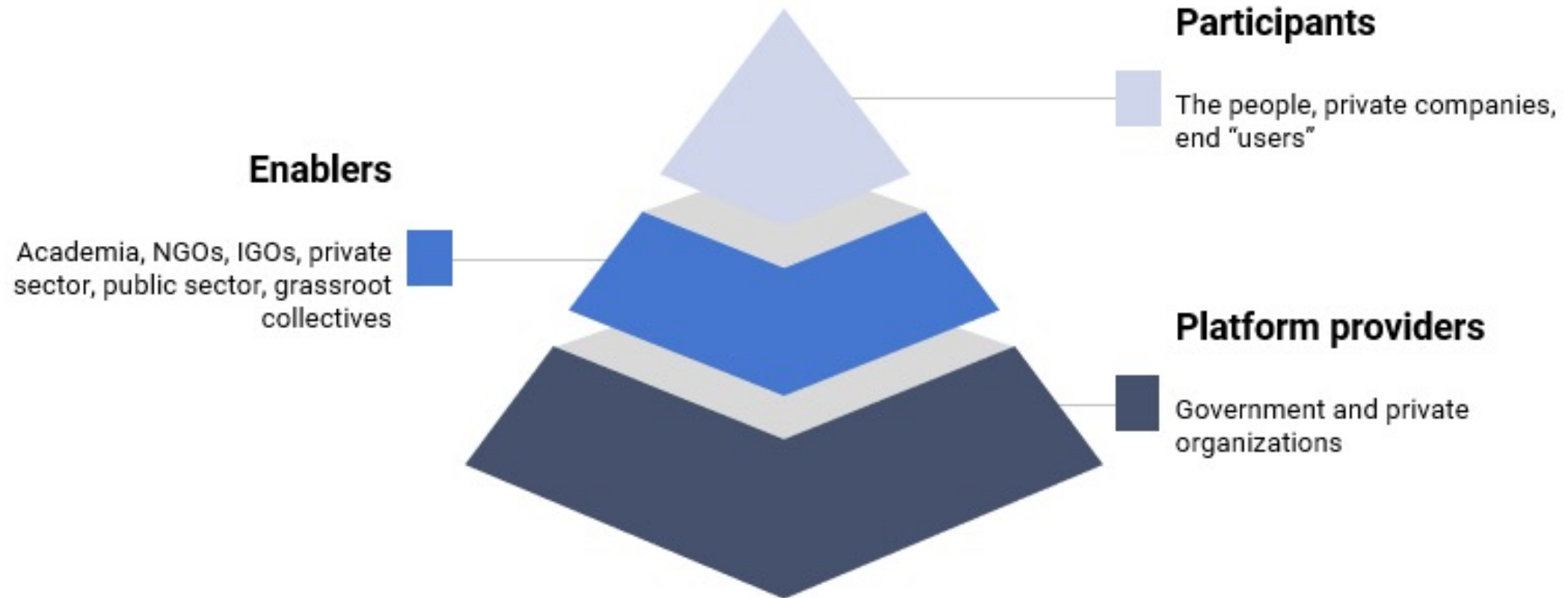
Regulatory sandboxes also have the potential to meet several objectives: **regulatory**, as well as **institutional**.

<sup>a</sup> UN DESA, 2021. Sensitization Workshop on "Frontier Technology Policy Experimentation and Regulatory Sandboxes", 3 June 2021. Presentation by Wai Min Kwok

# Benefits of Regulatory Sandboxes

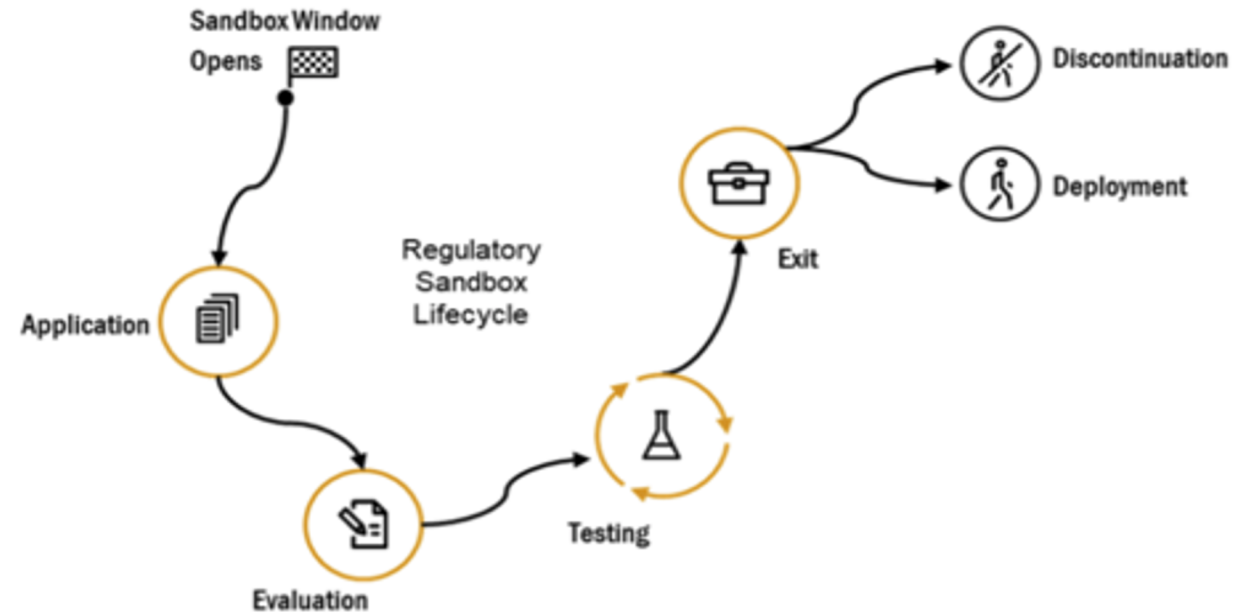
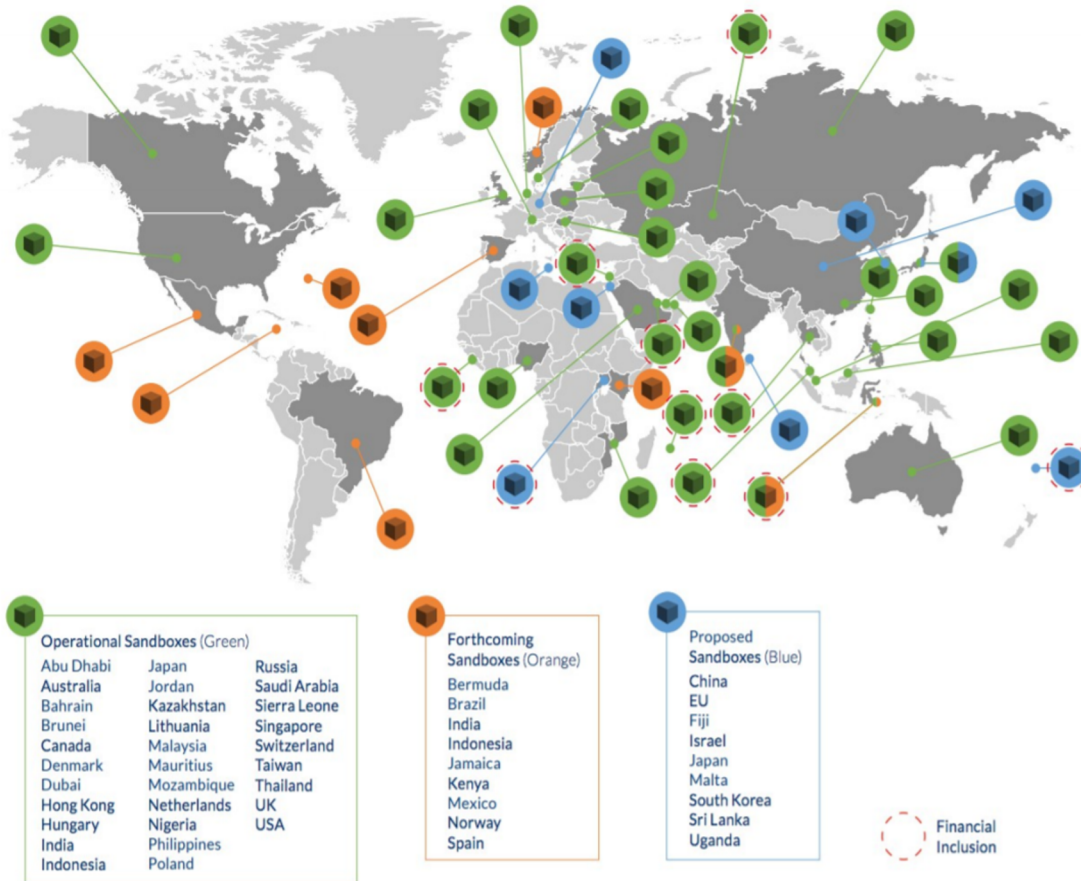


# Ecosystem of stakeholders



# Procedure

## Sandboxes



### Applications of sandboxes in various sectors<sup>a</sup>



# Relevance to the SDGs



Digitalization and technological advances have pushed development to a whole new level, bringing innovative, forward-looking solutions with enormous potential to fast forward the achievement of the **2030 Agenda for Sustainable Development**, across all 17 goals and several global targets.



The effective introduction of sandboxes and experiments can address policy or regulatory gaps, while striking a balance between policy and regulation constraints and the promotion of technology-driven innovations, in order to achieve optimal contributions to sustainable development, while containing risks of new technologies to the minimum.



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# Regulatory Sandboxes to test in Kazakhstan

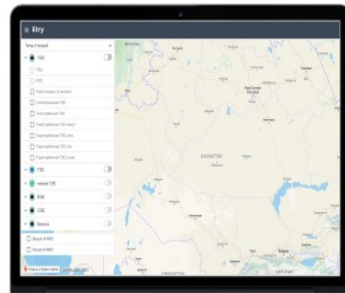
## Реализация проекта «Цифровая карта генерации»

**Цель проекта** – организация режима эксплуатации основных производственных фондов, обеспечивающего максимальную возможность загрузки производства за счет поддержания коэффициента технической готовности при допустимом уровне планового простоя на обслуживание и ремонт.

**Задачи** решаемые в рамках Проекта:

1. Автоматизация процесса получения данных об исполнении ремонтных и инвестиционных программ, загрузке оборудования.
2. Определение индекса технического состояния.
3. Обоснование точечного бюджетирования модернизации производственного оборудования.
4. Сокращение разницы между установленной и располагаемыми мощностями.
5. Увеличение технической надежности оборудования генерирующих объектов.
6. Представление отчетов по технологическим нарушениям и оперативным сообщениям.
7. Создание пр...

**Основание:** Проект направлен на реализацию мероприятия №5 Национального проекта «Технологический рывок за счет цифровизации, науки и инноваций», утвержденного Постановлением Правительства Республики Казахстан от 12 октября 2021года №727.



## Реализация проекта «Цифровой кабинет потребителя»

**Показатели потребления и/или генерации электрической энергии и мощности**  
Учет электроэнергии  
**Выбор ЗСО, тарифных планов на электроэнергию и биллинг**  
Рекстр ЗСО  
**Информация о плановых и аварийных отключениях электроэнергии**  
Учет качества энергоснабжения

1. Средства для учета потребления и генерации электроэнергии кВт\*ч, кВт
2. Тарифные планы ЗСО, счета за потребление и/или генерацию и их оплата кВт\*ч, среднее, по дням недели и/или зонам суток, т/мес/год
3. Подключение потребителей к электрическим сетям кВт
4. Средства по плановым и аварийным отключениям электроэнергии



Launch of autonomous vehicles within the regulatory sandbox



**United  
Nations**

Department of  
Economic and  
Social Affairs

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谢谢

Thank You

Merci

Спасибо

Gracias

