AI Sandboxes: Regulatory Learning in Action

Summary Report of the Global Network of Internet and Society Centers
Side Event, UNESCO Global Forum on the Ethics of Artificial Intelligence
Bangkok, June 24, 2025

This side event, hosted as part of the UNESCO Global Forum on the Ethics of AI, brought together regulators, scholars, and practitioners from Europe, Latin America, Africa, and Asia to explore the role of AI sandboxes as instruments of regulatory innovation, adaptive governance, and institutional learning. Co-moderated by Professor Urs Gasser (Technical University of Munich) and Armando Guio Español (Global Network of Internet & Society Centers), the session featured comparative insights from leading voices in law, policy, and technical experimentation.

Framing the Discussion

In his opening remarks, Professor Gasser introduced the session's structure: first, a focused examination of the European Union's regulatory sandbox model as set forth in the AI Act; second, a global scan of diverse implementations from across regions; and finally, a synthesis of key learnings, challenges, and opportunities for collaboration. He emphasized that AI sandboxes—often conceptualized as "regulatory Rorschach tests"—mean different things to different stakeholders. Establishing a shared understanding is essential to advancing coordinated experimentation and cross-border learning.

Additionally, Dr. Sak Segkhoonthod (ETDA, Thailand) announced that Thailand is preparing to launch an **AI Governance Practice Center** under UNESCO's Category II framework. This specialized center will offer training and capacity-building—particularly to developing countries—and will include sandboxing methodologies as part of its curriculum. Thailand's commitment illustrates how global convenings like this one can translate into concrete institutional investments in regulatory learning.

Key Themes and Insights

1. AI Sandboxes as Instruments for Regulatory Learning

Lorrayne Porciuncula (Datasphere Initiative) provided a foundational taxonomy for understanding different types of sandboxes:

- **Operational sandboxes**, which test new data governance models and innovative technical solutions;
- **Regulatory sandboxes**, which test new technologies or business models under legal supervision;
- **Hybrid models**, combining operational and regulatory features; and
- A proposed fourth category: **Policy sandboxes**, which focus on testing policy responses before legislation is enacted.

Drawing on a global inventory of over 400 cases, she highlighted that sandboxes vary not only in structure but also in timing, stakeholder engagement, and motivation. For regulators, sandboxes help manage uncertainty and rapid technological change; for SMEs, they offer access, validation, and the opportunity to engage directly with oversight bodies. She concluded that sandboxing is a key tool for navigating the AI frontier—but only if matched with intentional design, documentation, and contextual adaptation.

2. Institutionalization through the EU AI Act and National Pilots

European Union – Legal Foundations and Dual Mandate

Sophie Weerts (University of Lausanne) explained that under the EU AI Act, sandboxes are defined in Article 3(55) and further detailed in Articles 57–59. Their mandate is twofold: to support **innovation** and to enhance **legal compliance**. All Member States are required to establish national (and potentially regional) sandboxes by August 1, 2026.

Participation must be time-limited, especially accessible to SMEs, and structured around a **sandbox plan** co-developed by regulators and AI providers. The sandbox process includes written documentation and an **exit report**, both of which aim to facilitate future market approvals and inform the broader regulatory community.

The Netherlands – Cross-Sectoral Rapid Response and Dialogue

Meindert Kamphuis (Dutch Authority for Digital Infrastructure) presented the Netherlands' **cross-sectoral sandbox pilot**, which included 40 public questions and five formal sandbox cases. The model emphasizes **low-barrier engagement** with rapid feedback (target: 2 weeks) and promotes a shift from regulatory compliance to **regulatory dialogue**. The pilot was possible due to years of prior collaboration among Dutch regulators.

Kamphuis stressed the need for technical literacy among regulators and highlighted that real impact comes from creating environments where innovation and oversight can jointly explore difficult questions—especially around risk classification and societal benefit.

Luxembourg – Trust, Taxonomy, and Ecosystem Building

Sadia Berdai (Luxembourg Data Protection Authority) described Luxembourg's sandbox as a **collaborative environment**, rooted in GDPR but responsive to emerging challenges under the AI Act. Rather than offering abstract legal guidance, the sandbox provides **practical advice** grounded in real-world experimentation. Berdai emphasized that **semantic clarity**—for example, shared understanding of terms like "governance"—is essential to successful collaboration.

The Luxembourg model integrates external expertise (e.g., cybersecurity, data science) and builds trust by framing sandboxing as **co-development**, not oversight. Its ecosystemic orientation ensures sustainability and responsiveness beyond the pilot phase.

3. Global Innovation and Insights from Sandbox Experiences

Moderated by Armando Guio Español (Global Network of Centers), this second section featured cases from Singapore, Brazil, Rwanda, the UK, and Mauritius—each demonstrating novel approaches to adaptive AI governance. The objective was to understand how sandbox design and implementation processes have unfolded around the world, and to draw lessons that enhance learning on these emerging models of regulatory experimentation.

Singapore – Multi-Stage, Value-Centered Experimentation

Wan Si Lee (Infocomm Media Development Authority) outlined three sandbox models being implemented in this country:

1. A **generative AI evaluation sandbox**, loosely structured and focused on learning;
2. The **Global AI Assurance Pilot**, involving 70 use cases across 10 sectors, generating soft standards and peer learning;
3. A highly structured **Privacy Enhancing Technologies (PETs) sandbox**, with real PoCs, cross-border collaboration, and government co-funding.

Singapore's approach centers on **co-creation**, **sectoral relevance**, and strategic government participation—often providing soft endorsement that helps firms (especially SMEs) justify experimentation internally.

Brazil – Public Service AI with Legal Safeguards

Eliza Lemos (Attorney General's Office) presented Brazil's AI sandbox in the public sector, focused on automating decisions in **Social Security benefits**. The model incorporates:

- **Strong governance** (through LABGEN and the AGU's Secretariat of Governance),
- **Traceability and reversibility**, and
- Alignment with Brazil's **General Data Protection Law (LGPD)**.

Inspired by Singapore's pilots, the Brazilian sandbox emphasizes accountability, transparency, and human oversight, particularly for sensitive legal decisions. Lemos concluded that sandboxing builds institutional trust when innovation remains anchored in constitutional and democratic principles.

Rwanda – Public Sector Demand and Contextual Maturity

Gaelle Umutonin (Ministry of ICT and Innovation) presented Rwanda's public-sector-led sandbox model. Rather than starting with private sector proposals, Rwanda identifies **institutional needs** and co-develops solutions with innovators and academia.

Following the launch of its national AI policy, Rwanda developed a **Readiness and Maturity Assessment Framework**. This framework adapts international benchmarks to six local policy pillars and has directly informed Rwanda's ethical guidelines and data sharing policy.

United Kingdom – Rights-Based Sandboxing in the Workplace

Abby Gilbert (Institute for the Future of Work) presented a novel sandbox focused on AI at work. The **Good Work Algorithmic Impact Assessment** evaluates how AI systems affect hiring, performance, and dignity in labor contexts, based on ten principles from the UK's **Good Work Charter**.

The sandbox is a **multi-regulator collaboration** (ICO, EHRC, FRC), focusing on **downstream adoption** and **ex ante to ex post oversight**. It explores how employment laws intersect with procurement and use of AI tools, offering a rights-based lens for algorithmic governance and supply chain accountability.

Mauritius – Pre-Commercial Innovation and Public Sector Readiness

Suraj Ramgolam (Ministry of Public Service and Administrative Reforms) detailed Mauritius's **sandbox framework for digital transformation**, operational since 2021. Inspired by EU models like the Innovation Partnership, the framework enables **pre-commercial procurement** and experimentation with **emerging technologies**—such as AI agents in HR or legal domains.

With dedicated public funding ($500,000 allocated in the 2025–26 national budget), Mauritius is positioning itself as an **early adopter of AI in public service**, combining institutional agility with localized testing environments.

4. Ecosystemic Design and Readiness

Speakers stressed that sandboxes cannot function in isolation. They require:

- **Technical and Legal Expertise**:
  Sandboxes must be supported by interdisciplinary teams with both technical fluency (e.g. AI systems, data infrastructure) and legal competence (e.g. compliance, rights, risk classification). Without this dual expertise, regulators may struggle to assess emerging technologies or provide meaningful guidance.

- **Inter-Agency Coordination**:
  Effective sandboxing often requires collaboration across multiple regulatory bodies, particularly when AI systems span domains (e.g. health, labor, finance). Strong coordination ensures consistency, avoids duplication, and enables coherent responses to complex, cross-cutting innovations.

- **Sustainable Funding**:
  Sandboxes require dedicated resources—not only for infrastructure and staffing, but also to support participants (especially SMEs), produce documentation, and scale successful pilots. Without stable financing, sandboxes risk becoming one-off exercises rather than long-term regulatory tools.

- **Policy Flexibility**:
  Sandboxing demands regulatory openness: the ability to test, learn, and adjust in real time. This includes flexible procedures for exemptions, temporary authorizations, or tailored guidance—while maintaining safeguards and accountability throughout the process.

Readiness assessments and diagnostic tools were identified as essential at this point. Some participants recommended prioritizing lightweight models accessible to SMEs, as well as the systematic translation of sandbox learnings into policy guidance. Best practices included Singapore's post-sandbox publications and Luxembourg's "Regulation Meets Innovation" (REMI) program.

Follow-Up Considerations

1. **Documentation and Knowledge Transfer**
   Transparency is essential. The toolkits developed by Singapore and Luxembourg underscore the value of publicly available documentation. Establishing global repositories and standardized metrics can enhance interoperability and foster mutual learning.
2. **Stakeholder Inclusion**
   Eligibility criteria directly influence who participates. Ensuring access for small and medium-sized enterprises, civil society actors, and underrepresented communities is vital to promoting equity, legitimacy, and broader engagement.
3. **Community of Practice**
   As highlighted by Ania Piet (OECD), the harmonization of sandbox definitions—and their integration with broader regulatory innovation mechanisms such as derogation, devolution, and prototyping—can catalyze the development of global knowledge-sharing networks.
4. **Contextual Adaptation**
   Participants from Thailand emphasized that premature deployment of sandboxes can be counterproductive. Tools like the Regulatory Sandbox Maturity Assessment (RESMA), introduced by Armando Guio Español, can help align sandbox design with institutional capacity from the outset.
5. **Iterative Evolution**
   Regulatory sandboxes are not static. They may evolve over time—not only across types but also within a single type—as institutional learning progresses and governance needs shift. In practice, we are likely to observe divergent orientations: some sandboxes may prioritize regulatory flexibility and experimentation, while others may focus more explicitly on enhancing regulators' understanding of technological advancements. This variation reflects differing institutional mandates, sectoral priorities, and levels of regulatory maturity.

Conclusion

The side event on AI Sandboxes underscored that experimentation is no longer a regulatory luxury—it is a governance imperative. As AI technologies rapidly evolve, jurisdictions must build frameworks that are not only rights-based and adaptive, but also inclusive, iterative, and grounded in real-world application. Sandboxes offer precisely this: structured spaces for regulatory learning, institutional trust-building, and collaborative problem-solving.

A key insight that emerged from the discussion is the growing shift from viewing sandboxes merely as testing grounds toward recognizing them as platforms for **regulatory dialogue**. As Armando Guio Español emphasized in his conclusion, the design and implementation of sandboxes must prioritize the participation of diverse stakeholders—not just as contributors, but as co-creators in the governance process. However, participation must be approached with intentionality. As noted in the discussion, there is a risk of **competitive exclusivity**, where sandboxes attract only elite or well-resourced participants. Instead, sandboxes should be designed to foster broad

inclusion—particularly of SMEs, public institutions, and communities that might otherwise be excluded from AI governance debates.

In sum, sandboxes are not ends in themselves, but vehicles for regulatory innovation and—in some cases—democratic legitimacy. As jurisdictions around the world seek to govern AI in ways that are ethical, effective, and locally grounded, sandboxes offer a concrete and flexible model for advancing that goal and allowing for the development of the best possible regulatory approaches.