Exploring the Potential for a Privacy Regulatory Sandbox for Ontario

Teresa Scassa
Elif Nur Kumru

DECEMBER 2024

Table of Contents

Disclaimer

This report was completed in partnership between Dr. Teresa Scassa, Canada Research Chair in Information Law and Policy at the University of Ottawa Faculty of Law, and Elif Nur Kumru, a Ph.D. in Law candidate at the University of Ottawa Faculty of Common Law, and the Office of the Information and Privacy Commissioner of Ontario (IPC). The report synthesizes emerging literature on regulatory sandboxes and innovation hubs and explores the potential for a privacy regulatory sandbox in Ontario. The views reflected within the report are not necessarily those of the IPC. The report is for informational purposes only; should not be relied upon as a substitute for the legislation itself or as legal advice; and does not bind the IPC, which may be called upon to independently investigate and decide upon an individual complaint or appeal based on the specific facts and unique circumstances of a given case. For the most up-to-date version of this report, visit the IPC's website at **www.ipc.on.ca.**

Acknowledgements

The project that resulted in this report was conceived in partnership with the Office of the Information and Privacy Commissioner of Ontario ("OIPC"). We gratefully acknowledge the engagement of Patricia Kosseim, Ontario's Information and Privacy Commissioner in providing support for this work and for offering helpful feedback and comments on this report. We are also grateful to Michael Maddock, Assistant Commissioner at the OIPC, Andrew Drummond, Director of the Health Policy Department, and Andrea Ramsarran, Senior Health Policy Advisor of the OIPC, for their participation and feedback throughout the process.

We are also deeply appreciative of the generosity of Kari Laumann, Head of Section for Research, Analysis and Policy/Project Manager for the Regulatory Sandbox at the Norwegian Data Protection Authority "Datatilsynet"; Claire Chadwick, Group Manager for the United Kingdom Information Commissioner's Office ("ICO") Regulatory Sandbox, Sarah Kennedy, Senior Policy Officer in the ICO Sandbox team, Stilyana Stoyanova, Senior Policy Officer in the Innovation Hub at the ICO, and Marjorie Menapace, Legal Counsel for France's Commission nationale de l'informatique et des libertés (CNIL), who met with us to discuss their privacy sandbox work with their respective data protection authorities. Their insights are deeply appreciated.

This research project was funded by the Social Sciences and Humanities Research Council of Canada as part of their Partnership Engage program (#892-2023-1047), which supports academic researchers who partner with another entity to complete timely research on topics of mutual interest. We are grateful for the support received for this partnership between the authors of this report and the Office of Ontario's Information and Privacy Commissioner.

Executive summary

This report examines the concept of a privacy regulatory sandbox and how it could fit within the mandate of the Office of the Information and Privacy Commissioner of Ontario (IPC). The three goals of this report are to: analyze and synthesize the emerging literature on regulatory sandboxes and innovation hubs; provide a comparative analysis of recent initiatives of some key international privacy regulators that have created privacy regulatory sandboxes; and identify the key elements and considerations for the IPC's development of a privacy sandbox.

Regulatory sandboxes are controlled environments that facilitate the development, testing and validation of innovative products or services for a limited time before market entry, under a regulator's supervision. They can help shape innovation in socially beneficial ways while ensuring compliance. Sandboxes originated in the financial technology sector but are now increasingly used in other areas like privacy and artificial intelligence (AI). The European Union's *AI Act* specifically adopts sandboxing as a tool to enable agile regulation of AI.

Often compared to regulatory sandboxes, innovation hubs are less formalized spaces than sandboxes. They typically offer a specific contact point where organizations can ask questions and receive non-binding advice on regulatory expectations and compliance. Unlike sandboxes, innovation hubs lack strict entry requirements and do not provide regulatory relief. However, they can complement a regulatory sandbox.

Currently, there are no Canadian privacy sandboxes under the authority of privacy regulators. However, several privacy regulators worldwide have been experimenting with regulatory sandboxes, including, but not limited to those in the United Kingdom, Norway, France, Singapore, Colombia, Sweden, Iceland and Brazil. Although sandboxes in other regulatory contexts may provide exemptions from regulatory requirements, data protection laws may not allow for such exceptions. Where this is the case, privacy sandboxes rely on general advisory powers of the regulator to provide structured guidance to participants.

Key considerations for the development of an effective privacy regulatory sandbox include: identifying a legal basis for the sandbox; engaging in extensive consultation with relevant parties; determining strategic sectors, themes or priorities; establishing clear selection criteria; articulating terms of engagement and exit and termination rules; setting a limited duration for sandbox participation; allocating adequate fiscal and human resources, and providing transparent reporting of the lessons learned from the sandbox project as well as ongoing evaluation mechanisms to assess and adjust the sandbox as needed.

Possible benefits of a well-designed privacy sandbox include supporting privacy-protective innovation in areas like AI, enhancing the regulator's expertise on emerging technologies, and informing guidance and potential law reforms. Key challenges include resourcing the sandbox, ensuring adequate interest and uptake, and managing any potential conflicts with the regulator's enforcement duties. Overall, thoughtfully designed regulatory sandboxes can facilitate privacy-protective innovation in the public interest, while generating new knowledge and capacity for regulators and regulated parties.

I. Introduction

Governments and public sector institutions in Canada are often caught between the potential for data analytics and AI technologies to unleash important new insights from available public sector data and the limitations of first-generation data protection laws that favour a more siloed approach to the use of personal data. In this context, while the protection of privacy remains a fundamental requirement, there is also a need to enable new uses of data that serve the public interest and support data-driven decision-making. In addition, the rapid pace of technological change and the revolutionary impact of AI systems can make it challenging for innovators and regulators alike to understand whether and how existing laws and regulations apply to new technologies. A privacy regulatory sandbox has the potential to facilitate privacy-protective innovation while generating new knowledge and capacity for both the regulator and regulated parties.

This report examines the concept of a privacy regulatory sandbox and how it might fit within the mandate of the Office of the Information and Privacy Commissioner of Ontario (IPC). In doing so, it also considers the related concept of an innovation hub, and it contrasts sandboxes and innovation hubs with a regulator's more routine openness to consultation with regulated parties. The three goals of this paper are to: analyze and synthesize the emerging literature on regulatory sandboxes and innovation hubs; provide a comparative analysis of recent initiatives of some international privacy regulators that have already created privacy regulatory sandboxes; and identify key elements and considerations for a privacy sandbox for the IPC.

The report begins by introducing the concept of regulatory sandboxes generally and comparing them to innovation hubs. It also distinguishes these two concepts from more general consultation with regulators. Next, it considers the origins and scope of regulatory sandboxes, followed by an overview of some Canadian examples. The report then examines the specific context of privacy sandboxes, as a distinct subset of regulatory sandboxes. In a final section, it distils some core elements and key considerations for a privacy regulatory sandbox in Ontario.

II. Regulatory sandboxes and innovation hubs

Regulators often engage with regulated parties to answer questions about the interpretation or application of their enabling legislation. For example, the Office of the Information and Privacy Commissioner of Ontario has general powers to provide information about the legislation they oversee and has established a framework for policy consultations that encourages parties under the province's privacy legislation to engage with their office.[1] This practice, however, is distinct from what takes place in both regulatory sandboxes and innovation hubs. Consultation is available to those who have questions, responses are non-binding, and the interaction does not involve an ongoing engagement between the parties. It also does not involve a mutual search for a solution to a difficult regulatory challenge.

1 Office of the Information and Privacy Commissioner of Ontario, Policy Consultations, (n.d.), https://www.ipc.on.ca/en/resources/guidance-organizations/policy-consultations.

By contrast, a regulatory sandbox is a form of experimental regulation that involves a sustained engagement between the regulator and sandbox participants, and that seeks a solution to a regulatory challenge. Innovation hubs coordinate resources to support innovation in a given sector, and involve interaction between regulators and participants, although not in the same focused way that a sandbox does. This section considers regulatory sandboxes and innovation hubs in turn, defining and distinguishing them from each other.

i. Regulatory sandboxes

Regulatory sandboxes are experimental and hybrid regulatory tools that have evolved to bridge the gap between rapid developments in technology, and slow-moving law and regulation-making.[2] Regulatory sandboxes combine the sandbox idea from computer science, which is defined as a "system that allows an untrusted application to run in a highly controlled environment,"[3] and the concept of regulatory oversight. A regulatory sandbox is: "a facility, created and controlled by a regulator, designed to allow the conduct of testing or experiments with novel products or processes prior to their entry into a regulated marketplace."[4]

Regulatory sandboxes are a form of experimental regulation that offer a solution to some of the challenges posed by rapidly evolving technologies in regulated sectors. Tim Wu has observed that in contexts where technology advances too rapidly for conventional administrative rulemaking to keep pace, regulators are usually left with two bad choices: either to hastily adapt poorly developed regulation that is not well-suited to the technology or to allow technology to go unregulated.[5] Hilary Allen further notes that regulators may sometimes have a third option: to completely ban a new technology, which can hinder the development of the technology in socially beneficial ways.[6]

---

2 OECD, "Regulatory sandboxes in artificial intelligence" (2023), *OECD Digital Economy Papers*, No. 356, OECD Publishing, Paris, online: https://doi.org/10.1787/8f80a0e6-en. Experimental lawmaking can test the costs and benefits of regulations. See: Michael Greenstone, "Toward a Culture of Persistent Regulatory Experimentation and Evaluation" in New Perspectives on Regulation, 1st ed (Cambridge, MA: The Tobin Project, 2009) 111, online: https://onlinepubs.trb.org/onlinepubs/PBRLit/Greenestone.pdf.

3 US National Institute of Standards and Technology (NIST), "Sandbox", Computer Security Resource Center, https://csrc.nist.gov/glossary/term/sandbox.

4 Digital Governance Standards Institute, "Design, Implementation and Evaluation of Regulatory Sandboxes," CAN/DGSI 123:2024 (D5) (18 June 2024), online: https://dgc-cgn.org/standards/find-a-standard/standards-in-regulatory-sandbox/design-use-and-evaluation-of-regulatory-sandboxes/. See also: Sofia Ranchordás, "Experimental Regulations for AI: Sandboxes for Morals and Mores" (May 4, 2021), University of Groningen Faculty of Law Research Paper No. 7/2021, http://dx.doi.org/10.2139/ssrn.3839744 at 10, who defines a sandbox as: "a legislative or regulatory instrument of a temporary nature with limited geographic and/or subject application, which is designed to test a new policy or legal solution and includes the prospect of an evaluation at the end of the experimental period." Article 57(5) of the EU *Artificial Intelligence Act (AI Act)* defines an "AI regulatory sandbox" as a controlled environment that fosters innovation and facilitates the development, training, testing and validation of innovative AI systems for a limited time before their being placed on the market or put into service pursuant to a specific sandbox plan agreed between the providers or prospective providers and the competent authority. Such sandboxes may include testing in real world conditions supervised therein." See, *Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008,(EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act)*, [2024] O.J. L. [publication reference pending], Article 57/5, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

5 Tim Wu, "Agency Threats," (2011) 60:8 Duke Law Journal, https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1506&context=dlj at 1842.

6 Hilary Allen, "Regulatory Sandboxes," 87 Addressing the Global Challenges of Responsive FinTech Regulation (2019), online: https://digitalcommons.wcl.american.edu/facsch_lawrev/709 at 602-603.

Moreover, laws with unclear application to novel contexts and high regulatory barriers may incentivize innovators to "seek forgiveness and not permission."[7] A regulatory sandbox can provide an alternative to a scofflaw approach, offering innovators a chance to work alongside regulators to explore potential solutions. Regulatory sandboxes can also be a good choice for regulators to shape innovation in the public interest. Regulatory sandboxes have their origins in the financial technology (fintech) sector. More recently, they have been identified as an important tool in AI regulation, for their potential to ensure the safety and quality of AI products and services before market entry.[8] For example, the Organisation for Economic Co-operation and Development's (OECD) AI Principle 2.3 recommends that governments create "controlled and transparent environments" to test AI innovations, which can then be scaled up or down, with an emphasis on balancing flexibility for innovation with safety and legal certainty.[9]

Pursuant to article 57/1 of the EU *AI Act*, "Member States shall ensure that their competent authorities establish at least one AI regulatory sandbox at national level, which shall be operational by 2 August 2026."[10] Moreover, "[t]hat sandbox may also be established jointly with the competent authorities of other Member States."[11] This obligation "may also be fulfilled by participating in an existing sandbox in so far as that participation provides an equivalent level of national coverage for the participating Member States."[12]

The EU *AI Act* specifically adopts sandboxing as a regulatory tool that can serve multiple objectives.[13] An excerpt from recital 139 states:

> The objectives of the AI regulatory sandboxes should be to foster AI innovation by establishing a controlled experimentation and testing environment in the development and pre-marketing phase with a view to ensuring compliance of the innovative AI systems with this Regulation and other relevant Union and national law. Moreover, the AI regulatory sandboxes should aim to enhance legal certainty for innovators and the competent authorities' oversight and understanding of the opportunities, emerging risks and the impacts of AI use, to facilitate regulatory learning for authorities and undertakings, including with a view to future adaptions of the legal framework, to support cooperation and the sharing of best practices with the authorities involved in the AI regulatory sandbox, and to accelerate access to markets, including by removing barriers for SMEs, including start-ups.[14]

---

7 Oliver R. Goodenough & David L. Schrier, "Regulatory Sandboxes," in David L. Schrier and Alex Pentland, eds, *Global Fintech: Financial Innovation in the Connected World* (MIT Press 2022) 203-218, online: https://doi.org/10.7551/mitpress/13673.003.0013 at 205.

8 OECD, "Regulatory sandboxes in artificial intelligence" *supra note* 2 at 20.

9 OECD, "Regulatory sandboxes in artificial intelligence" *supra note* 2 at 13.

10 *Regulation (EU) 2024/1689 Artificial Intelligence Act*, article 57, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

11 *Ibid.*

12 *Ibid.*

13 For example, in recital 138, the EU *AI Act* requires Member States to "ensure that their national competent authorities establish at least one AI regulatory sandbox at national level to facilitate the development and testing of innovative AI systems under strict regulatory oversight before these systems are placed on the market or otherwise put into service." See, *Regulation (EU) 2024/1689 Artificial Intelligence Act*, recital 138, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

14 *Regulation (EU) 2024/1689 Artificial Intelligence Act*, recital 139, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

This excerpt reflects the view of many proponents of regulatory sandboxes that through a collaboration between regulators and innovators, regulatory sandboxes allow innovation to flourish and accelerate access to market within an environment of greater legal certainty. Sandboxes can also enable regulators to learn about and understand developments in both rapidly evolving technologies and business models.[15] Regulatory sandboxes are considered good tools for evidence-based lawmaking because they allow regulators to test technologies before they enter the market and to identify problems or find solutions to social harms within a controlled experiment that can inform policy and regulatory reform.[16] Testing a new technology before it is put on the market or solving a specific problem in the public interest may require experimentation with a small sample size "in a controlled environment under a regulator's supervision"[17] to assess and minimize risks and harms before rolling it out to the public.

Regulatory sandboxes implicitly treat some governed entities differently from others.[18] This is particularly the case where the legislative framework allows the regulator to waive certain regulatory requirements for sandbox participants for the duration of the experimental period. Even where such exemptions are not granted, the close engagement between the regulator and the entity is a form of differential treatment. This differential treatment of sandbox participants is justified by the experimental nature of the sandbox and must be proportionate to the end goal of the sandbox.[19]

Although regulatory sandboxes may provide temporary exemptions from regulations or attract special attention and resources of the regulator, there are also safeguards to ensure fairness among governed entities and to protect the public. These include the highly selective nature of the application process for regulatory sandbox participation,[20] restrictions on the extent of any regulatory relief, close regulatory supervision, and strict time restrictions for engagement in the sandbox.[21]

The purpose of a regulatory sandbox is not to provide benefits to a select few organizations that qualify for participation. Although participants are expected to benefit from their engagement, the sandbox serves a broader public interest. As a form of experimental regulation, an important goal is to find a clearer path to effective regulation of emerging technologies; regulatory sandboxes allow the regulator to understand and adapt to

15 Paula Bruening, IAPP, An Emerging Tool, Regulatory Sandboxes for Privacy, 27 April 2021, online: https://iapp.org/news/a/regulatory-sandboxes-for-privacy/.

16 Ranchordás, "Experimental Regulations for AI: Sandboxes for Morals and Mores", (2021), *supra note* 4 at 23. See also: Canadian Centre for Regulatory Innovation (CRI), "Regulators' Experimentation Toolkit" (28 November, 2022), online: https://wiki.gccollab.ca/images/6/6b/CRI_Regulators%27_Experimentation_Toolkit.pdf.

17 Sharmista Appaya & Mahjabeen Haji, "Four Years and Counting: What We've Learned from Regulatory Sandboxes," (18 November 2020), online: World Bank Blogs https://blogs.worldbank.org/en/psd/four-years-and-counting-what-weve-learned-regulatory-sandboxes.

18 Although initially criticized for being contrary to principles such as legality, legal certainty, equal treatment, and proportionality, regulatory sandboxes respond to the concern that rapidly advancing technologies require regulations that are more dynamic and flexible. (Ranchordás, "Experimental Regulations for AI: Sandboxes for Morals and Mores", (2021), *supra note* 4 at 14.)

19 Sofia Ranchordás, "Experimental Lawmaking in the EU: Regulatory Sandboxes", EU Law Live Weekend Edition, University of Groningen Faculty of Law Research Paper No. 12/2021 (2021) http://dx.doi.org/10.2139/ssrn.3963810 at 8.

20 For example, some of the selection criteria of the ICO for regulatory sandbox applicants are that the projects "be at the cutting edge of innovation" and operate "in particularly challenging areas of data protection, where there is genuine uncertainty about what compliance looks like." (U.K. Information Commissioner's Office ("ICO"), "Regulatory Sandbox Phase 1 Outcome Report: Gambling Commission", (October 2021), online: https://ico.org.uk/media/for-organisations/documents/4018589/official-sensitive-gambling-commission-regulatory-sandbox-report-phase-1-outcome-final-pdf.

21 Ranchordás, "Experimental Lawmaking in the EU: Regulatory Sandboxes", *supra note* 16 at 4-5.

technological transformation of the regulated sector. Such adaptation can involve changes in practice and/or interpretation; it can also lead to recommendations to the legislator for necessary changes to legislation. Further, sandboxes involve public reporting on the results of experiments so that other innovators can learn from the experience of sandbox participants.

ii. Innovation hubs

A regulatory tool that is sometimes conflated with a sandbox is the innovation hub. In many ways, an innovation hub is an extension of a regulator's outreach functions, organized around the concept of innovation and the challenges it presents. Innovation hubs differ from the more general guidance function of a regulator, where the regulator either publishes guidance or responds to queries from regulated entities on an ad hoc basis. For example, an innovation hub typically occupies a specific temporal and/or physical space and provides more direct and collaborative engagement between innovators and participating regulators. Innovation hubs can "provide a dedicated point of contact for firms [and other actors] to raise enquiries with competent authorities . . . and to seek non-binding guidance on regulatory and supervisory expectations, including licensing."[22]

Unlike regulatory sandboxes, however, innovation hubs do not provide participants the opportunity to experiment in a "real-world setting" or to get temporary regulatory relief.[23] In comparison with regulatory sandboxes, there typically are no controlled application or entry requirements for innovation hubs,[24] which gives them a different reach.[25] Innovation hubs similarly lack the set of prescribed features typical of a sandbox: instead, they may involve one or multiple regulators; they may be hosted by a third party to bring together regulators and innovators; or they may be part informative and part consultative. In this sense, an innovation hub is a tool that lies partway between the more general consultative functions of a regulator and the more formalized sandbox concept. Buckley et al., argue that in the fintech context, innovation hubs can offer all the advantages linked to regulatory sandboxes in policy discussions, while minimizing most of the associated drawbacks, such as their intense fiscal and human resource requirements, as well as the legislative amendments and regulatory risk management they may require.[26]

---

22 European Securities and Markets Authority (ESMA), European Banking Authority (EBA), European Insurance and Occupational Pensions Authority (EIOPA), "FinTech: Regulatory Sandboxes and Innovation Hubs," (2018), https://www.esma.europa.eu/sites/default/files/library/jc_2018_74_joint_report_on_regulatory_sandboxes_and_innovation_hubs.pdf at 3.

23 Not all regulatory sandboxes provide temporary regulatory relief. For example, the privacy regulators we interviewed, namely, the UK ICO, the French CNIL and the Norwegian Datatilsynet all provide increased regulatory certainty rather than regulatory relief; See also Ranchordás, "Experimental lawmaking in the EU: Regulatory Sandboxes", (2021) *supra note* 16 at 9.

24 There are exceptions. For example, in the UK ICO's case, both their Regulatory Sandbox and their Innovation Hub have entry/support offer requirements (e.g., they work only with pre-market solutions). (Interview with Claire Chadwick, Sarah Kennedy and Stilyana Stoyanova from the ICO, April 17, 2024).

25 Ross P. Buckley, Douglas Arner, Robin Veidt, and Dirk Zetzsche, "Building Fintech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond," 61 Wash. U. J. L. & Pol'y 055 (2020), https://openscholarship.wustl.edu/law_journal_law_policy/vol61/iss1/10. For example, since its launch in 2016, the UK Financial Conduct Authority's (FCA) regulatory sandbox has accepted 188 companies out of 614 applications over the course of 7 years (U.K. Financial Conduct Authority, "Regulatory Sandbox accepted firms" (27 March 2022), online: https://www.fca.org.uk/firms/innovation/regulatory-sandbox/accepted-firms.

26 Buckley et al, "Building Fintech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond" (2020), *supra note* 22 at 56.

Regulatory sandboxes and innovation hubs are not mutually exclusive and can operate alongside each other. For example, in addition to its regulatory sandbox, the United Kingdom (UK) Information Commissioner's Office (ICO) has an innovation hub which was established in 2018.[27] The ICO's Innovation Hub collaborates with other UK regulators and innovation bodies which host innovation programmes, providing "expert data protection advice, mentoring organisations and supporting events where innovators aim to produce privacy respectful new products" as well as "data protection training to staff in partner organisations to help them guide future innovators on privacy matters."[28]

The ICO's Innovation Hub has offered data protection advice to projects run by the Digital Catapult (the UK authority on advanced digital technology), Nesta (the innovation foundation) and the Financial Conduct Authority's Digital Sandbox among others.[29] The UK also has a Digital Regulation Cooperation Forum (DRCF) which brings together the Information Commissioner's Office (ICO), the Competition and Markets Authority (CMA), the Office of Communications (Ofcom) and the Financial Conduct Authority (FCA).[30] In April 2024, the DCRF established a 12-month pilot of the AI and Digital Hub, which offers informal guidance to innovators dealing with regulatory inquiries that involve multiple regulators in the DCRF.[31]

An innovation hub can be an alternative to a sandbox, or it can complement a regulatory sandbox by offering a more general avenue to clarify compliance issues for novel techniques or technologies. For example, the UK ICO's Innovation Hub is reported to have played a key role in minimizing data-sharing risks in its workshop on UK compliance with the *General Data Protection Regulation*[32] (GDPR), its involvement in discussions on developing a code of conduct and its advice provided to the Gambling Commission for its regulatory sandbox initiative aimed at mitigating gambling-related harms.[33] Innovation hubs can be especially helpful for small and medium-sized enterprises (SMEs) that may lack the resources to navigate independently the regulatory space and may not be among the lucky

27 UK Information Commissioner's Office (ICO), "ICO Innovation Hub Project Report" (2020), online: https://ico.org.uk/media/about-the-ico/documents/2618204/ih-report-20200828.pdf.

28 UK Information Commissioner's Office (ICO), "Innovation Hub", online: https://ico.org.uk/about-the-ico/what-we-do/ico-innovation-services#ih.

29 UK Information Commissioner's Office (ICO), "Innovation Hub", *ibid*. The UK ICO has worked with the Ministry of Housing, Communities and Local Government (MHCLG) to create a dataset to "provide the intelligence needed to drive enforcement action against landlords who fail to maintain adequate standards of rented housing for tenants." (UK Information Commissioner's Office (ICO), "Regulatory Sandbox Final Report: The Ministry of Housing, Communities and Local Government (MHCLG)," (March 2021), online: https://ico.org.uk/media/for-organisations/documents/2619467/mhclg_final-report.pdf. In another sandbox project, the ICO worked with the Betting and Gaming Council and the Gambling Commission in "facilitating the sharing of personal data concerning 'at risk' customers among online gambling operations, with the aim of mitigating gambling related harms." (U. Information Commissioner's Office (ICO), "Regulatory Sandbox Final Report: Betting and Gaming Council," (July 2023), online: https://ico.org.uk/media/for-organisations/documents/4025856/betting-and-gaming-council-sandbox-report-20230626.pdf.

30 UK Information Commissioner's Office, "Digital Regulation Cooperation Forum," online: ICO https://ico.org.uk/about-the-ico/what-we-do/digital-regulation-cooperation-forum/.

31 UK Information Commissioner's Office, "Digital Regulation Cooperation Forum," online: ICO https://ico.org.uk/about-the-ico/what-we-do/digital-regulation-cooperation-forum/.

32 *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)*, [2016] O.J. L.119/1, https://eur-lex.europa.eu/eli/reg/2016/679/oj.

33 UK Information Commissioner's Office, "ICO Innovation Hub Project Report" (2020), *supra note* 24 at 19.

few to be accepted into a regulatory sandbox.[34] The UK ICO has identified other benefits as well, such as the inclusive engagement with innovators, which can provide greater regulatory certainty and may also help reduce development time and costs.[35] An innovation hub may also support the development of more trustworthy technologies by helping innovators protect their customers.[36]

The UK Financial Conduct Authority (FCA), the first regulator to launch a fintech regulatory sandbox, also has an innovation hub called the Emerging Technology Research Hub, which "identifies critical and emerging technology trends affecting financial services," such as synthetic data and privacy-enhancing technologies (PETs), distributed ledger technologies, web 3 and decentralisation, quantum technologies and Metaverse and Immersive Technologies.[37] The FCA's innovation hub works closely with other regulators,[38] and shares guidance and advice through "formal research papers, calls for input initiatives, working groups, roundtable discussions, workshops and more."[39]

iii. Summary

Regulatory sandboxes and innovation hubs are distinct but related mechanisms that may assist regulators to address the demands of a rapidly evolving technological context that creates regulatory uncertainty for innovators and that poses challenges for the interpretation and application of regulatory frameworks. Both mechanisms are different from the regulator's normal engagement with and response to questions from regulated entities. In the first place, both regulatory sandboxes and innovation hubs require a more explicit commitment of resources. Both also operate in a rapidly evolving technological context and aim to facilitate innovation that is compliant with regulatory frameworks.

Innovation hubs provide innovators with review and guidance functions. Regulatory sandboxes, however, are a more formalized type of experimental regulation. As will be seen in the discussion that follows, they require a close engagement between selected participants and the regulator, and there is an experimental character to this engagement. As a result, the terms and conditions for entry and participation in a sandbox are typically carefully defined. While participation in a regulatory sandbox will benefit the participant, the sandbox itself also has clear public policy goals, which will include improving the regulator's understanding of technological challenges, helping to craft effective regulatory approaches that protect the public while supporting innovation, and providing outputs that will inform other regulated entities.

---

34 European Commission, "30 Digital Innovation Hubs focused on Artificial Intelligence selected for a training programme," (12 March 2019), online: https://digital-strategy.ec.europa.eu/en/news/30-digital-innovation-hubs-focused-artificial-intelligence-selected-training-programme.

35 Interview with Claire Chadwick, Sarah Kennedy and Stilyana Stoyanova from the ICO, April 17, 2024

36 Interview with Claire Chadwick, Sarah Kennedy and Stilyana Stoyanova from the ICO, *ibid.*

37 UK Financial Conduct Authority, "Emerging Technology Research Hub" (31 March 2023), online: https://www.fca.org.uk/firms/emerging-technology-research-hub.

38 These include the Competition and Markets Authority (CMA), Office of communications (Ofcom) and Information Commissioner's Office (ICO).

39 UK Financial Conduct Authority, "Emerging Technology Research Hub," *ibid*.

III. Origins and scope of regulatory sandboxes

Regulatory sandboxes originated in the financial technology (fintech) sector. The first regulatory sandbox was established in 2016, by the UK Financial Conduct Authority (FCA).[40] The complex regulation of the financial sector, combined with the disruptive nature of fintech applications created a context in which regulation posed both a significant barrier to innovation and somewhat of an incentive to circumvent existing rules. The creation of the UK sandbox fueled interjurisdictional competition for the rapidly growing fintech industry,[41] and quickly prompted financial regulatory authorities in other jurisdictions to follow the FCA's example, especially as fintech applications were touted to improve financial inclusion.[42] Lessons learned from regulatory sandboxes in the fintech sector include the value of easing access to financing and market-entry for firms while also accelerating time-to-market by cutting down on administrative and transaction costs.[43]

In the fintech context, sandboxes have lowered risks both from an innovator and a consumer standpoint. The innovator is temporarily exempt from specific regulatory requirements until their product is safe enough to be put on the market; this does not happen until it is sufficiently developed to obtain regulatory approval from the relevant authorities.[44] A sandbox also provides an environment for regulators to clarify uncertainties around regulatory compliance for novel technologies.

According to the World Bank, by November 2020, there were seventy-three fintech regulatory sandboxes in fifty-seven jurisdictions.[45] In 2023, the OECD reported that there were around one hundred sandbox initiatives around the world, including fintech and privacy sandboxes.[46] Governments and regulators have since recognized that sandboxes can be used to shape dynamic innovation in socially beneficial ways in other sectors. As noted earlier, the EU *Artificial Intelligence Act (AI Act)*, specifically adopts regulatory sandboxes as a mechanism for agile and iterative regulation in a rapidly evolving field.[47]

In complex regulatory environments, sandboxes can also create a space for collaboration among regulators. In the fintech or AI sectors, for example, this can be important in

40 UK Financial Conduct Authority (FCA), "Regulatory Sandbox" (2015), online: https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf.

41 Cristie L Ford and Quinn Ashkenazy, "The Legal Innovation Sandbox," Am J Comp L (2023), https://commons.allard.ubc.ca/fac_pubs/712/.

42 Consultative Group to Assist the Poor, Jenik, Ivo, "Regulatory Sandboxes: Potential for Financial Inclusion?" (17 August 2017), online: https://www.cgap.org/blog/regulatory-sandboxes-potential-for-financial-inclusion.

43 OECD, "Regulatory Sandboxes in Artificial Intelligence", *supra note* 2 at 16.

44 Wolf-Georg Ringe, & Christopher Ruof, "A Regulatory Sandbox for Robo Advice," (2018), 26 European Banking Institute 38, http://dx.doi.org/10.2139/ssrn.3188828.

45 The World Bank, "Key Data from Regulatory Sandboxes across the Globe", (1 November 2020), online: https://www.worldbank.org/en/topic/fintech/brief/key-data-from-regulatory-sandboxes-across-the-globe.

46 OECD, "Regulatory sandboxes in artificial intelligence," *supra note* 2 at 8. Note that there are no standardized selection criteria and testing procedures across similar regulatory sandboxes in different jurisdictions, which can create risks of regulatory arbitrage and forum shopping.

47 Allen argues that it is important to foster international "cross-sandbox compatibility". Hilary L. Allen, "Sandbox Boundaries," Washington College of Law Research Paper No. 2019-18, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3409847 at 314-315. See also: Radostina Parenti, "Regulatory Sandboxes and Innovation Hubs for FinTech", Study for the committee on Economic and Monetary Affairs (September 2020), https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652752/IPOL_STU(2020)652752_EN.pdf at 49; OECD, "Regulatory sandboxes in artificial intelligence", *supra note* 2 at 18.

formulating comprehensive criteria and evaluation systems for sandboxes.[48] For example legislation in Alberta to create a fintech regulatory sandbox takes a multi-regulator approach.[49] Collaboration between regulators is also recommended in the EU *AI Act*.[50] Korea has a regulatory sandbox that engages multiple ministries, such as the Ministry of Science and Information and Communication Technology, the Ministry of Trade, Industry and Energy, the Ministry of Small and Medium-sized Enterprises and Start-ups and the Financial Services Commission.[51]

Currently, regulatory sandboxes are limited-scale testing environments with small participant groups.[52] However, in the future, there may be pressure to broaden participation, which can allow for the collection of more data for policy insights, and potentially even the automation of certain sandbox processes using governance and regulatory technology tools.[53]

IV. Canadian experiences with regulatory sandboxes

The first Canadian regulatory sandbox was launched in 2017 by the Canadian Security Administrators (CSA). It provides fintech companies temporary relief from certain securities law obligations to support the development of the fintech sector in Canada.[54] Transport Canada has also launched multiple regulatory sandboxes to support innovation in the public interest. To this end, the *Motor Vehicle Safety Act*[55] was amended in 2018 to allow the minister to grant exemptions that could encourage the development of new safety features, as well as innovative types of vehicles, technologies, systems, or components.[56] The *Aeronautics Act*[57] allows for exemptions in the public interest, provided they do not pose a likely threat to aviation safety or security.[58]

---

48 Ranchordás, "Experimental lawmaking in the EU: Regulatory Sandboxes", *supra note* 16 at 2; Angela Attrey, Molly Lesher & Christopher Lomax, "The Role of Sandboxes in Promoting Flexibility and Innovation in the Digital Age," Going Digital Toolkit Policy Note, No. 2 (2020), OECD, online: https://goingdigital.oecd.org/toolkitnotes/the-role-of-sandboxes-in-promoting-flexibility-and-innovation-in-the-digital-age.pdf; OECD, "Regulatory sandboxes in artificial intelligence," *supra note* 2 at 19.

49 Alberta, "Financial Services and Fintech Regulatory Sandbox," online: https://www.alberta.ca/financial-services-and-fintech-regulatory-sandbox.aspx#jumplinks-1.

50 *Regulation (EU) 2024/1689, Artificial Intelligence Act*, Article 57, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

51 JaeHoon Lee & Hee Yeong Chung "Regulatory Sandbox: Korea's New Regulation Paradigm" (2019), KISTEP Issue Paper (Vol.261), OECD, "Regulatory sandboxes in artificial intelligence", *supra note* 2 at 19.

52 OECD, "Regulatory sandboxes in artificial intelligence," *supra note* 2 at 18.

53 OECD, "Regulatory sandboxes in artificial intelligence," *ibid*.

54 Heidi Gordon, Shane C. D'Souza, Anna Badour, Shauvik Shah, "Fintech Regulatory Developments: 2017 Year in Review," McCarthy Tétrault LLP, (December 29, 2017), online: https://www.mccarthy.ca/en/insights/blogs/techlex/fintech-regulatory-developments-2017-year-review.

55 *Motor Vehicle Safety Act*, S.C. 1993, c. 16, online: https://canlii.ca/t/56bjw.

56 *Bill S-2, An Act to amend the Motor Vehicle Safety Act and to make a consequential amendment to another Act*, 1st Sess, 42nd Parl, December 3, 2015, to September 11, 2019 (assented to 1 March 2018), SC 2018, c. 2., online: https://www.parl.ca/LegisInfo/en/bill/42-1/S-2; Alexandre Lavoie & Nicole Sweeney, "Legislative Summary of Bill S-2: An Act to amend the Motor Vehicle Safety Act and to make a consequential amendment to another Act" (6 February 2017) Library of Parliament, online: https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/LegislativeSummaries/421S2E; Treasury Board of Canada Secretariat, "Draft: Facilitating Innovation and Competitiveness: Platform for Regulatory Sandboxes" (November 15, 2018), online: https://wiki.gccollab.ca/images/5/55/Discussion_Paper_Novel_Approachs_and_Innovation_%28Draft_November_15_2018_PPledge%29.pdf.

57 *Aeronautics Act*, R.S.C., 1985, c. A-2, s. 5.9(2) online: https://canlii.ca/t/53jf7.

58 Treasury Board of Canada Secretariat, "Draft: Facilitating Innovation and Competitiveness: Platform for Regulatory Sandboxes," *ibid.*

In 2019, Transport Canada established a regulatory sandbox to support the development of remotely piloted aircraft systems and to "conduct tests on currently prohibited or unregulated drone activities with government oversight in a safe and innovative way."[59] According to Transport Canada, "[t]he evidence gathered from this sandbox has allowed Transport Canada to make informed amendments to the Canadian Aviation Regulations regarding small remotely piloted aircraft systems (drones) operated within visual line-of-sight."[60] Transport Canada launched another regulatory sandbox in 2020 to support the adoption of "electronic shipping as an alternative to paper in the transportation of dangerous goods."[61] More recently, it initiated its Light Sport Aircraft (LSA) regulatory sandbox in partnership with certain select flight schools to test whether LSA are suitable for use in pilot training.[62]

In January 2019, the Ontario Energy Board (OEB) launched the first regulatory sandbox for the energy sector in Canada.[63] Called the OEB Innovation Sandbox, it invites participation from organizations that are in the process of developing new services or business models within the electricity or natural gas industries. This sandbox offers two streams of engagement. The first is consultation services for organizations with questions about how regulatory requirements might apply (closer to an innovation hub), and the second is project-specific sandbox engagement.[64]

Those seeking support for projects must meet eligibility criteria, which include identifying regulatory barriers encountered by applicants.[65] Information about the OEB Innovation Sandbox notes that OEB staff can provide guidance on legislative and regulatory requirements, and that "[t]he OEB may grant temporary exemptions from its own regulatory requirements."[66] However, it also notes that it cannot provide exemptions from requirements set out in legislation or regulations.[67] The OEB Innovation Sandbox provides transparency through a dashboard that reports on project outcomes while protecting confidential information, and through annual reports. Staff guidance that may have relevance to other regulated parties may be shared in a staff bulletin.[68]

In 2021, the Law Society of Ontario (LSO) launched an "Access to Innovation" (A2I) regulatory sandbox for innovative technological legal services, which allows "approved providers of innovative technological legal services (ITLS) to serve consumers for a specified period while complying with risk-based public protection requirements."[69] The LSO had to amend its by-laws in order to establish this new category of licensure

59 Government of Canada, "Remotely Piloted Aircraft Systems regulatory sandbox" (November 28, 2022), online: https://www.canada.ca/en/government/system/laws/developing-improving-federal-regulations/modernizing-regulations/what-is-a-regulatory-sandbox.html.

60 Government of Canada, "Remotely Piloted Aircraft Systems regulatory sandbox", *ibid*.

61 Transport Canada, "Introducing a regulatory sandbox for dangerous goods electronic shipping documents," online: https://tc.canada.ca/en/corporate-services/acts-regulations/transportation-sector-regulatory-review-roadmap/latest-updates-targeted-regulatory-review-november-2023.

62 Transport Canada, "Transport Canada 2022-2023 Departmental Plan", online: https://tc.canada.ca/en/corporate-services/transparency/corporate-management-reporting/departmental-plans/transport-canada-2022-2023-departmental-plan.

63 OEB Innovation Sandbox, (n.d.), https://www.oeb.ca/_html/sandbox/index.php.

64 OEB Innovation Sandbox, "Process," (n.d.), https://www.oeb.ca/_html/sandbox/process.php.

65 *Ibid*.

66 *Ibid*.

67 *Ibid*.

68 *Ibid*.

69 Law Society of Ontario (LSO), "Technology Task Force", online: https://lso.ca/about-lso/initiatives/technology-task-force.

exceptions.[70] The sandbox gives the LSO the opportunity to collect data on ITLS operations to guide policy and regulatory decisions, including potential amendments to professional conduct rules and by-laws.[71] In the same year, the Law Society of British Columbia (LSBC) initiated its Innovation Sandbox for legal service providers to pilot their projects to address "unmet legal needs" and improve access to legal services.[72]

With the 2022 *Financial Innovation Act*,[73] Alberta became the first province in Canada to launch a fintech sandbox.[74] The statute allows the granting of exemptions from legal requirements laid out in the *Loan and Trust Corporations Act*,[75] *Credit Union Act*,[76] *ATB Financial Act*,[77] *Consumer Protection Act*,[78] *Financial Consumers Act*,[79] and the *Personal Information Protection Act*.[80] Exemptions from the *Consumer Protection Act*, the *Financial Consumers Act* and the *Personal Information Protection Act* require additional approvals given the public protection dimension of these statutes.[81]

In its 2024 budget, Canada's federal government committed to take steps to enable the broader use of regulatory sandboxes across the federal government. As part of this proposal, it announced its intention to amend the *Red Tape Reduction Act*[82] to provide all federal ministers with authority to issue regulatory exemptions to facilitate the creation and use of regulatory sandboxes.[83] Because this is a federal initiative, it will not impact provincial ministries or regulators under provincial jurisdiction. However, it is an indication of the prevailing interest in this regulatory tool.

---

70 Law Society of Ontario (LSO), "Technology Task Force, Report on Regulatory Sandbox for Innovative Technological Legal Services," April 22, 2021, https://lawsocietyontario.azureedge.net/media/lso/media/about/convocation/2021/convocation-april-2021-technology-task-force-report.pdf at 3. By-law 16 on Innovative Technological Legal Services *supra note* 62 at 22 provides in s. 1 that: "For the purposes of the Act, a person, including an individual, corporation or other entity, who is an approved participant in the Society's innovative technological legal services (ITLS) sandbox program, or who has received a permit from the Society to provide an ITLS, and, in each case, is operating an ITLS tool or program in compliance with the Society's requirements, shall be deemed not to be practicing law or providing legal services with respect to the operation of that ITLS tool or program."

71 Law Society of Ontario (LSO) Technology Task Force, Report on Regulatory Sandbox for Innovative Technological Legal Services *ibid*.

72 Law Society of British Columbia (LSBC), Innovation Sandbox, online: https://www.lawsociety.bc.ca/priorities/innovation-sandbox/.

73 *Financial Innovation Act*, SA 2022, c F-13.2, online: https://canlii.ca/t/55pjt.

74 Government of Alberta, "Innovating the Finance Sector," online: https://www.alberta.ca/innovating-the-finance-sector.

75 *Loan and Trust Corporations Act*, RSA 2000, c L-20, online: https://canlii.ca/t/569nb.

76 *Credit Union Act*, RSA 2000, c C-32, online: https://canlii.ca/t/560qk.

77 *ATB Financial Act*, RSA 2000, c A-45.2, online: https://canlii.ca/t/55prv.

78 *Consumer Protection Act*, RSA 2000, c C-26.3, online: https://canlii.ca/t/5697b.

79 *Financial Consumers Act*, RSA 2000, c F-13, online: https://canlii.ca/t/56120.

80 *Personal Information Protection Act*, SA 2003, c P-6.5, online: https://canlii.ca/t/5619m. See: Government of Alberta, "Financial services and fintech regulatory sandbox," https://www.alberta.ca/financial-services-and-fintech-regulatory-sandbox.aspx.

81 Government of Alberta, "Financial services and fintech regulatory sandbox," *ibid*. For example, any exemptions to the *Personal Information Protection Act* require the approval of the Privacy Commissioner of Alberta. (*Financial Innovation Act*, *supra note* 69 at s. 5.)

82 *Red Tape Reduction Act*, SC 2015, c 12., online: https://canlii.ca/t/52fp5.

83 Government of Canada, "Chapter 4: Economic Growth for Every Generation," (2024) https://budget.canada.ca/2024/report-rapport/chap4-en.html#Cutting_Red_Tape.

V. Privacy sandboxes

Privacy regulators around the world have begun to experiment with regulatory sandboxes for data protection issues. In addition, the EU *AI Act* has created momentum for the development of AI-related regulatory sandboxes, and these sandboxes may be primarily or partly oriented towards data protection issues. It is to be anticipated that some AI initiatives will have privacy implications, and the EU *AI Act* contemplates the potential participation of data commissioners in AI sandboxes.[84]

In Canada, there are currently no privacy sandboxes under the authority of privacy commissioners and no laws explicitly provide for them.[85] Since data protection laws are considered quasi-constitutional in nature, it might be challenging to legislate to allow for exceptions to data protection obligations for experimental purposes. This is perhaps implicitly acknowledged in the structure of Alberta's *Financial Innovation Act*, which allows a fintech sandbox participant to request an exception from the province's *Personal Information Protection Act*. However, such a request must be reviewed by the province's information and privacy commissioner, who may refuse it.[86] Nevertheless, as will be seen from some of the examples below, it is possible to establish a privacy sandbox without prior legislative amendments and the ability to grant exceptions is not essential. These factors may influence the scope and design of a sandbox, but they do not prevent its creation.

i. Examples of privacy sandboxes

There are a growing number of privacy-related sandboxes around the world. The following is a discussion of some of these, although because this is a rapidly evolving area, we do not hold this out to be a comprehensive catalogue.

In 2018, the UK Information Commissioner's Office (ICO) pioneered the development of a privacy sandbox for private, public and voluntary sectors.[87] In 2020, the Norwegian data protection authority, Datatilsynet, followed in the footsteps of the ICO and created a regulatory sandbox for both the private and the public sectors.[88] The French data protection authority, Commission nationale de l'informatique et des libertés (CNIL) launched its privacy regulatory sandbox for the public and private sectors in 2021.[89] We spoke with representatives of the regulator for each of these sandboxes, which are discussed in more detail below.

---

84 See: *Regulation (EU) 2024/1689, Artificial Intelligence Act*, Article 57(10), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

85 As noted earlier, this may change if the changes proposed in budget 2024 to the federal *Red Tape Reduction Act*, *supra note* 73, are passed.

86 *Financial Innovation Act*, SA 2022, c F-13.5, pt 2, s 5.

87 UK Information Commissioner's Office, "Who can apply to the Sandbox?", online: https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/who-can-apply-to-the-sandbox/. As early as 2017, even prior to the enactment of the GDPR, the UK government had a technology strategy that sought to introduce regulatory sandboxes to the Information Commissioner's Office (ICO) to help support innovators creating new products and services by processing personal data. Because there was no obvious space for innovators to get advice, the ICO was interested in creating a safe space to develop their privacy by design thinking. (Interview with Claire Chadwick, Sarah Kennedy and Stilyana Stoyanova from the ICO, April 17, 2024).

88 Datatilsynet (the Norwegian Data Protection Authority), "The sandbox page" (English translation), online: https://www.datatilsynet.no/regelverk-og-verktoy/sandkasse-for-kunstig-intelligens/.

89 Sonia Cissé & Clementine Richard, "France - Data Protection Overview" (November, 2023) https://www.dataguidance.com/notes/france-data-protection-overview; Commission Nationale de L'informatique et des Libertés (CNIL) (French

In 2021, the Colombian data protection authority, "Superintendencia de Industria y Comercio" (SIC) launched a "Sandbox on Privacy by Design and by Default in AI Projects" for both public and private sector participants.[90] The legal basis of the Colombian sandbox lies in SIC's authority to "suggest or recommend adjustments, corrections or adaptations to the regulations that are consistent with technological, computer or communicational evolution,"[91] according to a decree[92] that lays out its structure and functions.

In 2022, the Swedish Authority for Privacy Protection, "Integritetsskydds Myndigheten" (IMY) carried out its first regulatory sandbox pilot.[93] IMY provides detailed guidance to sandbox participants on interpreting data protection legislation.[94] After IMY and sandbox participants collaboratively pinpoint the legal issues to focus on, IMY provides guidance over several months through workshops or other exchanges.[95] The sandbox project culminates in a public exit report summarizing the guidance to facilitate learning on a broad, sectoral level.[96] IMY's first project in its sandbox pilot (also endorsed by AI Sweden, the national center for applied AI) was *Decentralized AI in Health Care: Federated Machine Learning between Two Healthcare Providers*.[97] The providers in question had sought to develop a method to collaboratively train and share machine learning models with the goal of improving the predictions of the re-admission of heart failure patients within 30 days of their last hospital stay.[98]

---

data protection authority), "Un « bac à sable » RGPD pour accompagner des projets innovants dans le domaine de la santé numérique," (15 February 2021), online: https://www.cnil.fr/fr/un-bac-sable-rgpd-pour-accompagner-des-projets-innovants-dans-le-domaine-de-la-sante-numerique After the enactment of the GDPR, CNIL published guidelines and provided online training to help with compliance. However, CNIL reported finding that simply explaining the legislation was insufficient, especially for organizations working with emerging technologies. Sandboxing provided a way to more actively assist organizations with GDPR compliance while enhancing CNIL's own expertise and understanding of emerging technologies. (Interview with Marjorie Menapace, Lawyer at CNIL, April 29 2024). See also: Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Comprendre le RGPD", https://www.cnil.fr/fr/comprendre-le-rgpd; Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Me mettre en conformité", https://www.cnil.fr/fr/ma-conformite-au-rgpd/me-mettre-en-conformite; Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Respecter les droits de personnes," online: https://www.cnil.fr/fr/respecter-les-droits-des-personnes; Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Outils", online: https://www.cnil.fr/fr/outils; Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Besoin d'aide", online: https://www.cnil.fr/fr/cnil-direct?visiteur=pro; Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Le MOOC de la CNIL est de retour dans une nouvelle version enrichie", online: https://www.cnil.fr/fr/comprendre-le-rgpd/le-mooc-de-la-cnil-est-de-retour-dans-une-nouvelle-version-enrichie; Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "L'ATELIER RGPD", online: https://atelier-rgpd.cnil.fr/login/index.php.

90 Superintendencia de Industria y Comercio (Colombian data protection authority), "Sandbox on Privacy by Design and by Default in AI Projects" (April 2021), https://globalprivacyassembly.org/wp-content/uploads/2021/07/B6.-SIC-Colombia-Sandbox-on-privacy-by-design-and-by-default-in-AI-projects.pdf at 8.

91 Superintendencia de Industria y Comercio (Colombian data protection authority), "Sandbox on Privacy by Design and by Default in AI Projects," (April 2021), *supra note* 85 at 19.

92 Presidential Decree 4886 of 2011 (Colombia), https://www.suin-juriscol.gov.co/viewDocument.asp?id=1553132; Superintendencia de Industria y Comercio (Colombian data protection authority), "Sandbox on Privacy by Design and by Default in AI Projects" (April 2021), *supra note* 85 at 19.

93 Integritetsskydds Myndigheten (Swedish data protection authority), online: "English Summary: Swedish Authority for Privacy Protection, IMY, finishes first Sandbox Pilot" (15 March 2023), https://www.imy.se/globalassets/dokument/ovrigt/first-regulatory-sandbox-pilot---english-summary.pdf.

94 *Ibid*.

95 *Ibid*.

96 *Ibid*.

97 *Ibid*.

98 *Ibid*.

Some privacy sandboxes are explicitly tied to AI innovation. For example, in 2022, the Icelandic data protection authority, Persónuvernd, collaborated with the Office of the Medical Director of Health and Digital Iceland Heilbrigðisstofnun, to launch a regulatory sandbox pilot for AI in healthcare.[99] In 2023, the Brazilian data protection authority, Autoridade Nacional de Proteção de Dados (ANPD), created a regulatory sandbox open to "technology and innovation companies, academics, and civil society organizations" to ensure that AI is developed in compliance with data protection law.[100] In March 2024, the Danish data protection authority, also called "Datatilsynet," collaborated with the Danish authority for digitisation, called Digitaliserings-styrelsen, to establish a regulatory sandbox for AI.[101] The sandbox currently gives guidance based on compliance with the GDPR and Denmark's *Data Protection Act*,[102] however it is anticipated that it will also provide guidance on compliance with the EU *AI Act*.[103]

There has also been interest around experimentation with privacy-enhancing technologies (PETs). The Saudi Data & AI Authority (SDAIA) established a Data and Privacy Regulatory Sandbox in 2023.[104] The target audience of SDAIA's sandbox is local entities and entrepreneurs with a "solution/service/business model that falls under Data and Privacy laws and regulations or is a PET solution."[105] In 2022, the Singaporean Personal Data Protection Commission (PDPC) and the Singaporean Infocomm Media Development Authority (IMDA) collaborated on a PET Sandbox to incentivize the development of PET projects, which can facilitate "the extraction and sharing of insights, while protecting personal data and commercially sensitive information."[106]

In addition, Singapore has shown interest in developing privacy sandbox initiatives in conjunction with private sector companies. For example, in 2023, the Singaporean Infocomm Media Development Authority (IMDA) partnered with Google on a regulatory sandbox to incentivize the development of and to "facilitate experimentation" with PETs, and to "give companies access to Google's Privacy sandbox through IMDA's PET Sandbox environment."[107] In the same year, the Singaporean IMDA and the AI Verify Foundation

---

99 Persónuvernd (Icelandic data protection authority), "Sandkassi" sem öruggt umhverfi Fyrir þróun ábyrgrar Gervigreindar," online: https://www.personuvernd.is/personuvernd/frettir/sandkassi-sem-oruggt-umhverfi-fyrir-throun-abyrgrar-gervigreindar ; OneTrust DataGuidance, "Iceland: Persónuvernd launches regulatory sandbox pilot project", online: https://www.dataguidance.com/news/iceland-pers%C3%B3nuvernd-launches-regulatory-sandbox-pilot.

100 Autoridade Nacional de Proteção de Dados (ANPD) (Brazilian Data Protection Authority), "ANPD's Call for Contributions to the regulatory sandbox for artificial intelligence and data protection in Brazil is now open," (3 October, 2023), online: https://www.gov.br/anpd/pt-br/assuntos/noticias/anpds-call-for-contributions-to-the-regulatory-sandbox-for-artificial-intelligence-and-data-protection-in-brazil-is-now-open.

101 OneTrust DataGuidance, "Denmark: Datatilsynet establishes regulatory sandbox for AI," (5 March 2024), online: https://www.dataguidance.com/news/denmark-datatilsynet-establishes-regulatory-sandbox-ai.

102 *Act on supplementary provisions to the regulation on the protection of natural persons with regard to the processing of personal data and on the free movement of such data* (the Data Protection Act), 2018, (Denmark) online: https://www.datatilsynet.dk/media/7753/danish-data-protection-act.pdf.

103 Datatilsynet (Danish data protection authority), "Regulatorisk Sandkasse", online: https://www.datatilsynet.dk/hvad-siger-reglerne/vejledning/regulatorisk-sandkasse.

104 Saudi Data & AI Authority (SDAIA), "Data and Privacy Regulatory Sandbox," online: https://sandbox.sdaia.gov.sa/en/index.aspx.

105 Saudi Data & AI Authority (SDAIA), "Data and Privacy Regulatory Sandbox", *ibid.*

106 Singaporean Personal Data Protection Commission (PDPC), "Launch of Privacy-Enhancing Technologies Sandbox" (July 2022), online: https://www.pdpc.gov.sg/news-and-events/announcements/2022/07/launch-of-privacy-enhancing-technologies-sandbox.

107 Singaporean Infocomm Media Development Authority (IMDA), "Privacy Enhancing Technology Sandboxes," online: https://www.imda.gov.sg/how-we-can-help/data-innovation/privacy-enhancing-technology-sandboxes.

pioneered "the first of its kind" Generative AI Evaluation Sandbox, which will use "a new Evaluation Catalogue, as a shared resource, that sets out common baseline methods and recommendations for Large Language Models (LLM)."[108]

The Singaporean PDPC is a rare example of a DPA that allows individuals and organisations to apply for an exemption from provisions under the Singaporean *Personal Data Protection Act*[109] (PDPA). Such exemptions are granted with the approval of the minister, by order published in the gazette.[110] Sandbox applicants can apply for exemptions for "data sharing arrangements" and can "be exempted from one or more obligations under the PDPA on a case-by-case basis."[111] The data in these arrangements must be shared "with a specified group for a specified period of time," data must be shared "for defined and specified purposes" and "the sharing [must not be] likely to have adverse impact to the individual, or the benefits to the public [must] outweigh any adverse impact to the individual."[112]

ii. Public sector privacy sandboxes

Although the regulatory sandbox model emerged to facilitate compliance with regulatory obligations by innovative private sector actors, the regulatory sandbox model has gained some traction in the public sector as well. Governments hold large quantities of personal data and concerns over compliance with public or health sector data protection laws can limit innovative approaches to sharing or using such data. The regulatory sandbox model can provide a context in which innovative uses for data can be experimented with in ways that protect the public. For example, enabling "fair, lawful and proportionate data sharing"[113] to address specific harms in the public interest, can "contribute to the development of evidence-based law-making and the continuous reassessment of regulation,"[114] if a sandbox is "adequately designed, supported by a clear legislative framework, and evaluated according to objective and preestablished criteria."[115] The ICO has had several public sector projects in its sandbox.[116]

---

108 Singaporean Infocomm Media Development Authority (IMDA), "First of its kind Generative AI Evaluation Sandbox for Trusted AI by AI Verify Foundation and IMDA," online: https://www.imda.gov.sg/resources/press-releases-factsheets-and-speeches/press-releases/2023/generative-ai-evaluation-sandbox.

109 *Personal Data Protection Act*, 2012, (Singapore) online: Singapore Statutes Online https://sso.agc.gov.sg/Act/PDPA2012.

110 Singaporean Personal Data Protection Commission, "Exemption Requests," online: https://www.pdpc.gov.sg/overview-of-pdpa/the-legislation/exemption-requests.

111 Singaporean Personal Data Protection Commission, "Data Sharing Arrangements," online: https://www.pdpc.gov.sg/overview-of-pdpa/the-legislation/exemption-requests/data-sharing-arrangements.

112 Singaporean Personal Data Protection Commission, "Data Sharing Arrangements," *ibid*.

113 UK Information Commissioner's Office, "Gambling Commission Regulatory Sandbox Report Phase 1 Outcome" (1 October 2021), online: https://ico.org.uk/media/for-organisations/documents/4018589/official-sensitive-gambling-commission-regulatory-sandbox-report-phase-1-outcome-final-pdf.pdf at 27.

114 Ranchordás, "Experimental Regulations for AI: Sandboxes for Morals and Mores,", (2021), *supra note* 4 at 23.

115 Ranchordás, "Experimental Regulations for AI: Sandboxes for Morals and Mores," (2021), *supra note* 4 at 24.

116 UK Information Commissioner's Office, "NHS Digital Regulatory Sandbox Final Report" (23 June 2024), online: https://ico.org.uk/media/for-organisations/documents/2618905/nhs-digital-regulatory-sandbox-final-report.pdf ; UK Information Commissioner's Office, "Gambling Commission Regulatory Sandbox Report Phase 1 Outcome" (1 October 2021), online: https://ico.org.uk/media/for-organisations/documents/4018589/official-sensitive-gambling-commission-regulatory-sandbox-report-phase-1-outcome-final-pdf.pdf; UK Information Commissioner's Office, "Ministry of Housing, Communities and Local Government Final Report" (23 June 2024), online: https://ico.org.uk/media/for-organisations/documents/2619467/mhclg_final-report.pdf; UK Information Commissioner's Office, "Greater London Authority Regulatory Sandbox Report" (23 June 2024), online: https://ico.org.uk/media/for-organisations/documents/2619466/gla_regulatory_sandbox.pdf.

In December 2023, the French Data Protection Authority (CNIL) announced the selection of four public sector participants into its regulatory sandbox, to address specific issues in the public interest.[117] These "experiments" are: the project of the Inter-ministerial Directorate for Digital Affairs to assist civil servants to search for information and to draft specific responses with the help of an open language model; the French Employment Agency's project to help civil servants develop personalized advice for job seekers while allowing CNIL to clarify "issues related to the creation of databases in order to train a language model;" a project of Nantes Métropole, an intercommunal local authority to use AI to provide its inhabitants with recommendations on how to reduce their water consumption; and a proposal from the RATP, the local authority for public transport in Paris, regarding the development of an AI system for novel forms of video capture "based on the use of matrix data capture technology (i.e., numerical values)" rather than personal data, to protect privacy and incorporate the principle of privacy by design.[118]

VI. Some key considerations for the creation of a privacy sandbox

Based upon our research, we have identified some key considerations for the creation of a privacy sandbox. These include: (i) identifying a legal basis for the establishment of the sandbox; ii) ensuring strong engagement with interested parties; (iii) determining specific sectors, themes or priorities for the sandbox; (iv) establishing selection criteria; (v) setting terms of engagement in the sandbox; (vi) providing exit and termination rules; (vii) establishing a limited duration for sandbox participation; (viii) ensuring an adequate allocation of fiscal and human resources by the regulator and finally (ix) providing transparency, ongoing evaluation and assessment of the sandbox. In this section, we consider each of these elements in turn.[119]

117 Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Artificial intelligence and public services "sandbox": the CNIL supports 8 innovative projects", (4 December 2023), online: https://www.cnil.fr/en/artificial-intelligence-and-public-services-sandbox-cnil-supports-8-innovative-projects. The CNIL has chosen another four public sector participants, to whom it will provide legal and technical support.

118 Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Artificial intelligence and public services "sandbox": the CNIL supports 8 innovative projects," (4 December 2023), online: https://www.cnil.fr/en/artificial-intelligence-and-public-services-sandbox-cnil-supports-8-innovative-projects.

119 We have identified these elements for further discussion because of their importance to the sandbox concept and its articulation. However, we note here the work of Canada's Data Governance Standards Initiative on the development of a standard for the Design, Implementation and Evaluation of Regulatory Sandboxes. (Digital Governance Standards Institute, "Design, Implementation and Evaluation of Regulatory Sandboxes," CAN/DGSI 123:2024 (D5). Note that at the time of writing, this draft standard is at the public comment stage. Once finalized, it will provide a detailed set of factors for consideration at different stages of sandbox design and development. Our work is directed more towards exploring the nature of privacy sandboxes, as well as identifying key considerations and components based on existing privacy sandboxes and regulator experience with them.

i. A legal basis for the establishment of the sandbox

A regulator must have a legal basis for the establishment of a regulatory sandbox. This can take the form of specific enabling provisions. For example, Chapter VI of the EU *AI Act* provides for member states to establish AI regulatory sandboxes and sets out a legal framework for them.[120] Alberta's fintech sandbox is similarly established by statute.[121]

Where a regulatory sandbox provides regulatory relief for temporary experimentation, there must be some legal authority to support this.[122] The most common legal basis is an experimentation clause.[123] Such clauses permit the regulator to modify a rule or to not apply it altogether.[124] For example, as noted earlier, Canada's *Motor Vehicle Safety Act* was amended in 2018 to allow the minister to grant exemptions to encourage the development of new safety features, as well as innovative types of vehicles, technologies, systems, or components[125] and the by-laws of the Law Society of Ontario were amended to allow sandbox participants an exemption from the rules against unauthorized practice of law.[126]

None of the privacy regulators we met with for this study had the authority to provide exemptions from regulatory requirements under their respective data protection laws. Instead, the privacy sandboxes in the UK, Norway and France have relied upon article 57 of the GDPR as the legal basis for their creation, with the CNIL also identifying its authority under article 8 of France's data protection law, which sets out the powers of the CNIL.[127] Article 57 of the GDPR sets out the general powers of data protection authorities (DPAs). Paragraph 57(c) provides that DPAs may "advise, in accordance with Member State law, the national parliament, the government, and other institutions and bodies on legislative and administrative measures

120 *Regulation (EU) 2024/1689, Artificial Intelligence Act*, Article 57, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

121 *Financial Innovation Act*, SA 2022, c F-13.2, online: https://canlii.ca/t/55pjt. https://docs.assembly.ab.ca/LADDAR_files/docs/bills/bill/legislature_30/session_3/20220222_bill-013.pdf.

122 A German handbook on regulatory sandboxes identifies four types of exemptions that can be provided to support sandboxing; 1) an exemption from a prohibition; 2) an exemption from a mandatory authorization; 3) an exemption granted by the legislature that waives certain requirements (documentation/equipment) to carry out a sandbox experiment; and 4) catch-all clauses that allow for general exceptions (rather than case specific ones). German Federal Ministry for Economic Affairs and Energy, "Making Space for Innovation, the handbook on regulatory sandboxes" (2019), https://www.bmwk.de/Redaktion/EN/Publikationen/Digitale-Welt/handbook-regulatory-sandboxes.pdf?__blob=publicationFile&v=2.

123 German Federal Ministry for Economic Affairs and Energy, "Making Space for Innovation: The Handbook on Regulatory Sandboxes," *ibid*.

124 German Federal Ministry for Economic Affairs and Energy, "Making Space for Innovation, the handbook on regulatory sandboxes," *ibid*.

125 *Bill S-2, An Act to amend the Motor Vehicle Safety Act and to make a consequential amendment to another Act*, 1st Sess, 42nd Parl, December 3, 2015, to September 11, 2019 (assented to 1 March 2018), SC 2018, c. 2., online: https://www.parl.ca/LegisInfo/en/bill/42-1/S-2; Alexandre Lavoie & Nicole Sweeney, "Legislative Summary of Bill S-2: An Act to amend the Motor Vehicle Safety Act and to make a consequential amendment to another Act" (6 February 2017) Library of Parliament, online: https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/LegislativeSummaries/421S2E.

126 Law Society of Ontario, By-laws made under subsections 62 (0.1) and (1) of the *Law Society Act,* By-law 16: Innovative Technological Legal Services.

127 *La loi Informatique et Libertés*, Loi n° 78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés, online: https://www.legifrance.gouv.fr/loda/id/JORFTEXT000000886460/; Commission Nationale de L'informatique et des Libertés ("CNIL") (French data protection authority), "La loi Informatique et Libertés" (17 December 2015), online: https://www.cnil.fr/fr/la-loi-informatique-et-libertes; See also, interview with Marjorie Menapace, Lawyer at CNIL, on April 29 2024. See also, interview with Marjorie Menapace, Lawyer at CNIL, on April 29, 2024.

relating to the protection of natural persons' rights and freedoms with regard to processing."[128] It is this general advisory role that is relied upon to enable privacy sandboxes, but it does not authorize the granting of exceptions to regulatory requirements.[129]

Although the inability to grant exceptions may make these sandboxes seem more like innovation hubs, the close work of regulators over a more extended period with individual participants is different from the shorter term engagement in an innovation hub. As noted earlier, the UK ICO has maintained both an innovation hub and a regulatory sandbox and distinguishes between the activities in each.[130] Nevertheless, it should be noted that the guidance received from the regulator in privacy sandboxes is treated as non-binding by the regulator.

The ICO's Sandbox initially looked to the UK Financial Conduct Authority (FCA) sandbox as a model. However, the financial regulator has the authority to grant exceptions, and this was not possible under UK data protection legislation.[131] The ICO does provide a statement of "comfort from enforcement," which assures sandbox participants that if a breach occurs within the sandbox, it will not automatically lead to an enforcement action.[132] However, the ICO cannot grant exemptions from data protection legislation.[133]

Instead of providing regulatory exemptions, the ICO uses its sandbox to support the privacy by design process.[134] As a result, the ICO requires that innovators who apply to participate in their sandbox be at a stage where they are not yet processing any personal data. The sandbox process can help these innovators design their product/service in a privacy preserving way.[135] If participants were already processing personal data at the time of entry into the sandbox, there would be a risk that these activities might be determined to be non-compliant, potentially triggering an enforcement action.[136]

Ontario's IPC could find a basis for a similar sort of regulatory sandbox under its existing legislation. For example, s. 66 of the *Personal Health Information and Protection of Privacy Act* (PHIPA),[137] sets out the general powers of the commissioner. These include the power to

128 *Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)*, [2016] OJ L119/1, art 57, online: https://www.privacy-regulation.eu/en/article-57-tasks-GDPR.htm.

129 The ICO Innovation Hub is designed to provide more tailored support than some innovation hubs and uses Work Plan Agreements to clarify the areas where advice or support is sought. However, the ICO Innovation Hub is a shorter-term engagement than the sandbox. (Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024).

130 For example, the UK ICO's Sandbox Terms and Conditions state: "You are not required to comply with the Feedback, and it should not be viewed as a replacement for any independent legal advice you have or may wish to obtain. Of course, if you choose not to follow our Feedback, you may be acting in breach of data protection law and we would need to consider whether it was appropriate to use the powers available to us to take action." U.K. ICO, Sandbox Terms and Conditions, https://ico.org.uk/media/for-organisations/documents/4029505/sandbox-terms-and-conditions.pdf.

131 UK Information Commissioner's Office, *Sandbox Terms and Conditions, ibid.*

132 UK Information Commissioner's Office, "What Will Happen if Our Application to the Sandbox is Successful?" (2024), online: ICO https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/what-will-happen-if-our-application-to-the-sandbox-is-successful/.

133 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

134 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

135 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

136 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

137 *Personal Health Information and Protection of Privacy Act*, 2004, SO 2004, c 3, Sch A., online: https://canlii.ca/t/569mr.

"engage in or commission research into matters affecting the carrying out of the purposes of this Act." Such a provision might be interpreted to encompass experimentation of the kind carried out in a sandbox.

Further, s. 66(d) allows the commissioner to, "on the request of a health information custodian, offer comments on the custodian's actual or proposed information practices." This could be interpreted to allow the commissioner, in the case of a custodian that has applied to enter a sandbox environment, to provide input into the custodian's proposed innovative tool or system. If the sandbox concept were extended to the public sector, s. 59(a) of the *Freedom of Information and Protection of Privacy Act* (FIPPA),[138] enables the commissioner to "offer comment on the privacy protection implications of proposed legislative schemes or government programs." Like PHIPA, s. 59(d) of FIPPA allows the commissioner to "engage in or commission research into matters affecting the carrying out of the purposes of this Act."

The regulatory sandbox provisions of the EU *AI Act* allow certain regulatory exceptions or relief for sandbox participants, some of which may have privacy implications. For example, article 59 provides that personal data that has been collected by an organization for other purposes, can be used in the sandbox to develop, train and test AI systems, under specified conditions.[139] Further, article 57(11) indicates that although competent authorities are expected to exercise their supervisory powers, they may use "their discretionary powers when implementing legal provisions in respect to a specific AI regulatory sandbox project, with the objective of supporting innovation in AI in the Union."[140] In addition, sandbox participants will remain liable for harm caused through their sandbox activities. However, so long as they "observe the specific plan and the terms and conditions for their participation and follow in good faith the guidance given by the national competent authority," they will not be subject to administrative monetary penalties for any infringements of the EU *AI Act* while in the sandbox.[141]

ii. Consultation

Engagement is a key element at all stages of sandbox design, deployment and assessment. Indeed, it is crucial to the success of the sandbox. If the sandbox does not meet the needs of interested parties or a subset of this group or is not designed in a way that makes it accessible and useful to them, then there will be insufficient uptake. The DPAs with whom we met all emphasized the importance of engaging interested parties in the development of a sandbox. Discussions should include issues such as whether to create a sandbox, what the goals or themes of the sandbox should be, entry requirements, and other design features. For example, in developing its sandbox, the UK ICO consulted industry and issued a call for feedback to find out what innovators and industry wanted from a proposed sandbox.[142]

---

138 *Freedom of Information and Protection of Privacy Act*, RSO 1990, c F.31, online: https://canlii.ca/t/5652d.

139 *Regulation (EU) 2024/1689, Artificial Intelligence Act*, Article 59 https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

140 *Regulation (EU) 2024/1689, Artificial Intelligence Act,* Article 57(11), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

141 *Regulation (EU) 2024/1689, Artificial Intelligence Act,* Article 57(12), https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689.

142 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*. The DGSI draft regulatory sandbox standard also emphasizes the importance of collaborative engagement with relevant

iii. Sectors, themes or priorities

One way of structuring sandbox participation is for a regulator to identify a particular sector or set of technologies on which it seeks to focus. For example, a regulator could establish a sandbox that focuses on a particular aspect of their mandate (e.g., healthcare technologies), or it might identify specific areas of focus each year depending upon one or more strategic priorities. The DPAs with whom we met all emphasized the importance of engagement with relevant parties in identifying sandbox themes or priorities.[143]

The UK ICO's Sandbox started with an open call for applications,[144] which generated a total of sixty-five applications.[145] The following year, the ICO chose to identify priority themes that included data sharing and age-appropriate design.[146] More recently, the ICO has invited applications from those innovating with emerging technologies identified in its Tech Horizons report, which identifies the technologies with the most significant privacy implications.[147] Although the ICO does have focus areas, they have considerable flexibility within these. The ICO has requested expressions of interest regarding exceptional innovations that do not fit within the identified areas.[148] The ICO Sandbox team is also open to referrals from other areas within the ICO regarding organizations that could benefit from participation in the sandbox.[149] One of the entry criteria for the ICO's sandbox is that the project must have public benefit; there needs to be more than just profit for the organization.[150]

The Norwegian Datatilsynet's sandbox was initially created with a focus on AI and privacy, and it is open to participants from both public and private sectors.[151] Datatilsynet sought to gain experience and did not limit the issues and sectors it would consider.[152] They have had applicants from a broad range of sectors including health, finance, education and online services.[153] When Datatilsynet's sandbox became permanent, its scope broadened from an AI-focused sandbox to a Privacy, Innovation and Digitization Sandbox.[154] In December 2023, they selected four new projects, all of which address the use of generative AI, in different sectors.[155] This was not so much by design, but simply because this was a strong area of interest among applicants.[156]

---

parties at different stages of the process. See, e.g., Digital Governance Standards Institute, "Design, Implementation and Evaluation of Regulatory Sandboxes," CAN/DGSI 123:2024 (D5), *supra* note 4 at s. 7.2.

143 On this point, see also Digital Governance Standards Institute, "Design, Implementation and Evaluation of Regulatory Sandboxes", CAN/DGSI 123:2024 (D5), *supra note* 4 at 6.1(f).

144 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

145 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

146 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

147 UK Information Commissioner's Office, "Tech Horizons Report" (2023), online: https://ico.org.uk/about-the-ico/research-reports-impact-and-evaluation/research-and-reports/technology-and-innovation/tech-horizons-report.

148 UK Information Commissioner's Office, "Our Key Areas of Focus for the Regulatory Sandbox" (23 June 2024), online: ICO https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/our-key-areas-of-focus-for-the-regulatory-sandbox/.

149 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

150 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

151 Interview with Kari Laumann, Head of Section for Research, Analysis and Policy/Project Manager at Norwegian DPA Datatilsynet's Sandbox on April 12, 2024.

152 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

153 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

154 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

155 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

156 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

By contrast, the French CNIL's sandbox has a particular theme for each sandbox intake. The chosen theme is one that is considered important, and this assessment is informed by input of relevant parties. Beyond the general theme, CNIL defines between 2 to4 issues/ topics to work on during the sandbox with each participant.[157] In the past, CNIL's sandbox has had 3 themes: digital health, edtech[158] and AI in public services[159]. When determining a theme for its sandbox, CNIL makes an internal analysis based on requests — such as requests for advice— from organizations or current events.[160] For example, CNIL chose edtech as a theme in 2022 due to the effects of the pandemic on education.[161] Exchanges with several ministries that sought help on AI-related projects were one of the factors leading to CNIL choosing AI in public services as a theme in 2023.[162]

iv. Selection criteria

Regulatory sandboxes must have specific rules that govern who may enter the sandbox, and under what terms and conditions. One function of these rules is to ensure the most efficient management of the regulator's limited resources. Sandboxes are resource intensive and as such, can only host a limited number of participants within a given period. Entry requirements ensure that those selected for participation are a match for the goals of the regulator, have a product or service that is sufficiently mature to benefit from sandboxing, and have the internal resources to engage productively in the sandbox. The rules and requirements for participation in the sandbox also highlight that a sandbox is a form of experimental regulation. Entry requirements help to define the goals and the scope of the experiment.

As part of their entry conditions, the UK ICO requires that an applicant's proposal is in alignment with the key areas of focus identified by the ICO.[163] The applicant must also have an innovative product or service which provides a "potential demonstrable benefit to the public."[164] The ICO also considers whether it can "meet the resource and capabilities required" for the sandbox applicant's product or service, as well as how viable the applicant's proposed sandbox plan is.[165] The Norwegian Datatilsynet similarly requires that an applicant will benefit from participation in the sandbox and that the applicant's product/service benefits society.[166] The French CNIL weighs the viability of the applicant as a participant, and requires that its sandbox participants have a data protection officer, or someone familiar with the GDPR to act as an intermediary between the organization and the CNIL, a technical person,

157 Interview with Marjorie Menapace, Lawyer at CNIL, on April 29 2024.

158 Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Digital Health and Edtech: the CNIL publishes the results of its first "sandboxes" (28 July 2023), online: https://www.cnil.fr/en/digital-health-and-edtech-cnil-publishes-results-its-first-sandboxes.

159 Commission Nationale de L'informatique et des Libertés ("CNIL") (French data protection authority), "Artificial Intelligence and public services "sandbox": The CNIL supports 8 innovative projects" (4 December 2023), online: https://www.cnil.fr/en/artificial-intelligence-and-public-services-sandbox-cnil-supports-8-innovative-projects.

160 Interview with Marjorie Menapace, Lawyer at CNIL, on April 29, 2024.

161 Interview with Marjorie Menapace, Lawyer at CNIL, on April 29, 2024.

162 Interview with Marjorie Menapace, Lawyer at CNIL, on April 29, 2024.

163 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*

164 UK Information Commissioner's Office, "How Will the ICO Assess Applications for the Sandbox?," https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/how-will-the-ico-assess-applications-for-the-sandbox/.

165 UK Information Commissioner's Office, "How Will the ICO Assess Applications for the Sandbox?," *ibid*.

166 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

or someone who can talk about/explain the project from a technical point of view and outline cybersecurity issues, as well as a business team, or someone familiar with the operational needs and issues of the product/service, as part of its entry criteria.[167]

v. Terms of engagement

It is necessary for the regulator and the sandbox participants to enter into an agreement on the terms and conditions for sandbox participation. These terms can include the scope of the sandbox, safeguards to ensure the protection of individuals' rights, the regulator's role, the engagement process, the duration of the sandbox, intellectual property rights, obligations of confidentiality, communications related to the sandbox, privacy and data protection, as well as conflict of interest rules.[168] It is important for sandbox participants to understand that their participation in the sandbox does not mean that their product or service is in any way "endorsed" or "certified" by the regulator, and they cannot advertise or describe it to prospective customers in that way. This is typically set out in the terms of engagement.[169]

Sandboxes often operate at the frontiers of regulation and will tackle issues where there is considerable uncertainty as to how the law will apply. Nevertheless, the terms of engagement of a sandbox typically make it clear that participation does not immunize participants from future enforcement actions, although the terms may set out specific rules for the duration of sandbox participation.

For example, the UK ICO provides a statement of "comfort from enforcement" to sandbox participants, which assures that unintentional violation of data protection laws during product/service development in the sandbox will not *immediately* result in regulatory action.[170] This comfort is contingent upon the sandbox participants' continued collaboration and cooperation with the ICO and the sandbox team,[171] and does not prevent the ICO from taking formal enforcement action against sandbox participants if they fail to implement certain safeguards to ensure the protection of data subject rights.[172] Moreover, the ICO provides point-in-time feedback that does not limit its ability to later adopt a different regulatory stance or make a different decision in the future, including the possibility of enforcement or other regulatory actions.[173] The ICO's views that are expressed in its feedback may evolve over time, for example, if the ICO receives additional information, or if there are changes in the law, court rulings, regulatory guidance or ICO policy.[174]

Participation in a regulatory sandbox typically requires the regulator and participant to work closely together and to engage in frank exchanges. At the same time, the

167 Interview with Marjorie Menapace from CNIL, on April 29, 2024, *ibid.*

168 UK Information Commissioner's Office, "Sandbox Terms and Conditions," https://ico.org.uk/media/for-organisations/documents/4029505/sandbox-terms-and-conditions.pdf.

169 Toronto Centre, "Regulatory Sandboxes" (November 2017) https://www.torontocentre.org/index.php?option=com_content&view=article&id=77&Itemid=99; The UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*

170 UK Information Commissioner's Office, "What will happen if our application to the Sandbox is successful?" https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/what-will-happen-if-our-application-to-the-sandbox-is-successful/.

171 UK Information Commissioner's Office, "What will happen if our application to the Sandbox is successful?," *ibid.*

172 UK Information Commissioner's Office, "Sandbox Terms and Conditions,", *supra note* 166 at 2.

173 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*

174 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*

regulator is a public body subject to important transparency requirements. The terms of engagement should therefore include provisions that address both confidentiality and transparency. For example, the ICO protects sandbox participants' confidential information as long as sandbox participants provide clear reasons as to why certain information should be treated as confidential.[175]

In its sandbox terms and conditions, it is stipulated that the ICO will not disclose any confidential information without the prior written consent of the sandbox participants, except when necessary to provide feedback or support related to the sandbox, to fulfill any ICO functions or obligations, or when required by law, statutory directions, court orders, or government regulations, or as permitted under the sandbox terms and conditions.[176] As an illustration, the ICO may use information provided by sandbox participants, including confidential information, to develop and offer guidance, policies, and resources to the public on an anonymized basis.[177]

The ICO may also share confidential information with its employees, agents, consultants, advisors, or representatives if such disclosure is reasonably related to the sandbox and for the purposes outlined in the clause, provided, that they are aware of and comply with the confidentiality obligations under the terms and conditions.[178] The ICO may also disclose any information it receives from or about sandbox participants, including confidential information, to regulators or public bodies in the UK or elsewhere, such as the Centre for Data Ethics and Innovation, for purposes including verifying claims they made when applying for the sandbox, facilitating the ICO's functions, or complying with specific legal or regulatory requirements.[179]

Since the ICO is subject to the UK *Freedom of Information Act 2000*,[180] it may be required to disclose certain information it holds, including information sandbox participants provided about themselves and their involvement in the sandbox.[181] The ICO will try to inform sandbox participants if it is asked to share any information related to them and will seek to apply relevant exceptions to disclosure where appropriate.[182] On the other hand, if sandbox participants receive any confidential information from the ICO, they must keep it confidential and use it only for the intended purpose.[183] They must protect it as they would their own confidential information.[184] Upon the ICO's request, they must securely return or destroy any of the ICO's confidential information they have in their possession.[185] Confidentiality obligations continue after the sandbox period is over, for as long as the information remains confidential and is not publicly accessible.[186]

---

175 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *supra note* 166 at 5.
176 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
177 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
178 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
179 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
180 *Freedom of Information Act 2000* (UK), c 36, online: https://www.legislation.gov.uk/ukpga/2000/36/contents.
181 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
182 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
183 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
184 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
185 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid.*
186 UK Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid*

The confidentiality rules established for the sandbox may depend on the existing legislative framework. For example, all employees of the Norwegian Datatilsynet are bound by the confidentiality obligations[187] laid out in the Norwegian *Public Administration Act*.[188] These confidentiality obligations apply to technical, operational and business information, which must be kept confidential to protect the commercial and intellectual property interests of the person or organization to whom the information pertains.[189] As a result, any confidential information shared within the sandbox is exempt from public access[190] under the Norwegian *Freedom of Information Act*.[191]

Intellectual property rights are a matter of significant concern to private sector entities who enter a regulatory sandbox. Confidential information or trade secrets are often among the most important intellectual property rights for innovators in this context. Sandbox terms of engagement will typically contain provisions that address these rights. For example, the Norwegian Datatilsynet Sandbox terms of engagement provide that the sandbox does not affect intellectual property rights; the intellectual property rights of sandbox participants remain the same as they were before they entered the sandbox.[192]

Conflicts of interest are also an important consideration as the participant may have much at stake in developing and attempting to bring their innovative product to market. In the terms and conditions for the UK ICO's sandbox, participants must agree to discuss any actual or potential conflicts of interest at the application stage and whenever they may arise.[193] Such conflicts of interest could occur due to connections or associations that the sandbox participants or their employees might have with individuals at the ICO.[194] As part of their internal process, the ICO also discloses any potential conflicts of interest with the sandbox participants as soon as they become evident, in accordance with the sandbox terms and conditions.[195]

vi. Exit strategies and termination rules

In addition to entry requirements, sandboxes must have exit strategies. If the goal is to facilitate innovation, an exit strategy should be a plan that assists the participant to transition from the experimental phase to actual deployment. This may be more complicated if the regulator in question does not have the authority to amend rules or regulations. The UK ICO's exit strategy includes a final meeting to resolve any outstanding issues, and the provision of

187 Datatilsynet, "Framework for the Regulatory Sandbox: Confidentiality, etc.," https://www.datatilsynet.no/en/regulations-and-tools/sandbox-for-artificial-intelligence/framework-for-the-regulatory-sandbox/confidentiality-etc/.

188 *Public Administration Act (Norway)*, Act of 10 February 1967 No. 00 relating to procedure in cases concerning the public administration with subsequent amendments, most recently by act of 16 June 2017 No. 63, https://www.sdir.no/contentassets/83952ba07df145b18d035886ddd28bf0/public-administration-act.pdf?t=1617205607503.

189 Datatilsynet, "Framework for the Regulatory Sandbox: Confidentiality, etc.," *ibid.*

190 Datatilsynet, "Framework for the Regulatory Sandbox: Confidentiality, etc.," *ibid.*

191 *Freedom of Information Act (Norway)*, act of 1 January 2009 relating to the right of access to documents held by public authorities and public undertakings with subsequent amendments, most recently by act of 20 December 2022 No. 115, https://lovdata.no/dokument/NLE/lov/2006-05-19-16/KAPITTEL_3#KAPITTEL_3.

192 Datatilsynet, "Framework for the Regulatory Sandbox: Confidentiality, etc.," *ibid.*

193 UK Information Commissioner's Office, "Sandbox Terms and Conditions,", *supra note* 166 at 8.

194 UK Information Commissioner's Office, "Sandbox Terms and Conditions,", *ibid.*

195 UK Information Commissioner's Office, "Sandbox Terms and Conditions,", *ibid.*

an exit report to the participant summarizing the key elements in the process. The exit report may also include a "statement of regulatory comfort" where appropriate.[196]

A sandbox should also have provisions that allow for the early termination of participation. This allows either a regulator or innovator to end the experiment if it is no longer appropriate to proceed. This could occur, for example, if a participant lacks the resources to continue in the sandbox or has failed to fully participate.[197] As another example, the ICO's Sandbox terms and conditions stipulate that if a sandbox participant fails to implement certain safeguards to ensure the protection of data subject rights, their participation may be terminated.[198] Other termination provisions for the ICO's sandbox include its discretion to terminate participation if the sandbox participant has not fulfilled their obligations under the sandbox plan.[199] The ICO also has the discretion to temporarily suspend participation for a period they consider necessary until their concerns are appropriately addressed if at any point it considers that the participant is not "sufficiently cooperative or collaborative."[200]

The ICO reserves the right to immediately terminate sandbox participation at any time if there is a conflict of interest, or if the participant commits a "material or repeated breach of the Sandbox Plan or Terms and Conditions" (which cannot be remedied), or if the ICO "determines that [the participant's] conduct, either in the course of or outside of the sandbox, is contrary to public interest or is likely to bring the ICO into disrepute."[201] Participants who withhold information that should be disclosed or that take steps with the proposed innovation without informing or involving the ICO may also be terminated.[202] Moreover, the ICO reserves the right to suspend or terminate sandbox participation if the participant "trigger[s] detrimental unexpected consequences for the ICO, applicants or data subjects."[203] Finally, either the ICO or the sandbox participant may terminate participation "on two week's written notice."[204] Sandbox participation may also be terminated early if the participants do not make time for the dialogue-based, one-on-one meetings.

vii. A limited duration for the sandbox

Because a sandbox is a form of experimental regulation and is not intended to create a permanent situation, participation in a regulatory sandbox must be for a limited period. This may be a fixed duration for all participants, or it may be a time period tailored to individual participants, but with a maximum duration in all cases. For example, while the Norwegian Datatilsynet and the French CNIL support sandbox projects for six-month periods, the UK ICO supports sandbox projects for a period of up to twelve months.[205]

---

196 UK Information Commissioner's Office, "What will happen when we exit the Sandbox?," (n.d.) https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/what-will-happen-when-we-exit-the-sandbox/.

197 For example, the CNIL terminated a sandbox project after two months because a participant did not have enough availability for full participation. Interview with Marjorie Menapace from CNIL, on April 29, 2024, *ibid.*

198 Information Commissioner's Office, "Sandbox Terms and Conditions," *supra note* 166 at 2.

199 Information Commissioner's Office, "Sandbox Terms and Conditions," *supra note* 166 at 3.

200 Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid*.

201 Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid*.

202 Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid*.

203 Information Commissioner's Office, "Sandbox Terms and Conditions," *supra note* 166 at 4.

204 Information Commissioner's Office, "Sandbox Terms and Conditions," *ibid*.

205 Interview with representatives from the Datatilsynet, ICO & CNIL.

viii. Allocation of fiscal and human resources by the regulator

Our discussions with the UK, Norwegian, and French DPAs make it clear that regulatory sandboxes are resource intensive. The resources required are both fiscal and human. Sandboxes require the dedication of specific personnel with relevant skills and experience. The regulators we spoke with noted that because of the complexity of the issues raised, they assigned relatively senior people to their sandbox projects.[206] Sandboxes may also require additional resources on a more ad hoc basis from other divisions within the regulator, such as legal services, policy or communications.

Limited resources can be managed by restricting the number of participants in the sandbox, and by techniques, such as rolling admissions, which allow new participants to enter only after an earlier participant has exited the sandbox. However, in the absence of new dedicated resources, establishing a sandbox will mean shifting and/or sharing resources from elsewhere in the organization[207], which may impact the regulator's ability to deliver on other priorities that need to be addressed.

The allocation of resources was an important issue for the DPAs with whom we met. Some received initial funding to support pilot testing of their sandbox. For example, Norway's Datatilsynet received external funding from a group of ministries that pooled their own resources to initially fund the sandbox as a three-year pilot project.[208] In 2023, the sandbox became permanent, with Datatilsynet receiving a budget allocation earmarked for the sandbox, of $7 million Norwegian krone (NOK) per year, (approximately $891,380 CAD).[209] This funding is primarily used for salaries.[210]

Datatilsynet assigns existing staff on a part-time basis as project managers with the applicable portion of their salary paid from the sandbox budget.[211] They draw on the expertise of staff with different competencies and have hired staff in different sections to replace the resources that they use in the sandbox.[212] Datatilsynet has hired a sandbox coordinator and a communication resource.[213] They also plan to hire project managers to ease the pressure on existing resources.[214] Some funds are also used for communications, including events and advertising.[215]

---

206 For example, Norway's Datatilsynet hired extra staff when its sandbox became permanent, and allocated experienced staff to its sandbox, as experience is required to deal with the complexity of sandbox projects. Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*. CNIL also recognizes the importance of assigning senior experts to the sandbox team. (Interview with Marjorie Menapace from the CNIL on April 29, 2024, *ibid.*)

207 This is the case with CNIL. Interview with Marjorie Menapace from CNIL, on April 29, 2024, *ibid.*

208 Datatilsynet (Norwegian Data Protection Authority), "Evaluation of the Norwegian Data Protection Authority's Regulatory Sandbox for Artificial Intelligence" (12 May 2023), online: https://www.datatilsynet.no/contentassets/41e268e72f7c48d6b0a177156a815c5b/agenda-kaupang-evaluation-sandbox_english_ao.pdf.

209 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

210 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

211 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.* Because experience is necessary to deal with the complexity of sandbox issues, these are more senior staff members.

212 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

213 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

214 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

215 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

The UK's ICO did not receive external funding for its pilot project, nor was there additional funding once the project became a regular part of operations.[216] Its core sandbox team consists of a group manager and three senior policy officers.[217] Since the sandbox deals with complex technological innovations, they seek advice from colleagues within the ICO who specialize in areas such as AI, anonymization, age-appropriate design, and data sharing.[218] In addition, they seek support from colleagues in the legal department.[219]

The ICO maintains a separate Innovation Hub, which was established through the ICO's successful bid for funding as part of the Regulators' Pioneer Fund (RPF).[220] The ICO's Innovation Hub consists of four senior policy officers who seek advice and assistance from other teams.[221] Unlike other UK regulators' innovation hubs, the ICO's Innovation Hub does not fund innovation challenges, and so additional funds are not needed to directly support innovative projects.[222]

The French CNIL is an example of a DPA that has largely tried to make do with existing resources to create and maintain its sandbox. The French government increased the budget of CNIL only enough to recruit two to three new staff members after the first round of sandbox applications.[223] Staff members, including the project manager, are not assigned full-time to the sandbox; they also have other roles within the agency.[224] Particular staff members are assigned to a given sandbox project based upon the fit between their expertise and the project.[225]

CNIL begins its sandbox intake during the part of the year they are least busy.[226] Due to resource constraints, CNIL can only support around four sandbox projects over a six-month period each year.[227] Eleven different staff members may work on those projects (between 2-4 staff members for each project).[228] In addition, three staff members may work on specific issues within the sandbox, and there is a director/manager who reviews and selects sandbox projects.[229] In a given year, twenty different staff members may work on sandbox-related activities.[230]

ix. Transparency, evaluation and assessment of the sandbox

Because regulatory sandboxes are experimental in nature, the experiments require both appropriate documentation and evaluation to assess whether the sandbox project was

---

216 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*
217 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*
218 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*
219 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*
220 UK Information Commissioner's Office, "ICO Innovation Hub Project Report" (2020), *supra note* 24 at 7.
221 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*
222 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*
223 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.
224 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.
225 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.
226 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.
227 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.
228 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.
229 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.
230 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.

able to achieve its objectives and how the sandbox could be improved. Individual sandbox experiments must be properly documented, as should any lessons learned from the perspective of both the regulator and the regulated party. An evaluation report should include the objectives, timeline, location and participants of the sandbox project, as well as an assessment of the sandbox's effectiveness in achieving its goals and key performance indicators.[231] The regulator should also outline their plans on how to apply the lessons learned from each sandbox project.[232]

The limited participation in sandboxes makes it even more important that other innovators and the broader public should benefit from transparent reporting that explains what was done, how and why. Making a report publicly available also enables similarly situated innovators to learn from sandbox experiments, including how they should design or develop their innovative products or services in a way that complies with regulatory requirements. By way of example, the Norwegian Datatilsynet's motto is to "help many by helping one."[233] Each sandbox project it accepts represents an important problem in their sector and Datatilsynet shares the learnings from that sandbox project in a language that start-ups can understand.[234] This requires effort and attention to producing reports on sandbox outcomes that can be accessible and helpful to other innovators.

In terms of evaluation, the Norwegian Datatilsynet has a continuous evaluation process for each sandbox project. This includes collecting feedback from participants, but also conducting annual internal evaluations that seek input from staff and line managers.[235] In 2023, prior to the shift from a pilot project to a permanent service, the sandbox was also evaluated by an external consultant.[236] The UK ICO has a consistent internal quality assurance process and it seeks feedback from each of their sandbox participants.[237] All the written informal advice on particular matters and exit reports are reviewed by legal and subject matter experts, and heads of innovation and technology departments, as necessary.[238] The ICO has key performance indicators (KPIs) they work towards.[239] These KPIs are typically qualitative, not quantitative.[240] For its part, the French CNIL has an internal feedback mechanism with agents who work with the sandbox participants.[241] They send a satisfaction questionnaire to the participants to determine whether the sandbox met their needs, and whether CNIL should modify anything.[242]

231 Digital Governance Standards Institute, "Design, Implementation and Evaluation of Regulatory Sandboxes," CAN/DGSI 123:2024 (D5) at 12.

232 Digital Governance Standards Institute, "Design, Implementation and Evaluation of Regulatory Sandboxes," CAN/DGSI 123:2024 (D5), *ibid.*

233 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*.

234 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*.

235 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*.

236 The Norwegian Data Protection Authority, "Evaluation of the Norwegian Data Protection Authority's Regulatory Sandbox for Artificial Intelligence," *ibid*.

237 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

238 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

239 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

240 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid.*

241 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.

242 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.

VII. Benefits and challenges of regulatory sandboxes

An initial stage in any decision to create a sandbox will be an exercise to determine whether a regulatory sandbox will assist the regulator in meeting their objectives, and whether the sandbox is the best tool to achieve desired outcomes.[243] As noted earlier, regulatory sandboxes are particularly valuable where rapid technological changes present challenges for both innovators and the regulator. Consultation and engagement with relevant parties are crucial to understand both the need for a sandbox as well as its necessary scope and parameters.

Effective regulatory sandboxes have multiple benefits. They support innovation in regulated contexts impacted by rapidly evolving technology. Advantages for sandbox participants include an opportunity to develop innovative products and services that are designed with greater regulatory certainty.[244] Benefits for the regulator include an opportunity to develop a deeper knowledge and understanding of new technologies evolving in their regulatory sphere. The sandbox also identifies where there might be a need for more guidance or a need to update existing guidance.[245] Such guidance can provide real-life examples and use cases.[246]

A sandbox may also build trust and better engagement with regulated parties. The communication of outcomes and learnings from the sandbox can assist innovators in developing compliant products/services and can also provide greater regulatory certainty in complex environments. Broader public benefits include enhanced innovation that protects the public. Public policy makers may also gain from a better understanding of any need for law reform, the shape that it might take, and possibly even impacts that may result.

In the specific context of privacy sandboxes, the DPAs we met with reported experiencing many of these benefits. The French CNIL reported that working with sandbox participants has given them a better understanding of how innovators operate and the challenges they face.[247] Their work with organizations enables them to assist in finding solutions to the legal and technical problems faced by innovators, and their agents can develop their knowledge and expertise regarding emerging technologies.[248]

For the Norwegian Datatilsynet, one of the biggest benefits of the sandbox has been the building of staff competency in the area of emerging technologies.[249] Because so many Datatilsynet staff participate in projects on AI and privacy, this greatly aids in understanding emerging technologies, how privacy law can be applied to them, and the perspectives of

243 A handbook aimed at regulators in the fintech sector identifies several alternatives to creating a regulatory sandbox, including taking a wait-and-see approach to new innovative products in the marketplace, live-testing a specific innovation, creating an innovation hub, or pressing for legislative change. See: Ivo Jenik and Schan Duff, *How to Build a Regulatory Sandbox: A Practical Guide for Policy Makers, Technical Guide*. Washington, D.C., 2020: CGAP.

244 This benefit was noted in our interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*, and in our interview with Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*.

245 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*.

246 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*.

247 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.

248 Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.

249 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*.

regulated entities.[250] In our interview, it was noted that the sandbox has helped Datatilsynet become a more relevant, competent, and efficient regulator.[251]

Although regulatory sandboxes may have many benefits, they present certain challenges as well. Perhaps the most important of these is the demand on resources. As noted earlier, a regulatory sandbox is an intensive activity which requires a significant commitment of human and fiscal resources. In the absence of new resources earmarked for the sandbox, the commitment of resources to a regulatory sandbox may require a shift in priorities or activities of the regulator.[252]

Another risk is that there could be insufficient participation in the sandbox. This type of risk can be mitigated by careful design after close engagement with relevant parties to ensure that the sandbox is aligned with both needs and capacity. There may also be risks that sandbox participation will lead to poor outcomes for participants or to participants dropping out. In our interviews, we heard about the importance of open dialogue between the regulator and participants beginning in the assessment process and running throughout the course of the sandbox project.[253] Carefully crafted entry requirements can also help ensure that selected participants are sufficiently resourced to be able to properly engage in the sandbox.[254]

For regulators, another risk is how their relationship with sandbox participants may impact their investigation and enforcement roles should there be a regulatory breach by a participant either during the period of their sandbox participation or afterwards. Such a breach might also involve aspects of the participant's activities that are outside the sandbox (such as when a sandbox participant has a data breach with respect to a different product). Managing such risks will require the regulator to keep a strong separation between their sandbox work and their enforcement activities.[255] Another challenge is that in some cases, the regulator may already be engaged in policy development around an issue that arises in the sandbox, and the sandbox participants may need to wait for this process to be completed since the formation of broader policy guidance may be slower than the sandbox project itself.[256]

VIII. Conclusion

As a form of experimental regulation, sandboxes have attracted considerable attention as a means of addressing regulatory uncertainty at a time when technology is rapidly evolving. Although the regulatory sandbox concept originated in the fintech sector, it is being

250 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*.

251 Interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid.*

252 This point was made to us in our interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*., and in our interview with Kari Laumann from the Norwegian DPA Datatilsynet's Sandbox on April 12, 2024, *ibid*.

253 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*.

254 It was noted in our interviews that participant funding and resource issues may also cause delays. Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*. As noted above, CNIL had to terminate participation in its sandbox after 2 months due to a participant that did not have enough availability. Interview with Marjorie Menapace from CNIL, on April 29 2024, *ibid*.

255 We heard from the ICO that they work to keep their sandbox and investigations work separate, managing them on a case-by-case basis. Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*.

256 Interview with Claire Chadwick, Sarah Kennedy, and Stilyana Stoyanova from the ICO on April 17, 2024, *ibid*.

embraced and adapted in other areas, including privacy regulation. There are a growing number of privacy sandboxes around the world, and it is likely that sandboxing under the EU *AI Act* will also involve data protection issues.

Privacy sandboxes are thus evolving as important tools to shape emerging technologies in a privacy preserving, socially beneficial way and to mitigate or resolve specific risks or harms. However, to be effective, regulatory sandboxes must be well-designed with a narrow scope and stringent selection, entry, and exit requirements. Further, sandboxes are resource intensive and demand a substantial commitment on the part of the regulator. They also require ongoing regular engagement with relevant parties. Ultimately, a well-designed regulatory sandbox approach can "contribute to the development of evidence-based law-making and the continuous reassessment of regulation."[257] There are a number of considerations for the development of a successful privacy regulatory sandbox, as summarized below:

- Determine whether a regulatory sandbox is the appropriate tool to address the regulator's goals. This evaluation may also consider other possible tools such as an innovation hub. Identify the anticipated benefits of a sandbox and whether achieving these benefits is realistic.
- Identify and assess the scope of the legal authority needed to establish the sandbox. Does the regulator's enabling legislation allow for the creation of a sandbox? If the ability to grant regulatory exceptions is necessary or important to the sandbox, does the enabling legislation permit this? If not, how can regulatory exceptions be enabled?
- Consult with relevant parties to determine what features and parameters would be most useful for prospective participants and whether there is sufficient interest to support the creation of a sandbox.
- Identify, with input from key parties, specific entry, exit and termination rules for sandbox participation.
- Ensure ongoing consultation with internal and external parties to confirm whether there are key themes, areas or sectors that should be the focus of the sandbox; to obtain feedback on the experiences of conducting and participating in sandboxes; and what, if any, adjustments need to be made to ensure sandboxes continue to meet set objectives.
- Based on available resources, identify what would be a realistic intake for a pilot sandbox phase and how resource needs can be met.
- Establish clear terms of engagement for participation in the sandbox regarding confidentiality, conflict of interest, and potential enforcement.
- Determine the appropriate maximum duration for sandbox participation.
- Consider how information about each project and learnings from each experiment will be reported and shared with the public.
- Identify key performance indicators for the sandbox as a whole and what tools and methods will be used to evaluate each sandbox project.

257 Ranchordás, "Experimental Regulations for AI: Sandboxes for Morals and Mores", (2021), *supra note* 4 at 23.

Bibliography

Allen, Hilary L., "Regulatory Sandboxes," 87 Addressing the Global Challenges of Responsive FinTech Regulation (2019), online: https://digitalcommons.wcl.american.edu/facsch_lawrev/709

Allen, Hilary L., "Sandbox Boundaries," Washington College of Law Research Paper No. 2019-18, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3409847

Appaya, Sharmista & Mahjabeen Haji, "Four Years and Counting: What We've Learned from Regulatory Sandboxes," (18 November 2020), online: World Bank Blogs https://blogs.worldbank.org/en/psd/four-years-and-counting-what-weve-learned-regulatory-sandboxes

Attrey, Angela, Molly Lesher & Christopher Lomax, "The Role of Sandboxes in Promoting Flexibility and Innovation in the Digital Age," Going Digital Toolkit Policy Note, No. 2 (2020), OECD, online: https://goingdigital.oecd.org/toolkitnotes/the-role-of-sandboxes-in-promoting-flexibility-and-innovation-in-the-digital-age.pdf

Autoridade Nacional de Proteção de Dados (ANPD) (Brazilian Data Protection Authority), "ANPD's Call for Contributions to the regulatory sandbox for artificial intelligence and data protection in Brazil is now open," (3 October, 2023), online: https://www.gov.br/anpd/pt-br/assuntos/noticias/anpds-call-for-contributions-to-the-regulatory-sandbox-for-artificial-intelligence-and-data-protection-in-brazil-is-now-open

Bru, Paloma & Lidia Vidal. "Spain legislates for first EU AI Act Regulatory Sandbox," (13 November 2023), online: *Pinsent Masons*, https://www.pinsentmasons.com/out-law/news/spain-legislates-for-first-eu-ai-act-regulatory-sandbox

Bruening, Paula, IAPP, "An Emerging Tool, Regulatory Sandboxes for Privacy," 27 April 2021, online: https://iapp.org/news/a/regulatory-sandboxes-for-privacy/

Buckley, Ross P., Douglas Arner, Robin Veidt, and Dirk Zetzsche, "Building Fintech Ecosystems: Regulatory Sandboxes, Innovation Hubs and Beyond," 61 Wash. U. J. L. & Pol'y 055 (2020), https://openscholarship.wustl.edu/law_journal_law_policy/vol61/iss1/10

Canadian Centre for Regulatory Innovation (CRI), "Regulators' Experimentation Toolkit," (28 November, 2022), online: https://wiki.gccollab.ca/images/6/6b/CRI_Regulators%27_Experimentation_Toolkit.pdf

Cissé, Sonia & Clementine Richard, "France – Data Protection Overview," (November, 2023) https://www.dataguidance.com/notes/france-data-protection-overview

Commission Nationale de L'informatique et des Libertés ("CNIL") (French data protection authority), "Artificial intelligence and public services sandbox: the CNIL supports 8 innovative projects" (4 December 2023) online: https://www.cnil.fr/en/artificial-intelligence-and-public-services-sandbox-cnil-supports-8-innovative-projects

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Digital Health and Edtech: the CNIL publishes the results of its first "sandboxes"" (28 July, 2023), online: https://www.cnil.fr/en/digital-health-and-edtech-cnil-publishes-results-its-first-sandboxes

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "La loi Informatique et Libertés" (17 December 2015), online: https://www.cnil.fr/fr/la-loi-informatique-et-liberte

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Comprendre le RGPD," online: https://www.cnil.fr/fr/comprendre-le-rgpd

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Me mettre en conformité," online: https://www.cnil.fr/fr/ma-conformite-au-rgpd/me-mettre-en-conformite

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Respecter les droits de personnes", online: https://www.cnil.fr/fr/respecter-les-droits-des-personnes

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Outils," online: https://www.cnil.fr/fr/outils

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Besoin d'aide," online : https://www.cnil.fr/fr/cnil-direct?visiteur=pro

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "Le MOOC de la CNIL est de retour dans une nouvelle version enrichie," online : https://www.cnil.fr/fr/comprendre-le-rgpd/le-mooc-de-la-cnil-est-de-retour-dans-une-nouvelle-version-enrichie

Commission Nationale de L'informatique et des Libertés (CNIL) (French data protection authority), "L'ATELIER RGPD," online : https://atelier-rgpd.cnil.fr/login/index.php

Consultative Group to Assist the Poor, Jenik, Ivo, "Regulatory Sandboxes: Potential for Financial Inclusion?" (17 August 2017), online: https://www.cgap.org/blog/regulatory-sandboxes-potential-for-financial-inclusion

Datatilsynet (Danish data protection authority), "Regulatorisk Sandkasse," online: https://www.datatilsynet.dk/hvad-siger-reglerne/vejledning/regulatorisk-sandkasse

Datatilsynet (Norwegian Data Protection Authority), "Evaluation of the Norwegian Data Protection Authority's Regulatory Sandbox for Artificial Intelligence," (12 May 2023), online: https://www.datatilsynet.no/contentassets/41e268e72f7c48d6b0a177156a815c5b/agenda-kaupang-evaluation-sandbox_english_ao.pdf

Datatilsynet (Norwegian Data Protection Authority), "The sandbox page," (English translation), online: https://www.datatilsynet.no/regelverk-og-verktoy/sandkasse-for-kunstig-intelligens/

Digital Governance Standards Institute, "Design, Implementation and Evaluation of Regulatory Sandboxes," CAN/DGSI 123:2024 (D5) (18 June 2024), online: https://dgc-cgn.org/standards/find-a-standard/standards-in-regulatory-sandbox/design-use-and-evaluation-of-regulatory-sandboxes/

European Commission, "30 Digital Innovation Hubs focused on Artificial Intelligence selected for a training programme," (12 March 2019), online: https://digital-strategy.ec.europa.

eu/en/news/30-digital-innovation-hubs-focused-artificial-intelligence-selected-training-programme

Ford, Cristie L. and Quinn Ashkenazy, "The Legal Innovation Sandbox," Am J Comp L (2023), https://commons.allard.ubc.ca/fac_pubs/712/

German Federal Ministry for Economic Affairs and Energy, "Making Space for Innovation, the handbook on regulatory sandboxes," (2019), https://www.bmwk.de/Redaktion/EN/Publikationen/Digitale-Welt/handbook-regulatory-sandboxes.pdf?__blob=publicationFile&v=2

Goodenough, Oliver R. & David L. Schrier, "Regulatory Sandboxes," in David L. Schrier and Alex Pentland, eds, Global Fintech: Financial Innovation in the Connected World (MIT Press 2022) 203-218, online: https://doi.org/10.7551/mitpress/13673.003.0013 at 205.

Gordon, Heidi, Shane C. D'Souza, Anna Badour, Shauvik Shah, "Fintech Regulatory Developments: 2017 Year in Review," McCarthy Tétrault LLP, (December 29, 2017), online: https://www.mccarthy.ca/en/insights/blogs/techlex/fintech-regulatory-developments-2017-year-review

Government of Alberta, "Financial services and fintech regulatory sandbox," https://www.alberta.ca/financial-services-and-fintech-regulatory-sandbox.aspx

Government of Alberta, "Innovating the Finance Sector," online: https://www.alberta.ca/innovating-the-finance-sector

Government of Canada, "Chapter 4: Economic Growth for Every Generation," (2024) https://budget.canada.ca/2024/report-rapport/chap4-en.html#Cutting_Red_Tape:~:text=Cutting%20Red%20Tape%20to,to%20modern%20business%20realities

Government of Canada, "Remotely Piloted Aircraft Systems regulatory sandbox," (November 28, 2022), online: https://www.canada.ca/en/government/system/laws/developing-improving-federal-regulations/modernizing-regulations/what-is-a-regulatory-sandbox.html

Greenstone, Michael, "Toward a Culture of Persistent Regulatory Experimentation and Evaluation," in New Perspectives on Regulation, 1st ed (Cambridge, MA: The Tobin Project, 2009) 111, online: https://onlinepubs.trb.org/onlinepubs/PBRLit/Greenestone.pdf

Integritetsskydds Myndigheten (Swedish data protection authority), online: "English Summary: Swedish Authority for Privacy Protection, IMY, finishes first Sandbox Pilot," (15 March 2023), https://www.imy.se/globalassets/dokument/ovrigt/first-regulatory-sandbox-pilot---english-summary.pdf

Jenik, Ivo and Schan Duff, *How to Build a Regulatory Sandbox: A Practical Guide for Policy Makers, Technical Guide*. Washington, D.C., 2020: CGAP.

Lavoie, Alexandre & Nicole Sweeney, "Legislative Summary of Bill S-2: An Act to amend the Motor Vehicle Safety Act and to make a consequential amendment to another Act," (6 February 2017) Library of Parliament, online: https://lop.parl.ca/sites/PublicWebsite/default/en_CA/ResearchPublications/LegislativeSummaries/421S2E

Law Society of British Columbia ("LSBC"), "Innovation Sandbox," online: https://www.lawsociety.bc.ca/priorities/innovation-sandbox/

Law Society of Ontario ("LSO"), "Technology Task Force," online: https://lso.ca/about-lso/initiatives/technology-task-force

Law Society of Ontario ("LSO"), "Technology Task Force, Report on Regulatory Sandbox for Innovative Technological Legal Services," April 22, 2021, https://lawsocietyontario.azureedge.net/media/lso/media/about/convocation/2021/convocation-april-2021-technology-task-force-report.pdf

Lee, JaeHoon & Hee Yeong Chung "Regulatory Sandbox: Korea's New Regulation Paradigm," (2019), KISTEP Issue Paper (Vol.261), OECD, "Regulatory sandboxes in artificial intelligence," *supra note* 2 at 19.

OEB Innovation Sandbox, (n.d.), https://www.oeb.ca/_html/sandbox/index.php.

OEB Innovation Sandbox, "Process," (n.d.), https://www.oeb.ca/_html/sandbox/process.php.

OECD, "OECD Business and Finance Outlook 2021: AI in Business and Finance," Paris: OECD Publishing (2021), online: https://doi.org/10.1787/ba682899-en

OECD, "Regulatory sandboxes in artificial intelligence," (2023), *OECD Digital Economy Papers*, No. 356, OECD Publishing, Paris, online: https://doi.org/10.1787/8f80a0e6-en

Office of the Information and Privacy Commissioner of Ontario, Policy Consultations, (n.d.), https://www.ipc.on.ca/en/resources/guidance-organizations/policy-consultations

OneTrust DataGuidance, "Denmark: Datatilsynet establishes regulatory sandbox for AI," (5 March 2024), online: https://www.dataguidance.com/news/denmark-datatilsynet-establishes-regulatory-sandbox-ai

OneTrust DataGuidance, "Iceland: Persónuvernd launches regulatory sandbox pilot project," online: https://www.dataguidance.com/news/iceland-pers%C3%B3nuvernd-launches-regulatory-sandbox-pilot

Parenti, Radostina, "Regulatory Sandboxes and Innovation Hubs for FinTech," Study for the committee on Economic and Monetary Affairs (September 2020), https://www.europarl.europa.eu/RegData/etudes/STUD/2020/652752/IPOL_STU(2020)652752_EN.pdf

Persónuvernd (Icelandic data protection authority), "Sandkassi sem öruggt umhverfi Fyrir þróun ábyrgrar Gervigreindar," online: https://www.personuvernd.is/personuvernd/frettir/sandkassi-sem-oruggt-umhverfi-fyrir-throun-abyrgrar-gervigreindar

Ranchordás, Sofia, "Experimental Lawmaking in the EU: Regulatory Sandboxes," EU Law Live Weekend Edition, University of Groningen Faculty of Law Research Paper No. 12/2021 (2021) http://dx.doi.org/10.2139/ssrn.3963810

Ranchordás, Sofia, "Experimental Regulations for AI: Sandboxes for Morals and Mores," (May 4, 2021), University of Groningen Faculty of Law Research Paper No. 7/2021, http://dx.doi.org/10.2139/ssrn.3839744

Ringe, Wolf-Georg & Christopher Ruof, "A Regulatory Sandbox for Robo Advice," (2018), 26 European Banking Institute 38, http://dx.doi.org/10.2139/ssrn.3188828

Saudi Data & AI Authority (SDAIA), "Data and Privacy Regulatory Sandbox," online: https://sandbox.sdaia.gov.sa/en/index.aspx

Singaporean Infocomm Media Development Authority (IMDA), "First of its kind Generative AI Evaluation Sandbox for Trusted AI by AI Verify Foundation and IMDA," online: https://www.imda.gov.sg/resources/press-releases-factsheets-and-speeches/press-releases/2023/generative-ai-evaluation-sandbox#:~:text=By%20involving%20regulators%20like%20the,be%20transparent%20about%20their%20needs

Singaporean Infocomm Media Development Authority (IMDA), "Privacy Enhancing Technology Sandboxes," online: https://www.imda.gov.sg/how-we-can-help/data-innovation/privacy-enhancing-technology-sandboxes

Singaporean Personal Data Protection Commission, "Data Sharing Arrangements," online: https://www.pdpc.gov.sg/overview-of-pdpa/the-legislation/exemption-requests/data-sharing-arrangements

Singaporean Personal Data Protection Commission, "Exemption Requests," online: https://www.pdpc.gov.sg/overview-of-pdpa/the-legislation/exemption-requests

Singaporean Personal Data Protection Commission, "Launch of Privacy-Enhancing Technologies Sandbox," (July 2022), online: https://www.pdpc.gov.sg/news-and-events/announcements/2022/07/launch-of-privacy-enhancing-technologies-sandbox

Superintendencia de Industria y Comercio (Colombian data protection authority), "Sandbox on Privacy by Design and by Default in AI Projects," (April 2021), https://globalprivacyassembly.org/wp-content/uploads/2021/07/B6.-SIC-Colombia-Sandbox-on-privacy-by-design-and-by-default-in-AI-projects.pdf

The World Bank, "Key Data from Regulatory Sandboxes across the Globe," (1 November 2020), online: https://www.worldbank.org/en/topic/fintech/brief/key-data-from-regulatory-sandboxes-across-the-globe

Toronto Centre, "Regulatory Sandboxes," (November 2017) https://www.torontocentre.org/index.php?option=com_content&view=article&id=77&Itemid=99

Transport Canada, "Introducing a regulatory sandbox for dangerous goods electronic shipping documents," online: https://tc.canada.ca/en/corporate-services/acts-regulations/transportation-sector-regulatory-review-roadmap/latest-updates-targeted-regulatory-review-november-2023

Transport Canada, "Transport Canada 2022-2023 Departmental Plan," online: https://tc.canada.ca/en/corporate-services/transparency/corporate-management-reporting/departmental-plans/transport-canada-2022-2023-departmental-plan

Treasury Board of Canada Secretariat, "Draft: Facilitating Innovation and Competitiveness: Platform for Regulatory Sandboxes," (November 15, 2018), online: https://wiki.gccollab.ca/images/5/55/Discussion_Paper_Novel_Approachs_and_Innovation_%28Draft_November_15_2018_PPledge%29.pdf

UK Information Commissioner's Office, "Digital Regulation Cooperation Forum," online: ICO https://ico.org.uk/about-the-ico/what-we-do/digital-regulation-cooperation-forum/

UK Financial Conduct Authority, "Emerging Technology Research Hub," (31 March 2023), online: https://www.fca.org.uk/firms/emerging-technology-research-hub

UK Information Commissioner's Office, "Gambling Commission Regulatory Sandbox Report Phase 1 Outcome," (1 October 2021), online: https://ico.org.uk/media/for-organisations/documents/4018589/official-sensitive-gambling-commission-regulatory-sandbox-report-phase-1-outcome-final-pdf.pdf

UK Information Commissioner's Office, "Greater London Authority Regulatory Sandbox Report," (23 June 2024), online: https://ico.org.uk/media/for-organisations/documents/2619466/gla_regulatory_sandbox.pdf

UK Information Commissioner's Office, "How Will the ICO Assess Applications for the Sandbox?", online: https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/how-will-the-ico-assess-applications-for-the-sandbox/

UK Information Commissioner's Office (ICO), "Innovation Hub," online: https://ico.org.uk/about-the-ico/what-we-do/ico-innovation-services/

UK Information Commissioner's Office, "ICO Innovation Hub Project Report," (2020), online: https://ico.org.uk/media/about-the-ico/documents/2618204/ih-report-20200828.pdf

UK Information Commissioner's Office, "Ministry of Housing, Communities and Local Government Final Report," (23 June 2024), online: https://ico.org.uk/media/for-organisations/documents/2619467/mhclg_final-report.pdf

UK Information Commissioner's Office, "NHS Digital Regulatory Sandbox Final Report," (23 June 2024), online: ICO https://ico.org.uk/media/for-organisations/documents/2618905/nhs-digital-regulatory-sandbox-final-report.pdf

UK Financial Conduct Authority, "Regulatory Sandbox," (2015), online: https://www.fca.org.uk/publication/research/regulatory-sandbox.pdf

UK Financial Conduct Authority, "Regulatory Sandbox accepted firms," (27 March 2022), online: https://www.fca.org.uk/firms/innovation/regulatory-sandbox/accepted-firms

UK Information Commissioner's Office, "Regulatory Sandbox Final Report: Betting and Gaming Council," (July 2023), online: https://ico.org.uk/media/for-organisations/documents/4025856/betting-and-gaming-council-sandbox-report-20230626.pdf

UK Information Commissioner's Office, "Regulatory Sandbox Final Report: The Ministry of Housing, Communities and Local Government (MHCLG)," (March 2021), online: https://ico.org.uk/media/for-organisations/documents/2619467/mhclg_final-report.pdf

UK Information Commissioner's Office (ICO), "Regulatory Sandbox Phase 1 Outcome Report: Gambling Commission," (October 2021), online: https://ico.org.uk/media/for-organisations/documents/4018589/official-sensitive-gambling-commission-regulatory-sandbox-report-phase-1-outcome-final-pdf

UK Information Commissioner's Office (ICO), Sandbox Terms and Conditions, https://ico.org.uk/media/for-organisations/documents/4029505/sandbox-terms-and-conditions.pdf

UK Information Commissioner's Office, "Our Key Areas of Focus for the Regulatory Sandbox," (23 June 2024), online: https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/our-key-areas-of-focus-for-the-regulatory-sandbox/

UK Information Commissioner's Office, "Tech Horizons Report," (2023), online: https://ico.org.uk/about-the-ico/research-reports-impact-and-evaluation/research-and-reports/technology-and-innovation/tech-horizons-report

UK Information Commissioner's Office, "What Will Happen if Our Application to the Sandbox is Successful?" (2024), online: https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/what-will-happen-if-our-application-to-the-sandbox-is-successful/

UK Information Commissioner's Office, "Who can apply to the Sandbox?", online: https://ico.org.uk/for-organisations/advice-and-services/regulatory-sandbox/the-guide-to-the-sandbox/who-can-apply-to-the-sandbox/

US National Institute of Standards and Technology (NIST), "Sandbox", Computer Security Resource Center, https://csrc.nist.gov/glossary/term/sandbox

Wu, Tim, "Agency Threats," (2011) 60:8 Duke Law Journal, https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=1506&context=dlj

Statutes

Act on supplementary provisions to the regulation on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (the Data Protection Act), 2018, (Denmark) online: https://www.datatilsynet.dk/media/7753/danish-data-protection-act.pdf

Aeronautics Act, R.S.C., 1985, c. A-2, online: https://canlii.ca/t/53jf7

ATB Financial Act, RSA 2000, c A-45.2, online: https://canlii.ca/t/55prv

Bill S-2, An Act to amend the Motor Vehicle Safety Act and to make a consequential amendment to another Act, 1st Sess, 42nd Parl, December 3, 2015, to September 11, 2019 (assented to 1 March 2018), SC 2018, c. 2., online: https://www.parl.ca/LegisInfo/en/bill/42-1/S-2

Consumer Protection Act, RSA 2000, c C-26.3, online: https://canlii.ca/t/5697b

Credit Union Act, RSA 2000, c C-32, online: https://canlii.ca/t/560qk

Financial Consumers Act, RSA 2000, c F-13, online: https://canlii.ca/t/56120

Financial Innovation Act, SA 2022, c F-13.2, online: https://canlii.ca/t/55pjt

Freedom of Information Act (Norway), Act of 1 January 2009 relating to the right of access to documents held by public authorities and public undertakings with subsequent

amendments, most recently by Act of 20 December 2022 No. 115, https://lovdata.no/dokument/NLE/lov/2006-05-19-16/KAPITTEL_3#KAPITTEL_3

Freedom of Information Act 2000 (UK), c 36, online: https://www.legislation.gov.uk/ukpga/2000/36/contents

Freedom of Information and Protection of Privacy Act, RSO 1990, c F.31, online: https://canlii.ca/t/5652d

La loi Informatique et Libertés, Loi n° 78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés, online: https://www.legifrance.gouv.fr/loda/id/JORFTEXT000000886460/

Law Society of Ontario, By-laws made under subsections 62 (0.1) and (1) of the *Law Society Act*, By-law 16: Innovative Technological Legal Services.

Loan and Trust Corporations Act, RSA 2000, c L-20, online: https://canlii.ca/t/569nb

Motor Vehicle Safety Act, S.C. 1993, c. 16, online: https://canlii.ca/t/56bjw

Personal Data Protection Act, 2012, (Singapore) online: Singapore Statutes Online https://sso.agc.gov.sg/Act/PDPA2012

Personal Health Information and Protection of Privacy Act, 2004, SO 2004, c 3, Sch A., online: https://canlii.ca/t/569mr

Personal Information Protection Act, SA 2003, c P-6.5, online: https://canlii.ca/t/5619m

Presidential Decree 4886 of 2011 (Colombia), https://www.suin-juriscol.gov.co/viewDocument.asp?id=1553132

Public Administration Act (Norway), Act of 10 February 1967 No. 00 relating to procedure in cases concerning the public administration with subsequent amendments, most recently by act of 16 June 2017 No. 63, https://www.sdir.no/contentassets/83952ba07df145b18d035886ddd28bf0/public-administration-act.pdf?t=1617205607503

Red Tape Reduction Act, SC 2015, c 12., online: https://canlii.ca/t/52fp5

Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), [2016] O.J. L.119/1, https://eur-lex.europa.eu/eli/reg/2016/679/oj

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008,(EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act), [2024] O.J. L. [publication reference pending], https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32024R1689

Spanish Royal Decree 817/2023, https://www.boe.es/boe/dias/2023/11/09/pdfs/BOE-A-2023-22767.pdf

About the authors

Dr. Teresa Scassa is the Canada Research Chair in Information Law and Policy at the University of Ottawa, Faculty of Law. She is the author or co-author of several books, including: *The Future of Open Data* (uOttawa Press 2022); *Artificial Intelligence and the Law in Canada* (LexisNexis 2021); *Digital Commerce in Canada* (LexisNexis 2020); *Law and the Sharing Economy* (uOttawa Press 2018); and *Canadian Trademark Law* (*2d edition, LexisNexis* 2015). She is a member of the Centre for Law, Technology and Society, as well as the Centre for Health Law, Policy and Ethics. She serves in a volunteer capacity on numerous advisory bodies, including the Canadian Advisory Council on Artificial Intelligence and the Ontario Information and Privacy Commissioner's Strategic Advisory Council. She is also the is the Chair of Ontario's AI Expert Working Group.

Dr. Scassa has written widely in the areas of privacy law, the regulation of artificial intelligence, data governance and intellectual property law. In 2024 she was awarded the Piccasso Award in the category of Privacy Leader Academia/Thought Leader.

Elif Nur Kumru is a Ph.D. in Law candidate at the University of Ottawa, Faculty of Common Law. She completed her Master of Laws (LLM) at Duke University School of Law, where she focused on Privacy, Data Protection and Cybersecurity. After completing her LLM, she was a Graduate Fellow at the Duke Center on Law & Tech, where she conducted research on the privacy implications of AI Systems. She holds a Bachelor of Laws from Koc University School of Law in Istanbul, Turkey. She is the co-author of a report on the media freedom implications of AI and tech, which was a joint publication of the Carr Center for Human Rights Policy at Harvard University and the Canadian Internet Policy and Public Interest Clinic at the University of Ottawa.

Exploring the Potential for a Privacy Regulatory Sandbox for Ontario