



Banc Ceannais na hÉireann
Central Bank of Ireland

Eurosystem

Consultation Paper 156

Responses

June 2024

Q.1 What are your views on the Central Bank's approach to innovation?

Kayna Innovation: Good initiative. Key to driving innovation in the market. Communication and transparency is key.

Financial Services Innovation Centre, UCC: While there has been much discussion amongst industry previously about the need for a regulatory sandbox I feel that this was somewhat motivated by the disappointment with the Innovation Hub model. The "hub" approach to act as a traffic cop to engage the discrete internal CBI experts in various areas and triage the inquiry solely along those lines was not a very satisfactory experience for many parties engaging with the hub. With the hub acting as a traffic cop routing inquiries to and from various departments for feedback there lacked a sense of engagement. Notwithstanding the hub model allowed for multiple follow-ups, which was taken up by many organisation, the approach was limited in its flexibility to have deeper engagements. The genesis of the hub model was rooted to some extent in the focus on following the regulatory convergence mantra by the ESAs which was, and is still not fully homogenised in this area across peer NCAs.

It is still not clear how the operating model of an Innovation Sandbox will materialise to be different for singular company engagements with the CBI. We have moved from a model of Innovation Hub servicing singular enquiries to a proposed model of Innovation Sandbox with a capacity for a cohort approach that involves some kind of thematic similarity. Several peers of the CBI have a Regulatory Sandbox in some limited or full-blown capacity with a range of other approaches. While I personally agree the Regulatory Sandbox might set unreal expectations and increase the possibility of stimulating risky or unproven behaviour among newly authorised companies, the range of options that could or were considered is not clear to me.

I would like to see a swim lane type diagram of the as-is and to-be scenarios explaining what will be the real difference an organisation that requires authorisation might experience and also if it is an already authorised organisation what will they experience. The issue around organisations that might or might not require authorisation is a complicated matter and should be included also.

The People and their Banking Industry: They are limited, sandboxes should be open continually.

Napier Technology: The Central Bank's commitment to further enhance the Innovation Hub is admirable, and acknowledges the pace of change in the financial services sector. The increased frequency and structure of engagements combined with the addition of the digital information centre provides a good opportunity to track and analyse trends more than once-a-year in the annual report.

The Central Bank should consider creating regular digital information on how trends are impacting those financial institutions that engage with the Innovation Hub, in a way that demonstrates fluctuations over time. This could take the form of tracking the frequency of trends keywords and sentiment across engagements, as well as overlaying analysis from the Central Bank team on comparable regulatory evolutions across other regions. Digital support content could then be prioritised in relation to the most common concerns of those engaging with the Innovation Hub, and the most imminent impact trends from the regions where these organisations also operate.

Fexco: We welcome the enhancements underway. More generally we stress the importance of CBI making subject matter experts available to support firms, whether those firms are start-ups preparing for authorisation or firms that are already authorised and struggling to meet emerging obligations. EU payment statistic reporting obligations are an example of an issue that can cause huge headaches for small firms; CBI subject matter expertise in this area would benefit both firms that are regulated and firms preparing to take on the burden of authorisation. The Innovation Hub can identify challenges impacting early stage firms and more established firms, and use these findings to inform Central Bank strategy.

The Irish League of Credit Unions: The Irish League of Credit Unions welcomes the opportunity to comment on Consultation Paper 156 and is fully supportive of the approach of the Central Bank to engage with industry. The Irish League of Credit Unions (ILCU) is the largest representative body for Credit Unions in Ireland. Founded in 1960 with the aim of providing representation, leadership, co-operation, support and development for Credit Unions in both Ireland and Northern Ireland.

Credit Unions are domestically regulated and supervised by the

Registry of Credit Unions in the Central Bank of Ireland. The recently enacted Credit Union (Amendment) Act 2023 provides opportunities for Credit Unions to develop and grow their business models. We support the Innovation Hub and think the enhancements underway with the Innovation Hub specifically bringing David, Carole, Miriam and Eoin into the Central Bank is a step change and overwhelmingly positive.

We note that the recent European Supervisor Authority report in December 2023 highlighted that there are 14 regulatory sandboxes in 12 European Countries. We feel it is right and appropriate for the Central Bank of Ireland to continue to develop its offering. In terms of other areas, data sharing and highlighting trends across sectors is something we would like to see more of to reduce the barriers to entry.

Squareup: We support the planned enhancements to the Central Bank of Ireland's (CBI) Innovation Hub. The proposed initiatives lay the foundations for improved collaboration between the CBI and the industry. They mark a progressive step towards a more innovative, competitive, and efficient financial ecosystem that will continue to serve the evolving needs of the Irish consumer. In particular, we support the CBI's efforts to create a more structured engagement process and expanded stakeholder outreach.

Enhancing outreach and engagements with external stakeholders: We support the proposed improvements to the Innovation Hub, especially the increased emphasis on industry engagement. In our view, the CBI should focus on creating more opportunities for engagement between itself and industry that sit outside of core supervisory and other rigid processes. Instead, the CBI should seek to encourage greater industry engagement during policy-making processes and at other ad-hoc opportunities. Such unstructured and informal engagement will help CBI staff become better acquainted with industry stakeholders and market developments, while assisting the industry in understanding the motives and rationale behind upcoming regulation and will help drive a real-time exchange of information between the public and private sector. In particular, we welcome the Irish Retail Payments Forum (IRPF), within the CBI's Catalyst Function, as an excellent initiative to drive engagement. However, it should be extended to encourage more frequent and less formal meetings and roundtables similar to the Operational Resilience Workshop the CBI hosted on behalf of the IRPF in Oct

2023 (e.g. held under the Chatham House rule) to encourage a freer and broader exchange of information. The CBI may also wish to consider expansion of the IRPF to different industry cohorts to capture particular perspectives from regulated firms (e.g. international retail banks, international payment service providers, Irish payment service providers, domestic and international Virtual Asset Service Providers, etc.).

Furthermore, we support the CBI's plans to increase focus on regional engagements to support innovation across Ireland. At Square, we are dedicated to empowering all merchants across the island to grow using digital tools. We welcome the CBI's commitment to increasing regional engagements and view this as a valuable opportunity to bridge the existing digital divide, ensuring that innovative solutions are accessible to a broader range of consumers and businesses.

Participating in relevant Irish, EU or international sector/theme specific programmes: As a global entity, we recognise the value of cross-market learnings and regulatory approaches. We strongly support the CBI's intent to increase its participation in international forums. We believe this broader engagement will provide valuable insights into global regulatory trends, contributing to a more holistic approach to fostering innovation within Ireland's financial sector. We would encourage the CBI to seek input from its international regulated firms (like Square), which have a wealth of experience in international forums, as it seeks to engage with these international bodies.

Launching a Digital Centre: The proposed launch of a Digital Centre to support firms in the Irish market is a welcomed initiative. We believe that this will further support knowledge-sharing and best-practice within the sector, provided that the Digital Centre successfully encourages open, transparent and proactive engagement, as discussed above.

Reitigh Software: Establishing an Innovation Sandbox Programme is a positive enhancement. Likewise, Hackathons and a Digital Centre for knowledge sharing would be beneficial enhancements.

Bank of Ireland: The Innovation Hub is a positive first step to support innovation. Developing standards for data in the context of startups and innovation including outlining data ownership, regulatory requirements and the use of data could support ethical development and use of innovation.

Development of horizon scanning to share and distribute future regulations and industry standards could be beneficial.

Knowledge sharing of innovation initiatives and outcomes from the CBI, including cases studies and findings.

Providing Feedback on the CBI's regulatory and supervisory expectations on the use of new technologies.

Q.2 What are your views on the Central Bank's approach to innovation?

Kayna Innovation: As someone who took part in UK FCA sandbox program in 2017 it is a major part of what drives innovation in markets. Competition and innovation will only succeed if it delivers value to the end user.

Financial Services Innovation Centre, UCC: The advent of the innovation hub or innovation sandbox have had or will have little impact on the consumer. While the consumer protection focus of the authorisation and supervision processes afford the consumer the cover required it is not clear if either of these initiatives have or will have extra impact apart from crystallising these needs to potential entrepreneurs earlier in the search for authorisation.

If you want to make a real impact then there should be some component within the new process that includes a "consumer sandbox" as part of the journey, this phase should have a mandate to collaboratively explore the value of the innovation to consumers and society as well as the protections that might be needed. The CBI has a mandate here so it could have a role to play here also and it should be included in the process if you want to facilitate a more thorough inspection and feedback process for and with the companies engaged in the new process. While the CBI has no competition mandate at

present it should engage with the CCPC further on this matter to develop a comprehensive joint view.

The People and their Banking Industry: Generally positive, but the need to be available all the time not sure the 6 weeks the CBI wish to study. Innovation can't be time boxed.

Napier Technology: The establishment of the Innovation Sandbox Programme will surely deliver on the Central Bank's objective around allowing innovative firms to engage with the regulatory framework in a clear and transparent way. But the current proposal perhaps stops short of detailing exactly how innovations will be developed, and how it will be measured as to whether these delivered better outcomes for society and the financial systems. Extending the proposal to outline any potential for Central Bank led innovations, developed in hybrid public-private partnership and the success criteria for the evaluation of these would be a useful addition. Considering public sector led innovations is likely to accelerate the achievement of the Central Bank's objectives.

Fexco: The proposal is that the Innovation Hub would provide regulatory advice to Sandbox participants, which is most welcome. The cost of early stage scoping advice can be very high. At the same time we acknowledge that, as a regulatory authority, the Central Bank is not in a position to give substantive regulatory advice.

In our view the hub will be successful if firms exiting the sandbox (a) understand what kind of authorisation they will need for their service, (b) know what that authorisation will entail for them from a financial, HR and operational perspective, and (c) have had an initial conversation with the relevant authorisations team. This final step of linking to the authorisations team is key.

The Sandbox will support the Central Bank in meeting the needs of consumers and the wider economy by ensuring that innovative products are designed and developed with good regulatory compliance in mind. The Sandbox will also enable the Central Bank to identify developments outside the regulated sphere that may have a significant impact on regulated financial markets and the wider economy.

The Irish League of Credit Unions: It is important for the Irish League of Credit Unions that there is a signposting of themes including a work programme to allow us to align our internal calendars and to allow us to develop or thought processes on particular issues.

Any initiatives that improve the predictability of regulatory outcomes are to be welcomed. We welcome the proposal to establish an Innovation Sandbox Programme and believe it aligns with other Government Strategies such as “Impact 2030: Ireland’s Research and Innovation Strategy” and “Ireland for Finance”.

We would like to see a whole of Government approach given the myriad of supports offered by Government Agencies and Departments specifiable Enterprise Ireland and IDA Ireland.

The Innovation Sandbox will help the Central Bank understand new technologies and innovation in financial services. It will support the Central Bank in terms of strengthening the ability to proactively contribute to the formation and implementation of European and international regulation and standards and in promoting a high quality and effective policy environment.

Squareup: We generally support the proposal for an Innovation Sandbox Programme, contingent upon its execution.

Our experience in other markets suggests that overly burdensome requirements within sandbox programmes can deter smaller innovative firms from engaging with regulators. Notably, smaller firms and startups can be deterred from engaging with regulatory sandboxes due to perceived time and financial costs, which can stifle innovation and competition by slowing market entry. We recommend that the CBI considers how it can streamline its Sandbox Programme and ensure that startups are not slowed by participation in sandbox processes. As part of this, we would recommend engagement with Enterprise Ireland, which operates an excellent early stage programme called New Frontiers and the Irish Development Agency. We would be pleased to assist the CBI in this engagement if useful.

We would highlight the IMF's recently published paper on Institutional Arrangements for Fintech Regulation. It emphasises that for many authorities existing supervisory structures are

effective in monitoring fintech developments without the need for resource-intensive sandboxes. If the CBI proceeds with the Innovation Sandbox, it should clearly define its focus areas and policy goals, avoiding duplication of efforts already covered by existing structures. In line with the IMF's sandbox typology, if the CBI opts for a thematic sandbox, it should establish specific eligibility criteria aligned with the relevant needs and policy goals.

Reitigh Software: If implemented effectively the Innovation Sandbox Programme could reduce the development time for finance-related technology and increase the number of new products/services created by local companies. The impact of this (on consumers/the wider economy) will depend on the themes covered by the sandboxes.

Bank of Ireland: An innovation sandbox programme to facilitate testing of innovation and potential IT developments in line with regulations could potentially have wide reaching impacts.

As programmes will take time to develop and evolve, sharing insights and updates of themes and trends would be beneficial.

Q.3 What is your feedback on the operating model of the Innovation Sandbox Programme?

Kayna Innovation: Looks good.

Financial Services Innovation Centre, UCC: I would like to understand how the one to one engagement model will benefit the company further. I am a little suspect how satisfying how the cohort model will work - topic selection, size of cohort, how often cohorts are scheduled, whether cohorts will run on demand, the staffing to support specialist cohorts. The expectations from industry and others could be hard to satisfy here.

The People and their Banking Industry: N/A first time engaging with it. Although the webinar was a poor reflection.

Napier Technology: A sandbox environment has become the most the most critical component of any modern financial services software solution, because as financial services becomes increasingly digitised and interconnected the potential ramifications of even small, seemingly innocuous changes can be difficult to anticipate. In

the financial crime compliance space, changes in line with regulation implemented without extensive sandbox testing on live data may result in operational overload, or a poor customer experience. A sandbox is crucial to identifying the best way to implement changes, that balances compliance, customer experience, and total cost of ownership.

The proposal for the establishment of the Innovation Sandbox Programme outlines a transparent and structured approach to selecting topics and the cohort for the sandbox, but does not go so far as to detail how ideas generated in the Innovation Sandbox Programme will be tested for regulatory compliance and practical implementation. Napier would recommend specifying the future-looking plans for the Innovation Sandbox Programme beyond the workshops that would result in a digital sandbox where regulated firms can test their solutions in line with the Central Bank's desired approach to compliance. A centralised digital sandbox would also have the potential to create a channel to develop a centralised transaction data pool (anonymised, and/or synthetic) that could support financial institutions in testing their solutions for compliance and effectiveness more accurately than is possible against the population of only their customers. This would be particularly useful to newly licensed firms yet to build a large customer base and historic transactions records.

Fexco: The lean design for the Sandbox is appropriate because (a) the costs are borne by existing regulated firms, and (b) good innovation supports tend to incorporate lean, flexible structures. To further support this aim, the Innovation Hub should include a finance report in its periodic performance appraisals. Reporting on any trends observed would also be useful for the wider market.

The Innovation Sandbox can utilise the NDRC hub structure to support innovation in an efficient way, and this also has the benefit of supporting regionalisation of financial services because NDRC includes hubs in Dublin, Cork, Galway and Kerry. Industry associations can also be leveraged to communicate to the market.

The Innovation Sandbox focus on consumers could limit its impact, particularly since much of Irish financial services caters to non-

consumers. Firms may want Central Bank support as they develop products that will be consumed by financial institutions (such as sustainable finance products) and it would be helpful if they could work with the Innovation Hub to understand the regulatory impact of those products even though they are not being designed for the consumer market.

The limitations of the Innovation Sandbox (no derogations, no digital testing, no endorsement) mean that it could be unattractive for some firms. It will be helpful for potential participants to be alerted to these limitations before they consider engaging with the programme so as to manage expectations.

Application forms for the hub should be short and simple to maximise involvement from start-up businesses. The Innovation team also needs to be mindful that small start-ups are juggling priorities and they can get distracted by other issues (like funding and personnel). Small firms frequently experience rapid alterations such as loss of funding or changes to their proposed business model. The Sandbox programme needs to plan for these types of changes and anticipate that startups will have high drop-out rates.

The Irish League of Credit Unions: The Irish League of Credit Unions is a member of the World Council of Credit Unions (WOCCU) who earlier this week launched an initiative that allows credit unions in emerging markets to test innovative digital products and solutions that could benefit members and attract new customers. Introduced in Latin America, “Hub C” will offer a space for credit unions to connect and collaborate on data-driven Proofs-of-Concept (POCs) aimed at providing customer-centred solutions that increase financial inclusion among underserved populations, including women and youth.

In order to ensure there are limited barriers to entry the lack of information or transparency on cost could prevent firms from potential applying to enter the sandbox. We think the CBI Financial Forum Innovation subgroup would act as an advisory committee to the Central Bank of Ireland’s Innovation Hub activity. The subgroup would work with the CBI on selecting themes, selecting third party providers ensuring both the needs of the CBI and industry are met and aligned, resulting in the development of an ecosystem of regulated, innovative firms in Ireland.

Squareup: Overall, we support the structured framework proposed for the Innovation Sandbox Programme. However, we believe that its effectiveness will be determined by granular approaches and processes, which the CBI has, understandably, not yet set out. We have sought to briefly cover certain key aspects below.

We note that the CBI states that it may deliver the Innovation Sandbox Programme “in conjunction with a third party innovation programme”. Depending on the extent to which the CBI relies on third parties for the operation of the Sandbox, we believe this risks reducing the insight and expertise that is gathered by the CBI. Especially, if the CBI is reliant on the third-party operator to manage the day-to-day activities related to the Sandbox. It may also limit industry’s willingness to engage openly, if startups and other innovators are asked to, or believe that they are, sharing confidential and commercially sensitive information with a third party, who is not a regulator itself, and therefore may not be subject to the same legislative penalties for breaking confidentiality. If the CBI appoints a third-party operator, it will be critical to the Sandbox’s success that roles and responsibilities are delineated sufficiently clearly and that confidentiality can be guaranteed. In our view it would be preferable for the CBI to wholly manage the Sandbox Programme through an in-house team.

Furthermore, while the Programme outlines support during the innovation phase, there is a crucial need for an exit criteria that provides clarity and predictability for participants and measurability of success for the CBI.

We note the CBI's intention to open the Sandbox to a wide range of applications from all sectors of the financial system, such as authorised firms, start-ups, new entrants, and academic projects. However, with such a broad range of potential participants it is important that the Sandbox is capable of catering to different needs of participants. To ensure the Sandbox is attractive and beneficial to all potential cohorts, the CBI may wish to outline specific measures or tailored elements within the Sandbox structure that cater to the diverse needs and expectations of each of these stakeholders. Practical steps taken to address the unique requirements of each cohort will enhance the overall effectiveness and inclusivity of the Sandbox Programme.

The Innovation Sandbox Programme is well-positioned to offer

insights that could substantially influence the regulatory landscape. The Sandbox's capacity to inform and evolve the CBI's approach to regulation hinges significantly on how it harnesses and applies the learnings garnered from the Sandbox experiences. Clear articulation of methodologies to integrate these insights into regulatory practices is important. Regular and systematic reviews or assessments of the Sandbox use cases would be invaluable in comprehensively understanding their impact. These reviews could serve as checkpoints to evaluate the effectiveness of Sandbox initiatives in achieving their intended outcomes, with scope for recalibration if necessary.

Additionally, an established framework for systematically capturing, analysing, and disseminating learnings derived from Sandbox case studies could significantly contribute to the iterative enhancement of regulatory practices. This process might involve periodic publications, forums, or reports where the CBI shares key insights and lessons learned from Sandbox initiatives. This transparency not only fosters industry understanding but also promotes trust and collaboration.

Reitigh Software: A "thematic" approach makes sense. But it is important that the approach allows for a multiple themes in a given 12-month period. Also it is very important that the datasets/inputs and outcomes are easily accessible by all companies - not just those who participated in a given 'cohort'.

Bank of Ireland: The onboarding process for applicants should be straightforward as they progress through the application stages.

Support a regulation first approach with new initiatives supporting regulation by design.

Engagement with the Data Protection Commissioner at the outset of the programme.

Q.4 Are there specific themes or areas of innovation that the Central Bank Innovation Sandbox Programme should address?

Kayna Innovation: Yes. Key areas that consumers and small businesses are crying out for innovation. Mortgage lending, Deposit management, Small businesses insurance.

Financial Services Innovation Centre, UCC: The CBI cannot possibly try and be all things to all different types of initiatives. The people and skills capacity of the CBI will be huge limiting factors. It would be useful to temper expectations by mapping out what the Innovation Hub will do and what it will not do. Landing an Innovation Sandbox between an Innovation Hub and a Regulatory Sandbox and using one word from each in the title of this new initiative has the potential to confuse and disappoint industry and consumers. It requires further definition and mapping out what it will, and as importantly, what it will not do.

The People and their Banking Industry: Happy with the approach.

Napier Technology: Segmenting the sandbox working groups by thematic approaches and setting clear timelines for the specified period is a robust approach that should encourage conclusions from the participants. As the Central Bank states, it aims to facilitate the adoption of solutions able to control the different types of risk effectively and ensure it adapts its supervision accordingly. One of the greatest risks facing the financial system and society is the impact of fraud and financial crime. But the lack of regulatory clarity on the implementation of Artificial Intelligence in relation to this theme has discouraged many financial institutions from investing in this area. But criminals do not limit themselves to regulated technologies.

Creating a clear framework for what constitutes reasonable explainability in AI for financial crime compliance would accelerate the beneficial impact of anti-money laundering efforts. Napier recommends that this theme be considered as a priority.

Fexco: We would propose sustainable finance, fraud, instant payments and AI as potential themes.

We see these areas as being ripe for innovation because:

Ireland is a centre of excellence for sustainable finance

- Fraud (including automated push payment fraud) is a major challenge for the banking sector
- Instant payments are being revolutionised with the introduction of SEPA Instant Credit Transfers

- AI is increasingly being incorporated into financial services products and it has the potential to disrupt market stability and customer due diligence.

These themes are also reflected in the Ireland for Finance strategy.

The Irish League of Credit Unions: Consumer protection is at the heart of Credit Union offering. We do think there is value to be had for the Central Bank to examine how it accepts data from financial firms. This could be streamlined, reduce complexity but also allow data transparency and sharing.

Professional Indemnity insurance and or comparable guarantee is required under Article 5(2) of PSD2 (Directive 2015/2366) but the availability of this is an issue and this could be an area for the Innovation Sandbox programme might consider as it could level the playing field for firms based in Ireland.

Squareup: Open Source Innovations - Embracing open-source innovation fosters collaboration and accelerates technological advancements. It also helps provide public good, in the form of publicly available innovation. Within the Sandbox, encouraging developments in open-source financial tools or platforms can foster increased transparency and accessibility within the financial sector.

AI-driven Solutions - The integration of Artificial Intelligence (AI) in financial services has immense potential to help firms optimise their operations, enhance customer experiences, and manage risks more effectively. Exploring AI applications within the Sandbox allows the CBI to assess the transformative potential of AI, aiding in crafting responsive regulatory frameworks that balance innovation and risk management in AI-powered financial solutions.

Decentralised Finance (DeFi) - Exploring DeFi within the Sandbox could offer valuable insights into decentralised lending, trading, and other novel financial services operating outside traditional intermediaries. This exploration could assist the CBI to understand the opportunities and impacts associated with DeFi, aiding in the development of informed regulatory approaches in this evolving space.

Payments Innovation (Account-to-Account Solutions) - As the payments landscape evolves, exploring account-to-account solutions within the Sandbox could facilitate faster, more secure, and cost-

effective payment methods. This includes innovations such as instant payments and the Digital Euro.

Payments Innovation (PSD3 Initiatives - APIs and Open Banking) - The Sandbox could provide a controlled environment for testing and refining innovative solutions that align with the upcoming regulatory changes in PSD3. For example, the Sandbox could facilitate experimentation with new API functionalities, improved interoperability standards, and advanced security measures. By actively supporting the implementation of Open Banking principles, the Sandbox could become a valuable platform for shaping the future of payments and ensuring compliance with upcoming regulatory frameworks. This approach not only addresses specific regulatory needs but also contributes to the ongoing evolution of the financial services sector, fostering innovation in line with the core components of PSD3.

Reitigh Software:

Theme #1 Regulatory Reporting/Disclosures

A sandbox with industry data inputs (pseudonymised/synthesised), and example processing of those inputs to create sample regulatory outputs/disclosures. This would be useful for regulations which require disclosures to the CBI, Customers, and/or Shareholders e.g Solvency II, PRIIPs, MiFID, AIFMD, IDD, SFDR, CSRD, etc. By running a sandbox with real world data it would allow for best practices to be identified for areas of ambiguity within these regulations. These best practices can be used by regulated entities and RegTechs alike to ensure their systems adhere to these best practices - which would help to improve the consistency and accuracy of disclosures.

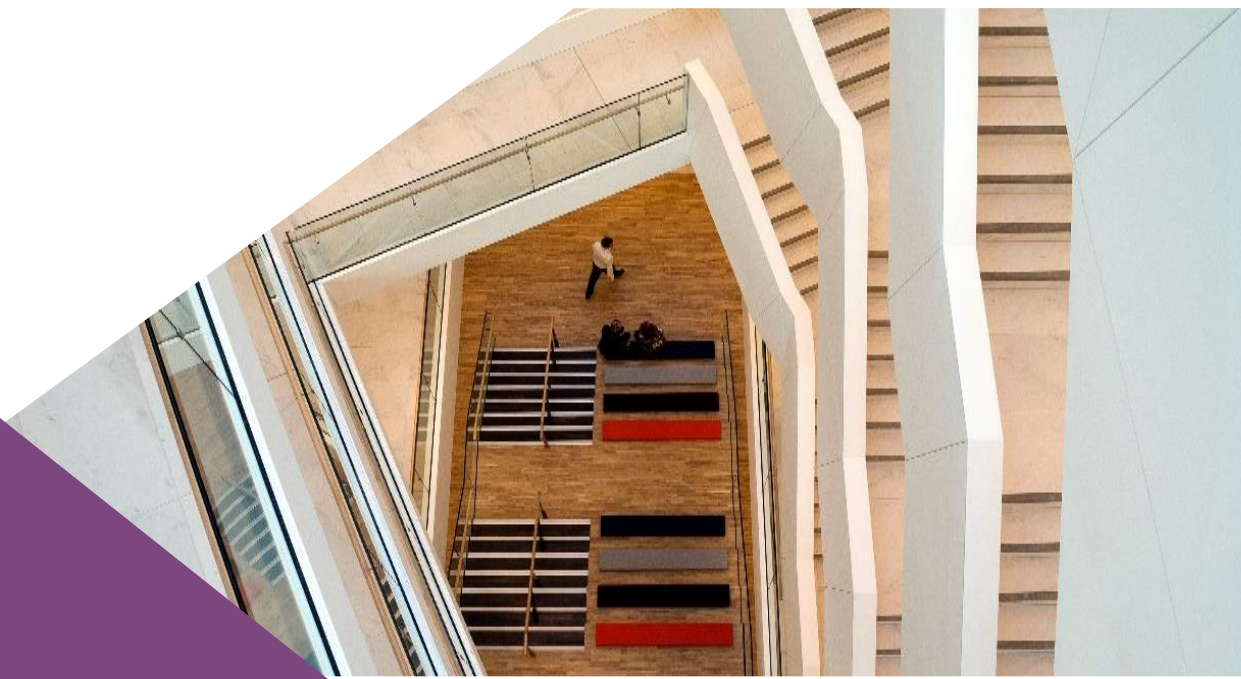
Theme #2 Climate Risk Modelling

A sandbox with industry data inputs (pseudonymised/synthesised), and example processing of those inputs to model climate risks (e.g physical and transition risks) for portfolios of assets. This would be beneficial to a wide range of companies within the financial services sector in terms of creating a common/baseline approach to assessing the climate risks associated with their assets.

Bank of Ireland: Additional areas for innovation to focus on:

- Payments and how to utilise the power of AI

- Supporting compliance with regulation potentially through Reg-tech
- Focus on Data Management (data lineage, metadata)
- Environmental, Social and Governance themes
- Cyber security and fraud



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