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Regulators' Pioneer Fund Evaluation

Final case studies

April – July 2020

Department for
Business, Energy
& Industrial Strategy

The high-level objectives of the Regulators' Pioneer Fund

The Regulators' Pioneer Fund (RPF) is an initiative set up by the Better Regulation Executive (BRE), part of the Department for Business, Energy and Industrial Strategy (BEIS), to help create a regulatory environment that gives innovative businesses the confidence to invest, innovate and deploy emerging technologies for the benefit of consumers and the wider economy.

Key aims of the funding (which will invest up to £10 million over 2 years in 15 regulator-led projects across 12 sectors) are:

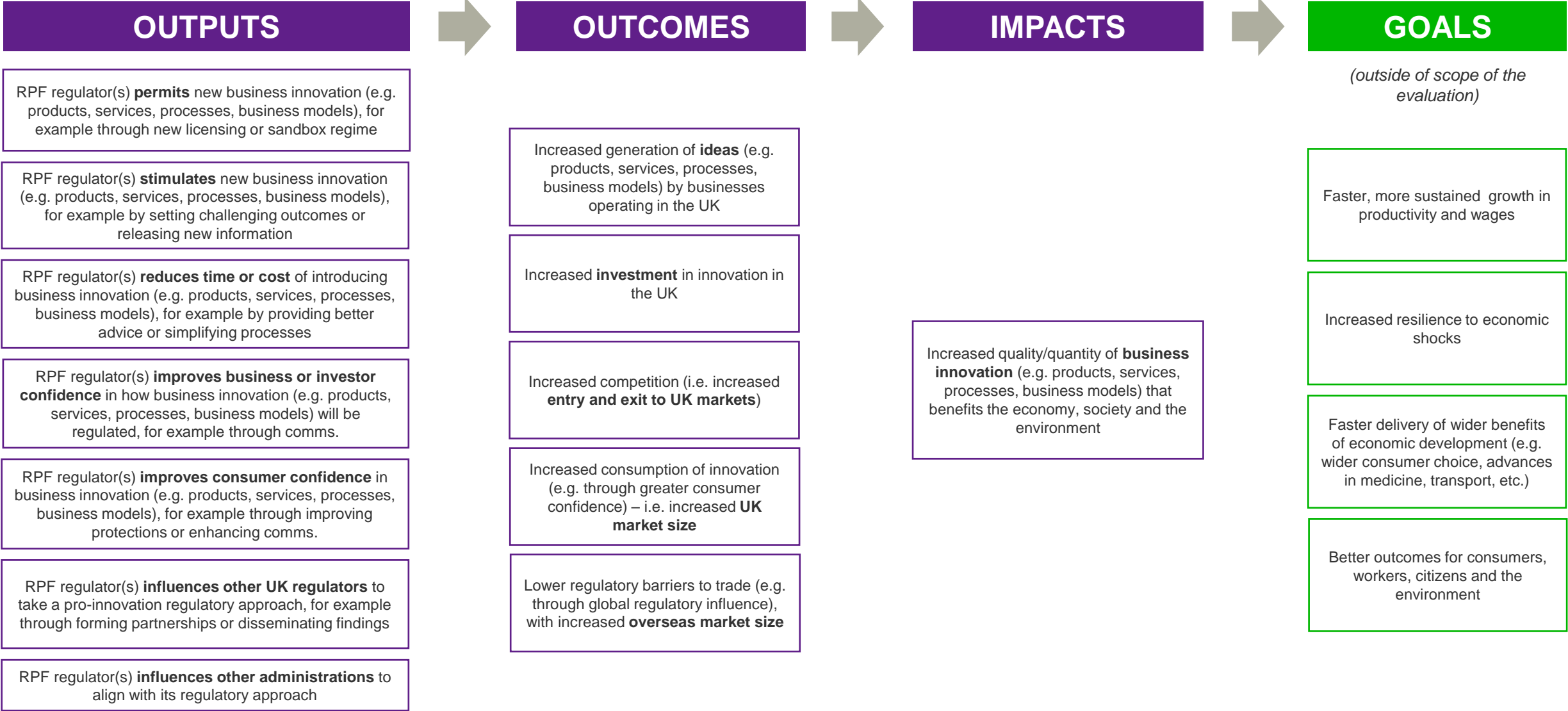| Enabling economic growth	Boosting value for consumers	Projecting a pro-innovation image internationally	Fostering a pro-innovation business culture

Aims of the RPF programme evaluation

- Assess the extent to which RPF grants have **enabled regulators** to become more innovation-enabling
- Identify the **effects on business innovation in the sectors** impacted by the projects
- Enable BEIS to **improve the RPF design and competition process** for any future funding rounds
- Contribute to BEIS work to create **best practice guidance** on innovation-friendly regulation and inform future policy decisions

The policy logic model for the RPF is set below:

OUTPUTS → OUTCOMES → IMPACTS → GOALS

OUTPUTS

RPF regulator(s) **permits** new business innovation (e.g. products, services, processes, business models), for example through new licensing or sandbox regime

RPF regulator(s) **stimulates** new business innovation (e.g. products, services, processes, business models), for example by setting challenging outcomes or releasing new information

RPF regulator(s) **reduces time or cost** of introducing business innovation (e.g. products, services, processes, business models), for example by providing better advice or simplifying processes

RPF regulator(s) **improves business or investor confidence** in how business innovation (e.g. products, services, processes, business models) will be regulated, for example through comms.

RPF regulator(s) **improves consumer confidence** in business innovation (e.g. products, services, processes, business models), for example through improving protections or enhancing comms.

RPF regulator(s) **influences other UK regulators** to take a pro-innovation regulatory approach, for example through forming partnerships or disseminating findings

RPF regulator(s) **influences other administrations** to align with its regulatory approach

OUTCOMES

Increased generation of **ideas** (e.g. products, services, processes, business models) by businesses operating in the UK

Increased **investment** in innovation in the UK

Increased competition (i.e. increased **entry and exit to UK markets**)

Increased consumption of innovation (e.g. through greater consumer confidence) – i.e. increased **UK market size**

Lower regulatory barriers to trade (e.g. through global regulatory influence), with increased **overseas market size**

IMPACTS

Increased quality/quantity of **business innovation** (e.g. products, services, processes, business models) that benefits the economy, society and the environment

GOALS

(outside of scope of the evaluation)

Faster, more sustained growth in productivity and wages

Increased resilience to economic shocks

Faster delivery of wider benefits of economic development (e.g. wider consumer choice, advances in medicine, transport, etc.)

Better outcomes for consumers, workers, citizens and the environment

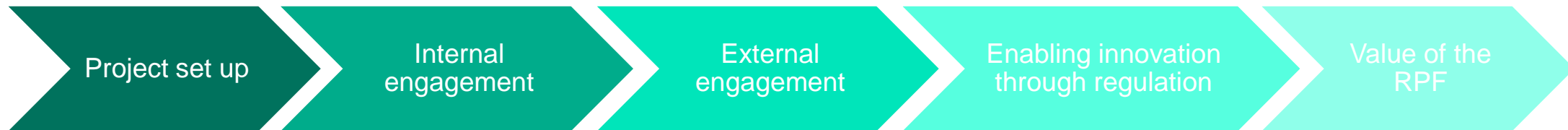# Five final case studies were selected to **draw** lessons from the programme

Qualitative interviews were conducted with regulators and their external stakeholders to explore their perspectives on progress, impact and lessons learnt. These were:

- The project team involved in the bid and delivery
- A strategic lead on the project
- Two external stakeholders identified to benefit from the project

The case studies with Scottish Environment Protection Agency (SEPA), Care Quality Commission (CQC), Information Commissioners' Office (ICO), Intellectual Property Office (IPO) and Ofcom followed five interim ones conducted with the Solicitors Regulation Authority, Medicines and Healthcare products Regulatory Agency and Civil Aviation Authority (between July and October 2019) and Oil & Gas Authority and Financial Conduct Authority (November 2019 – January 2020) in the same format.

For each case study, early lessons have been captured from the following phases and themes:

Project set up	Internal engagement	External engagement	Enabling innovation through regulation	Value of the RPF

Case studies methodology

Participants' selection and data collection

- Regulators interviewed for the case studies were selected by BEIS and Kantar based on their progress and nature of their projects to reflect a range of views and experiences.
- For each project, the research team conducted: 1x 60 mins semi structured qualitative interview with key members of the project team (e.g. project and programme manager or bid manager, depending on team composition); 1x 60 mins semi structured qualitative interview with a strategic lead overseeing the project; 2x 30 mins interviews stakeholders (e.g. businesses, other regulators, other organisations in the sector) identified by the regulators and selected by BEIS as beneficiaries of the projects.
- Fieldwork was conducted between April and June 2020 (once their projects had finished). The final case studies follow five interim case studies conducted between June and January 2019 and four rounds of a quarterly information management questionnaire delivered by Kantar. This questionnaire was used to understand how far projects were achieving the outputs and outcomes in the RPF logic model (see slide 3). Topics explored are included below:

Project team / strategic lead* *The same topic guide was used flexibly to explore different perspectives	Beneficiaries
• Regulators' understanding of the RPF and motivations to apply for funding; • Vision for the project and connection with organisational mission; • Experiences of main stages of work (e.g. set up, internal and external engagement, delivery of project specific activities); • Expected and unexpected challenges encountered; • Lessons they learnt about enabling innovation in their sector, engaging with businesses, regulators and other stakeholders; • Any outcomes and impact of their project on innovation in their sector (in relation to focus outcomes agreed with BRE); • Perceptions of RPF support, any impact the Fund had on their ability to enable innovation in their sector, and ways the RPF could be improved for the future.	• Beneficiaries' exposure to and perspective on regulators' work; • Nature of their involvement and views on their engagement with regulators; • Ways in which regulators can more effectively engage with stakeholders to enable innovation in their sectors; • Any perceived outcomes and benefits deriving from regulators' projects; • Views on future outcomes and how regulatory activity could be improved to encourage innovation

Analysis of the information collected through the case studies interviews

- Material collected in interviews (e.g. audio files, notes) were organised through a thematic framework developed in Excel, informed by evaluation objectives.
- Individual and joint brainstorming sessions were carried out by researchers in the Kantar team to review and consolidate insight, and draw key overarching themes.

Cross cutting lessons

Topline overarching lessons across the case studies

- **All regulators interviewed felt the RPF accelerated and built momentum for their innovation work**. They explained that the Fund allowed them **resources and capacity to test and develop knowledge of innovative solutions to sectoral issues, and to build lasting networks with a range of organisations** both within and across sectors. This was consistent with the thoughts of regulators involved in case studies at the interim stage.

- While a **few areas for improvement were identified for future funding** (e.g. more flexible monitoring, reporting and spending requirements, more consistent communications about the Fund administration and access to escalation procedures, and improved support from monitoring officers), regulators described their experience of the Fund as positive and beneficial to support them in enabling innovation in their sector.

- Most regulators interviewed felt that tangible outcomes connected with **enabling economic growth and boosting value for consumers** would be detectable as innovations informed by their work are developed and released. However, they **highlighted achievements contributing to these key RPF goals, which suggest a positive indication of future impact.**
  - All regulators interviewed successfully established sandboxes, trialled and tested solutions and proof of concepts with the potential to move into implementation, worked to effectively share advice tackling issues identified in their sector and making innovation more efficient.
  - They explained that their work enabled a better understanding of their sectors, and how innovation can be applied to tackle issues which will likely support their future regulatory activity.
  - Regulators also noted that their projects enabled direct links and improved collaboration with sector stakeholders and innovators they didn't previously have a relationship with. They explained they increasingly sought feedback from the industry and most planned to continue to do so past the RPF. They felt they started adopting a more proactive approach to regulation (i.e. supporting compliant innovations' development rather than detecting issues at the end) and it should be noted such ongoing, open conversation with sector innovators presents a possibility for more efficient development of solutions which protect consumers in line with regulation.

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Topline overarching lessons across the case studies (continued)

- Regulators' also reported activities and outcomes aligned with RPF's key aims of **fostering a pro-innovation business culture and projecting a pro innovation image internationally** – also consistently with findings from previous case studies.

  - Regulators explained their RPF funded projects allowed them to expand their reach and collaboration with other regulators, forming personal relationships stretching across sectors to resolve shared issues.

  - Projects explored in these case studies also attracted notable international attention, with many (e.g. ICO, IPO, Ofcom) starting conversations about their work with international regulators, contributing to positioning the UK at the forefront of innovation.

  - Regulators also explored applying lessons on effective collaboration and effective working practices internally as they noted the value of openly engaging their own organisations in their innovative work and tapping into the varied expertise within them to bring value from different functions.

- In order to achieve their projects' outcomes, regulators reflected on the importance of consistent communication both internally and externally to promote their work, secure different stakeholders' buy in while managing expectations, and build beneficial contacts and partnerships. They learnt to adopt an open approach to collaboration, taking chances to advance their projects and then reviewing what could be done better going forwards.

- Across interviews, it appeared that regulators perceived the innovation work they started or advanced with the RPF as ongoing*, as they planned to develop approaches to innovation started with their projects and continuing collaborating with the sector / other regulators part the RPF lifetime.

A more comprehensive description of the overarching lessons and findings from individual projects can be found in the evaluation report.

*It should be noted that COVID-19 represented a disruption for progress and affect capacity and collaboration opportunities for some projects.

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Case study 1

SEPA
DecomRegHub

Project at a glance – DecomRegHub

🏛 Role as the regulator

The Scottish Environment Protection Agency (SEPA) is **Scotland's principal environmental regulator, protecting and improving Scotland's environment**. SEPA's role is to make sure that the environment and human health are protected, to ensure that Scotland's natural resources and services are used as sustainably as possible and contribute to sustainable economic growth.

Oil and gas decommissioning is an important emerging sector for Scotland, with potential to **re-circulate valuable resources back into the economy**.

SEPA's oil and gas decommissioning sector plan focuses on how SEPA will work with the sector to help it put environmental protection and sustainable resource use at the heart of its development, creating opportunities for both business and environmental success.

SEPA's interest in decommissioning to date has largely been focused on the transfer and disposal of waste associated with decommissioning and preventing environmental harm through these activities.

🎯 Project vision

DecomRegHub aims to bring together the main regulators involved in regulating the decommissioning sector: SEPA, Oil and Gas Authority (OGA), The Environment Agency (EA), Health and Safety Executive (HSE) and the Offshore Petroleum Regulator for Environment and Decommissioning (OPRED).

The project focuses on **establishing a formal collaboration between these regulators so they can ensure a consistent and coordinated regulatory effort on decommissioning**. Through this they can apply relevant, existing legislation and provide a clear response to industry who are trying to navigate multiple regulators to be compliant.

Furthermore, through the creation of an online website, DecomRegHub presents **a centralised, single point of information for industry stakeholders** to find the guidance and help that they need to understand their obligations and for innovators to understand gaps in the market.

🐷 Motivations for RPF bid

SEPA recognised that oil and gas **decommissioning is an inherently complex issue**, spanning a range of regulators (see previous box). In addition, existing legislation being applied by regulators has typically been written in isolation from other regulation. **This has led to confusion in the sector** and times when regulatory application of legislation generates competing demands for sector stakeholders.

The difference in regulatory approaches is exacerbated by a lack of clarity in industry about where to find relevant guidance and support. SEPA understood that **stakeholders want to comply but have often found it difficult to know what to do.**

The RPF presented an opportunity to resource the creation of a collaborative regulatory effort and an online portal to address these issues.

The ultimate aim of the project is to **make it easier for industry stakeholder to achieve compliance.**

✅ Main activities involved

- Initial user research to understand internal and external stakeholder problems and perspectives
- Creation of a face-to-face collaboration between staff at five different regulators across the UK
- Industry engagement through events and direct feedback
- Creation of a DecomRegHub website to serve as a centralised source of information and contact for stakeholders

⬤ Focus RPF programme outputs – see slide 3

3. Reduced time or cost of introducing business innovation

4. Improved business/investor confidence in business innovation regulation

"[Stakeholders currently] have to look in multiple different directions towards different regulators to try to understand who is regulating what, and what those companies need to do with each regulator in order to ensure that they understand the obligations that they have." (SEPA)

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Understanding of the problem and RPF purpose

Kantar judged that SEPA had a **clear understanding of the problem that their project was aiming to address**, and that this problem was similarly understood by the interviewed stakeholders.

The core problem being addressed by the project is **the complexity of a fragmented regulatory landscape for decommissioning** leading to industry confusion and frustration both for established operators and new innovators. For the latter group this can deter market entry.

The second problem is that decommissioning is **a growing issue in need of attention** – UK offshore oil and gas infrastructure is aging and, in many cases, nearing the end of its useful lifetime. Falling oil prices also make more infrastructure uneconomical for operators to maintain. The cost of decommissioning to UK industry and taxpayer is estimated by the Oil and Gas Authority in 2019 to be in the region of £48bn. As such, there is a need to ensure that it is done efficiently, safely and without harm to the environment.

SEPA understood the RPF to be *"a catalyst to help innovation take place in the regulatory domain where that innovation might not otherwise take place. That innovation needed to focus on solving problems, not just for regulators, but solving problems for business."* (SEPA)

Challenges in setting up the project

Project set-up took more time than anticipated. Firstly, the project lead was already working on a number of other pieces of work and had other responsibilities. Therefore, there was a delay before they could start fully on the project, requiring a period of transition.

Secondly, it took time to build the project team, with the need to create job descriptions, go through recruitment processes and get people in place.

Finally, it took time to translate the work packages, objectives and schedule of work from the bid into a full, detailed, achievable and resourced project plan. Overall, this setup process took 3-4 months.

These time pressures made it challenging to spend the first financial year's split of the budget as most of the team weren't in place until January 2019. SEPA felt that the funding split was structured to suit the financial timings of the funders rather than the project team and this meant that SEPA had to work to make their workplan fit. **This affected their resource plan and the way that they had to engage with external resources and partners.**

SEPA felt that this financial pressure was particularly challenging for a programme that was trying to do something innovative and novel: *"When you're doing something creative and looking at imposed financial restrictions, [...] I'm not entirely sure that assists the creative process."* (SEPA)

Lessons learnt on project set up and planning

SEPA felt that **more time to get the project team in place** would have been beneficial, in terms of transitioning existing resource, recruiting new staff and securing arrangements with partners.

Less restrictive financial requirements (specifically the removal of the need to spend half the budget before the first financial year end) would have better supported a creative and innovative project.

One other lesson learnt was that the reporting templates provided by Innovate UK seemed to be designed around commercial entities involved in developing new products and intellectual property rather than public sector entities involved in improving their service offerings. They therefore found some of the reporting protocols quite challenging and needed to reword and adapt their reporting to fit the requirements. **A more fit-for-purpose reporting regime, designed for the public sector would have been preferable.** Otherwise it would have been appreciated if the reporting regime could have been more clearly explained up front so that projects were better able to cope with it.

Internally, SEPA engaged

Regulatory officers

Senior staff

"SEPA as an organisation have got an incredible amount of learning and lessons learnt out of this that we want to capture and bottle the essence of. [We want to] replicate, where there's going to be business value in doing so, into other sectors that we regulate where there are other regulators regulating their respective parts of that sector as well (e.g. agriculture)."
(SEPA)

Nature of internal engagement and response from the organisation

SEPA noted that the challenges surrounding decommissioning were already well understood across their organisation and that these challenges are highlighted in their sector plan (SEPA have created plans for key sectors detailing their regulatory vision including a specific plan for oil and gas decommissioning). Therefore, **gaining support for the project was not difficult.**

SEPA reported that they made **a decision from the outset to be driven by user research** to identify internal and external stakeholder needs and design their outputs around this, rather than deciding what the outputs should be first.

They hired an independent user researcher during the first stage of the project to design and execute a research plan that included a survey and face-to-face/telephone qualitative interviews. This included interviews with staff across SEPA and also their regulatory partners. Questions explored internal stakeholder experiences and opinions e.g. 'Do you encounter any barriers when trying to collaborate with other regulators?' and 'What are the gaps that from your perspective that need to be filled to smoothen the regulatory journey for operators?'

SEPA felt that the whole process of engaging with stakeholders, internally and externally, at the start of the project was very positive and helped inform the work that followed. Similarly they sought internal feedback on the beta website towards the end of the project that helped them improve it with users in mind.

They reported that **they would definitely do user research of this kind again and recommended that other regulators' projects would benefit from a similar approach.** They noted, however, that user research can be difficult, particularly considering timing. They felt that carrying out research too early risks talking about problems and solutions in the abstract (i.e. rather than presenting tangible solution ideas or concepts). Similarly, leaving research until later in the project risks spending time developing a solution that fails to meet the needs or expectations of the target stakeholders. Finding a balance within the available resource was seen as an important challenge to overcome.

SEPA reported that as a result of the project they are noticing **an increase in interdepartmental collaboration and a greater degree of confidence about who to speak to in other regulatory bodies** when needing to engage across regulatory boundaries. They have also seen an increase in confidence and support internally for an agile approach to service improvement including culture change, collaboration and user engagement.

Externally, SEPA engaged

- Project team regulators (OGA, EA, HSE, OPRED)
- Operators
- Supply chain stakeholders
- Trade bodies (e.g. Decom North Sea)
- Other RPF regulator project teams (e.g. OGA team)
- Other stakeholders (e.g. Atkins)

External stakeholder engagement

SEPA's user research (mentioned on previous page) extended to industry stakeholders across the decommissioning sector including operators and supply chain services. At the beginning of the project this involved interviews and surveys to **better understand industry challenges and perspectives.**

Towards the end of the project SEPA engaged external stakeholders to show them what the project had achieved, particularly the beta website. SEPA wanted to show stakeholders something tangible that they could review. Through this, SEPA gained **useful and constructive feedback from industry** that helped identify areas to improve, clarify and strengthen in the final output. This also **helped build confidence with key industry stakeholders** in the final output.

SEPA also collaborated with the trade body Decom North Sea, which **helped build networks with other regulators and industry stakeholders**, particularly through Decom North Sea events such as conferences, webinars and with direct interaction with Decom North Sea specialist members.

Each regulator had well-established existing networks with industry. These networks overlapped in places but also were complementary to each other and sharing contacts supported the impact of industry engagement.

SEPA also shared knowledge with other RPF projects (e.g. OGA).

Finally, SEPA engaged informally and formally with existing stakeholders such as Atkins who helped provide input and feedback throughout the project.

Lessons learnt on stakeholder engagement

SEPA initially found the differences between regulators (their ways of working, cultures and priorities) difficult to overcome, particularly in the context of a devolved regulator working with centralised, Whitehall-based regulators**.** However, they noted that this challenge has been overcome during the project through all partners having equal power and by taking time to build relationships, leading to a strong collaboration:

"What's been really good, I think, is seeing that spirit of cooperation or collaboration developing between the people in the projects that are in the different regulatory organisations. Each organisation has its own particular statutory purpose, firstly, but secondly its own way of doing things, its own corporate culture. And what's been really good, I think, is seeing a little sub-culture developing within the project team of collaborative problem solving, doing so with the end-user businesses in mind and wanting to make sure that no one organisation is dominating the collaboration, ensuring that the collective efforts meet the objectives of all the participating organisations towards that common goal." (SEPA)

They also felt that **the value of the user research, both at the beginning and end of the project, was of critical value to them in helping them understand their stakeholders' problems.** By better understanding the needs of stakeholders this helped them ensure that the project's solution addressed these problems in the most useful way for stakeholders (for example, in making the website easier to navigate and have the most important information to stakeholders in easily accessible places).

🌱 Initial positive outcomes and achievements

SEPA felt that the project has **successfully laid the foundations and established a forum for the relevant regulators to collaborate** and collectively address challenges associated with decommissioning in a joined-up way. This has helped generate **a joint regulatory perspective** across the sector. This will lead, they hope, to **greater clarity for industry stakeholders, easier compliance and new opportunities for innovators** to support the decommissioning sector. Atkins noted that this could make decommissioning activity more efficient, make compliant solutions quicker and ultimately save money for the taxpayer (aligning with the RPF goal of boosting value for consumers and focus output 3).

SEPA also felt that there is now **an increased level of opportunity for this new approach to support innovation** in the field of regulatory cooperation by being more responsive and clearer with innovators and through better highlighting gaps in the current decommissioning sector that can be filled by new technologies or services. This supports the RPF goals of enabling business growth and fostering a pro-innovation business culture.

SEPA felt that the DecomRegHub website (decomreghub.org.uk) has been critical to establishing a link with industry stakeholders and has given the decommissioning sector **a very clear signpost to the most up-to-date and most relevant information** (as the other regulator websites cover broad ranges of areas, they can be difficult for stakeholders to navigate). The new website provides a roadmap for the decommissioning journey, highlighting the role of each regulator at each stage and provides drill-down layers of detail to access whatever information a user needs, from whichever regulator is responsible, providing a one-stop-shop for industry stakeholders, so they don't have to look in multiple locations.

Decom North Sea also note that the collaboration demonstrated by SEPA and the other regulators is **improving industry confidence in the regulation of decommissioning** and already making it easier for them to comply with their obligations. This delivers against focus output 4.

"The website provided us with a means of being able to get our messages out, being able to respond too and being, above all, a reliable source of regulatory information to the sector."
(SEPA)

"We are seeing the start of a knowledge base that now informs our strategy for regulation that now involves DecomRegHub as a tool to be used."
(SEPA)

🎁 Beneficiaries of the project

SEPA and the other regulators are benefiting from **an improved ability to respond collectively** to industry and supporting industry to comply with regulation more easily.	Industry operators could benefit through a **clearer route to compliance**, supporting more efficient decommissioning and better decision-making and planning.	Supply chain stakeholders could benefit from **a better understanding of the areas where they can support industry** to meet obligations including innovative technology and services.	The UK public could benefit in the future from **a more efficient decommissioning sector** that costs the taxpayer less and is less likely to result in environmental damage from non-compliance.

👥 Stakeholder feedback

Decom North Sea

Decom North Sea is a trade body that focuses on decommissioning activity in the North Sea and aims to act as an interface between regulators, supply chain companies and operators to support compliance. They have worked with SEPA on multiple projects in the past and supported the DecomRegHub project by **providing user feedback and supporting industry networking.**

Decom North Sea agreed that the fragmented nature of decommissioning regulation is a significant problem that DecomRegHub can help address. Having been involved throughout the project, they reported **positive opinions of all aspects of the project.** They felt that SEPA have **demonstrated a desire to collaborate and make compliance easier and more straightforward** for industry, sending a strong message to the sector:

"It's been a huge step change to actually pull the regulators together and see that interaction. I think that's really significant. I think the key part is that if industry sees the regulators collaborating and listening to the needs of industry it sends a really strong message out to the industry that you need to engage and you need to look at the whole picture because the regulators are talking to each other and are pretty united in the way they are approaching things." (Decom North Sea)

They noted that one way to improve the impact of the project may have been to **increase clarity for the sector through more interactive engagement** - e.g. through free webinars, collating and sharing industry feedback on issues they are having in the sector, or a forum to share these issues.

Atkins

Atkins is an engineering and design consultancy with a stakeholder interest in the decommissioning sector. They have an existing relationship with SEPA and other regulators and were involved in the DecomRegHub project initially through **informal feedback and then more formal review and critique** of the beta website.

As with Decom North Sea, Atkins similarly recognised the problem that SEPA were trying to address with their project. They added that the decommissioning sector is growing rapidly, but with a mismatch between different organisations' levels of understanding – noting that some are quite advanced in their thinking, while others are in the early stages. They also felt that some organisations have aims that are contradictory to other organisations' goals (i.e. the aims and activities of one may directly oppose the aims and activities of another). They felt that **SEPA recognised that they needed to work to bring the sector together.**

Atkins valued being involved in the project's early stages as well as in reviewing the beta site: *"That was quite refreshing, because I could see how some of the things I'd been discussing, some of the thoughts that we'd shaped, had come into reality and had been further developed."* (Atkins)

Atkins felt that **the project addresses all of the RPF's stated objectives:** enabling business growth through clarifying regulatory expectations, boosting value for consumers by increasing efficiency in decommissioning activity, projecting a pro-innovation image internationally by being a global leader in collaborative decommissioning and fostering a pro-innovation business culture by providing greater clarity to allow businesses to develop new business plans to address decommissioning challenges.

Lessons learnt on enabling innovation in the decommissioning sector

- SEPA reported that **a major lesson from the project has been the value of user research** specifically in terms of understanding stakeholder needs and in gaining feedback on the usability of the website. In terms of improving this, SEPA felt that it would be beneficial to engage with internal and external stakeholders throughout the project, updating them on project progress rather than leaving most of this until the end. They felt that a more iterative process would ensure that users can feedback as the output develops.

- SEPA have also learnt that **a cross-regulator project can be a challenge due to 'culture clash'.** They felt that taking the time to build relationships between regulators through regular face-to-face interactions, equal power and a collaborative framework such as DecomRegHub can help overcome this. In doing so, they felt that they achieved a shared way forward, better understood each other and ultimately built the foundations to provide better regulatory support to industry.

- SEPA also noted that there are **challenges in leading a UK-wide project as a devolved authority.** During the early part of the project they felt, at times, that there were some difficulties in gaining senior, executive sponsorship from their centralised regulator partners. This affected the time taken to secure resources and commitment from the partners.

- SEPA also noted differences between regulators in cost recovery models that can have a bearing on decisions about resource allocation.

Plans to disseminate learnings

SEPA recognise that **the key next step of their work is to share their website and raise awareness** of DecomRegHub in the sector. They also aim, in future, to share and apply best practice from the project to other market sectors where there is a need for multi-regulator collaboration to streamline the regulatory journey for businesses.

To achieve this, they had intended to launch the site at several events including at the Scottish and UK Parliaments. However, with the COVID-19 lockdown, these have all been cancelled. They are proceeding to promote and share online but feel that their **dissemination and awareness-raising activities have been significantly affected by the lockdown.**

Beyond promoting the website, they plan to conduct **further stakeholder engagement and dissemination activities both internally and externally** in partnership with trade bodies (e.g. Decom North Sea) and share knowledge with other regulators:

"What we're also keen to do is help other regulators in other regulatory domains where they have similar business drivers and challenges themselves and/or businesses that they regulate have similar needs requiring problem solving." (SEPA)

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The RPF supported the SEPA effort to enable innovation in their sector, which has and could provided value in a range of different ways:

Greater clarity for industry and other stakeholders around the regulatory requirements associated with decommissioning.	**Improved collaboration between regulators** to improve their ability to address sector-wide issues.	In the future this could **create efficiency savings in decommissioning activities** by ensuring clarity on requirements and avoiding wasted efforts.	**Improving understanding in the sector around gaps in the market** that can lead to innovative technical solutions or services.

"What we've tried to do in our project was try to be a game-changer, try to make a transformational change in how regulators collaborate together and how regulators engage with industry." (SEPA)

📈 Thoughts on how the RPF could be improved and better support regulators if the programme were repeated

- SEPA reported **high levels of satisfaction with the administration of the fund**, particularly identifying the Innovate UK monitoring officers as being very supportive and helpful.
- They also reported **high levels of satisfaction with the level of support provided** and the lack of restriction on what SEPA could do, perceiving this to be due to the funders being very flexible in terms of project content.
- SEPA's suggested areas for improvement include:
  - **Greater flexibility around the phasing of the funding** to avoid early pressure to spend money while trying to set up the project.
  - **More time afforded for project setup**, particularly where there is a need to reallocate resource or recruit staff.
  - **Consider how project outputs can be embedded into business as usual to maximise return on investment**. At the project bidding stage encourage bidders to carefully consider how the project design and phasing can include securing senior buy-in from all regulatory bodies to facilitate a smooth transition of project outputs to business as usual, thereby ensuring delivery of an ongoing improved service to industry.

Case study 2

Care Quality Commission (CQC)
Supporting innovation in health and social care

Project at a glance – Supporting innovation in health and social care

Role as the regulator

The Care Quality Commission (CQC) is the **independent regulator of the health and adult social care sector in England**.

CQC's duties include monitoring, inspecting and rating services to make sure they meet fundamental standards of quality and safety. They publish their findings to help people choose care and protect them in case they received care below the fundamental standards.

CQC's strategy for 2016-2021 sets out four priority areas:
1. Encourage improvement, innovation and sustainability in care
2. Deliver an intelligence-driven approach to regulation
3. Promote a single shared view of quality
4. Improve efficiency and effectiveness

Project vision

The CQC project team explained that they recognised the need for regulation to keep pace with the rapid development of innovative and technologically-enabled models of care.

CQC said they wanted to increase their increase their understanding of what good quality innovation looks like in the health and social care sector as well as trial new regulatory methods. To do so, they planned to **compose a set of innovation principles to inform an update to their inspection procedures** and **run a series of regulatory sandboxes**.

The team explained that, according to their vision, this would give **more confidence to the sector to innovate** in line with quality standards so that they can innovate and ultimately **improve quality of care**.

"Improving quality, and innovation has been a big factor in [CQC's vision for the project], *and that's bound to be the same in the future."* (CQC)

Motivations for RPF bid

The project team explained that, at the time of their bid, innovation was already a **strategic priority** for CQC, and that the Fund presented an opportunity for them to **speed up the work** they were doing in this area.

The team wanted to set out a **shared vision of how health and social care organisations can use technologies and innovation** to improve quality of care and test out **new ways of engaging with innovative providers**, such as regulatory sandboxing.

"CQC have always had in its strategy to … encourage innovation. The chief executive and chair were very interested in areas of tech and innovation and what CQC could do to not be seen as a barrier." (CQC)

"We had these priority areas and we wanted to go faster. So [applying to RPF funding] *was a chance for us to really accelerate what we were doing."* (CQC)

Main activities involved

The project team explained that their project involved:

- Setting up and running three regulatory sandboxes
- Conducting research into what 'quality' means and how it can be applied to the sector
- Engaging stakeholders through individual discussions, workshops and events
- Publishing findings through a report and disseminating their 'Innovation Principles'

Focus RPF programme outputs – see slide 3

1. New business innovation through new licencing or sandbox regimes

3. Reduced time or cost of introducing business innovation

4. Improved business/investor confidence in business innovation regulation

Understanding of the problem and RPF purpose

CQC explained that they believed that there is a perception among health and care services of them not supporting innovation. This, along with the lack of guidance on how to recognise and assess innovation for providers and CQC workers, resulted in widespread hesitance within the sector to introduce new innovation for fear of being penalised.

The project team had identified (through first-hand experience with previous innovations and feedback from providers and inspectors) two key problems that they needed to address: **lack of clarity** around what 'good' innovation means; and a need to be **quicker to react** in dealing with new and innovative types of services.

"We'd never been super clear what we mean when we say innovation, which makes it difficult for our inspectors to know whether organisations are good at innovation." (CQC)

The Kantar team understood that CQC clearly understood the RPF's purpose from the outset, and that discussions with BEIS had facilitated this.

"It was very clear to me that it was all to support the industrial strategy. People at BEIS were really willing to talk about it and explain it very clearly to me." (CQC)

Challenges in setting up the project

CQC explained that **the recruitment process was long** and was complicated further by **lead times** for new recruits. In particular, waiting for the Policy Manager to start presented a challenge because the team was unable to get as much input as they would have liked from him in the research phase of the project.

"Being regulators we have to go through a long recruitment process, and then there were the lead times for getting people to start as well." (CQC)

CQC hired a consultancy firm to conduct research and compile a summary of literature on good innovation and sandboxing, but found that what they got back was less comprehensive than they were expecting, and they therefore needed to do **follow-up work** to fill the gaps.

In addition, CQC found the **reporting requirements** from Innovate UK complicated, which meant they were time consuming to understand. They also felt the requirements were designed for commercial organisations, and therefore not suited to CQC's way of working.

Lessons learnt on project set up and planning

The project team explained they learnt the importance of appointing their Policy Manager in time to feed into the research stage of the project and work directly with the researchers to shape the project.

Through completing the research phase, CQC learnt about the **importance of collaboration with the sector and getting their input** into innovation, after building a solid basis through a review of the literature.

"It's about pulling together the literature and then working with people in the sector and building a consensus rather than doing a hard evidence-based research exercise." (CQC)

CQC carried out regulatory sandboxing for the first time which taught them the importance of **early engagement with government stakeholders.** They found that doing so helped to cement strong relationships which were helpful in holding stakeholders accountable for carrying out sandbox recommendations.

They also realised that they could have been more ambitious straight away. In hindsight, they said that they should have spent more time on looking at how sandboxing would work in CQC rather than whether it would work at all.

Internally, CQC engaged

Wider organisation

Technological Innovation Steering Group

Sandbox Committee

Internal Working Group

"I think the senior leadership team and people in policy have realised that there are other ways of getting across new and emerging pieces of technology quickly." (CQC)

"Having that multidisciplinary team was really important, not just for delivering it with our different expertise, but also if we needed to answer a question." (CQC)

Nature of internal engagement and response from the organisation

CQC explained that they **engaged widely across their organisation** in order to get the sandboxes up and running, and then to deliver the work and the final report. They involved colleagues across the organisation, including **policy, strategy, legal, finance, HR, and engagement teams, as well as all their inspection directorates**. The project team engaged other teams by providing them with regular updates on the project via **intranet communications, bulletins and the executive team**.

CQC said that governance of the project was through the **Technological Innovation Steering Group** and the **Sandbox Committee** to ensure organisational buy-in to the work. The team had regular meetings with senior project sponsors who gave advice and guidance to ensure the project ran smoothly. The team also set up an **Internal Working Group,** consisting of operational staff and other relevant areas of CQC, to offer guidance and practical input.

CQC explained that it was sometimes challenging to **fit the project around existing initiatives** in the organisation. Whilst they said that their Technological Innovation Steering Group and senior project sponsors helped them to navigate this, Kantar understood that this may have had a negative impact on the project in terms of planning their time. Another challenge was securing the time needed from **operational staff,** due to their busy schedules. The project team explained that RPF enabled them to buy out staff time for the undertaking, but engaging them was difficult nevertheless. Similarly, getting input from their Engagement staff was difficult due to other pressures on the team, meaning that the support they gave was often down to individual goodwill and interest in the project.

CQC's engagement activities taught them about the importance of **bringing together staff from various parts of the organisation** and with a **range of expertise**. As a result of internal engagement, there is now **an increased awareness of innovation** across the organisation, and **senior level buy-in to sandboxing** as a way of understanding new and emerging technology, and a recognition that this should carry on after the RPF funded project. Ultimately, CQC learnt from this experience that pulling together cross-functional teams for a limited period of time to do new, innovative projects is a viable approach to regulation.

Externally, CQC engaged

- 22 innovators e.g. eConsult and Behold.ai
- 2 other UK regulators - MHRA and ICO
- Public bodies e.g. DHSC and NHS Digital
- Academia e.g. UCL
- Charities e.g. Skills for Care
- Professional associations e.g. Royal College of Radiologists
- Consultancy organisations e.g. Community Catalysts

External stakeholder engagement

CQC engaged a wide range of organisations as part of their project. They did so by using **existing relationships** between organisations, **asking their networks** to connect them to others, with **BEIS support** and by connecting to people through **conferences** they attended. For example, they held a 'learning day' with Imperial College London prior to the AI sandbox, bringing together 70 people working in this area across government, which they found very helpful.

CQC **developed their innovation principles in conjunction with partners** in the health and social care sector, and these partners have all agreed the content of the report and will have their logos on the front page. They will also be involved in the dissemination, and discussions that follow.

In addition, they set up an **external reference group with industry leaders in innovation**, which they found to be a good way of getting regular input from a core group. They also involved the most relevant and engaged people in the sandboxes themselves.

CQC noted a high level of professionalism and commitment from everyone involved, and highlighted the more **informal and personal approach** they had used to connect. This helped to lay the foundations for strong relationships and enabled workshops to run smoothly.

"I think it was much more informal and more personal… You could see the benefits when we got them together for the workshops in having built those relationships beforehand." (CQC)

Lessons learnt on stakeholder engagement

CQC found it **challenging to get some stakeholders to commit the time and resources** for their project, as they often had other priorities. They also said that getting to the right person was sometimes difficult, as many were part of large organisations and they needed to find people with the appropriate technical expertise.

"People's time was already committed to doing other things, or their priorities were already in a particular area, so it can be difficult. People were doing it in the margins of their time." (CQC)

CQC learnt several lessons on how to overcome challenges with stakeholder engagement. They emphasised the importance of a **personal approach** (as opposed to going through formal structures) and the **need for persistence, kindness and genuine involvement in forging strong relationships**. They made calls to all workshop participants prior to taking part, and found these important to explain the purpose of the project and to put people's minds at ease.

They learnt about the value in **involving the sector to identify priorities, risks and issues**, finding that collaboration helped them pull together knowledge and avoid mistakes.

CQC also reported that their **collaboration with government agencies allowed them to work with a broader scope** than had previously been possible. For example, by involving NHSX they were able to land recommendations about what central government needs to do to support hospitals in taking up high-risk technologies. This would usually have been outside of their remit.

🌱 Initial positive outcomes and achievements

CQC successfully developed a **set of principles for what constitutes good innovation** in health and social care, in conjunction with NHS England and other health and care organisations. The project team explained that people have been in touch with them asking to see it, indicating that the project has been successful in projecting a pro-innovation image and that there is an appetite for this information. They were planning a consultation on their assessment framework (which informs inspections), but this did not go ahead due to COVID-19.

CQC's achievements went beyond the initial scope of their project. Their initial idea was to explore how a sandbox would look in their sector and potentially do a test run, however they successfully delivered **three sandboxes in different innovation areas** and published the final reports on two of them. The project has generated international interest, with three **international regulators** (in Singapore, Germany and USA) expressing interest in CQC's findings from two of their sandboxes, thus providing another example of them projecting a pro-innovation image.

Findings from the sandboxes have already led to some **policy and commissioning changes** in other national bodies that will help accelerate the adoption of technology. As an example, the project team said that their AI sandbox "*landed almost perfectly into some policy needs of NHSX and is being used for immediate COVID-19 deployment of [AI] diagnostics.*" CQC also said that there was **increased demand for certain innovative technology** thanks to the AI sandbox in particular, which they felt gave healthcare providers more confidence in the technologies and which will ultimately boost value for consumers.

CQC found that they have been able to **advance their knowledge** more quickly than they would have done otherwise. They said that they have received excellent feedback from stakeholders, and now have **stronger relationships** with the sector and other regulators than previously. The strong relationships forged meant they were able to quickly publish information when working with NHSX on the COVID-19 response.

"We've given confidence to the sector… if you look now at the use of the things we were looking at in the sandbox, it's increased massively."
(CQC)

"We were particularly pleased with the success of our sandboxes, as this was something that has never been tried by CQC before. The work was done at pace, and the outputs have been well-received both internally and externally."
(CQC)

🎁 Beneficiaries of the project

CareQuality Commission			
The CQC could benefit through improving their ability to engage directly with industry and being more proactive when it comes to innovation	Once innovation principles are published, health and social care service providers could benefit by feeling more confident about adopting innovative technology that can help them provide a better service	Technology providers could benefit by gaining a better understanding of the regulatory environment surrounding technological innovation	If the project stimulates uptake of innovation, users of health and social care services could benefit by increased access to care and better clinical decision making

👥 Specific stakeholder feedback

Behold.ai

Behold.ai is an AI start-up company that took part in CQC's AI sandbox. Their involvement was motivated by wanting to increase their understanding of how CQC involvement might be required as AI algorithms are able to perform more autonomous functions (such as diagnosis). They expressed being very satisfied with the experience. They found it useful to have a range of organisations with different functions in the same room, enabling participants to learn *"from real world examples rather than learning from theory"*.

Their product sits at an intersection of regulators because their product is a medical device (relevant to MHRA) that can provide a diagnosis (relevant to CQC), and needs access to personal data to perfect the algorithm (relevant to ICO). For this reason they particularly appreciated the **interaction with other regulators.**

Following the sandboxes, they have **met with an NHS trust to discuss implementation** of autonomous AI algorithms for diagnosis, , which they found positive and which gave them validation that they were on the right track. They are **currently in the process of applying for registration** with the CQC and are happy to be trailblazers and to be setting high standards within the industry.

*"We're very happy to work with them…working with CQC to set that higher standard of care is definitely something that we're keen to do." (*Behold.ai)

They think this is especially important as public perception towards AI might be a challenge due to the need for access to personal data, and that **regulation by CQC would help give assurance** to the public about such concerns.

Care UK

Care UK is the largest independent sector health provider to NHS and took part in the digital triage sandbox. They are not a developer of technology, but rather a finder of technology and provider of clinicians that use it. Their objective was to work out how they could make better use of some of their infrastructure to deliver more virtual and digital health services.

They found the sandbox workshops very effective for **stimulating conversation** and came out with an **increased level of understanding** of digital services and how they need to be viewed. They, like Behold.ai, saw it as a mutual learning exercise, with all parties gaining important insight. Most importantly, they felt that this was a sign of CQC wanting to **bring together different perspectives and** avoid making decisions *"in a darkened room"* without input from relevant parties.

"Our view is you need to be involved to influence how things are done. CQC wanted to get insight from people that are on the receiving end of inspections, rather than just going to a darkened room and create an inspection regime because they thought that's what it needed to be like. They've quite rightly put themselves out there and asked who wants to be involved." (Care UK)

Care UK contend that ultimate outcomes remain to be seen, but have a positive view of their experience, and have had a CQC inspector come to one of their clinical call centres for a 'test' visit, incorporating some of the initial sandbox findings. This visit was beneficial for CQC in helping them solidify thinking around how future inspections can reflect innovative services used, while helping Care UK to prepare for future inspections.

Lessons learnt from effort to enable innovation in the health sector

The biggest lesson CQC took away from their project was about **sandboxing being a viable tool to encourage innovation in their sector**, as they explained that *"the main thing we've learnt is this sort of thing is possible"* and they are thinking about how to continue sandboxing after the RPF.

Through their sandboxes, CQC **established a new way to engage with developers of new services and technology**, and learnt that **you need to focus on a particular topic or issue** in order to get the most from the engagement. This new internal methodology has also shown CQC that there is merit in collaborating more with innovators, as it **enables them to be more proactive**, as opposed to a traditional approach of reacting once a product/service is in the market. As a result, CQC leadership has an improved understanding of **how to approach regulatory reform work** related to innovation, and has contributed to the overarching RPF goal of fostering a pro-innovation business culture.

Another learning for CQC was that **innovators need more practical frontline experience** in order to improve their products/services and ultimately to encourage quality, safety, roll out and adoption. They found being open and collaborative and engaging with technology stakeholders in a personal, less formal way to be helpful, and highlighted the importance of including people in discussions.

Finally, there was a learning about **the importance of clarity and consistency from the regulator in order to establish trust** in CQC's recommendations. They explained that healthcare providers need to have a clear understanding of what needs to change and that CQC will need to follow up with providers to ensure that they are adhering to recommendations.

"Clarity and consistency from the regulator is extremely important. Being clear that innovation is good, we care about it, it's part of good leadership. Being able to consistently apply that so the organisations that we regulate trust [us]." (CQC)

Plans to disseminate learnings

CQC have disseminated **two sandbox reports** (one on the use of machine learning in clinical diagnostics and one on digital clinical triage tools) and guidance for umbrella organisations that support individuals and groups delivering care in people's home is due later in the year, subject to delays caused by the COVID-19 pandemic.

CQC plans to publish the innovation principles that they have developed later in the year and are thinking about ways to ensure that their work is as impactful as possible.

*"It's a really strong thing we've done, but for it to work we're going to have to do lots of engagement - workshops, regional consultations..." (*CQC)

Their evaluation team, with input from the University of Nottingham, has conducted an assessment of the sandboxes intended for **internal use**, but copies have been made available to BEIS. CQC are seeking funding from NHSX to continue sandboxing and to develop an advice portal. **Innovation will continue to be a strategic priority for CQC.**

Following a final review of case studies in August 2020, CQC shared an update saying that they have recently received funding for NHSX to set up an advice service for AI and new technologies, working with NICE, HRA and MHRA.

The RPF supported the CQC effort to enable innovation in their sector, providing value in a range of ways:

| Accelerating the speed of CQC's work in one of their strategic priority areas (encouraging improvement and innovation) | Bringing together stakeholders with different knowledge, learning from their insights | Building strong stakeholder networks that will remain after project end (exemplified by work on COVID-19 response with partners) | Allowing them to try new methodology that facilitates collaboration and a more proactive approach |

"Without the funding, we would not have piloted sandboxing or written the principles for good innovation." (CQC)

"By doing policy in this way and involving the stakeholders so deeply early on, we're able to use that network to do good things and carry it forward afterwards." (CQC)

Thoughts on how the RPF could be improved and better support regulators if the programme were repeated

Overall, CQC explained that they were very pleased with the support they received from BEIS throughout the Fund's process and appreciated the flexibility in allowing them to change their approach to include the sandboxes. The following suggestions for improvement were offered:

- The Kantar team understood that **clearer communications about the timeline for awarding funding** would be helpful. CQC felt that clearer communication would help with planning and to avoid the rush in setting up that CQC experienced. CQC suggested that more clarity from BEIS around whether there will be another round of funding would provide more certainty about longer-term plans and help with continuity.

- **Reporting and monitoring could be more flexible**. The project team found that the Innovate UK platform was better set up for commercial organisations than an organisation like CQC. They also felt that, as the Innovate UK monitoring officers' attention was split between BEIS and the regulators, it was challenging for them to reach a high enough level of understanding of regulators' projects.

- **Facilitating more sector-specific collaboration**. CQC suggested that BEIS could potentially do more to facilitate collaboration within sectors. They referred to supporting innovation in the "health family" and emphasised the value of working together with MHRA during their project. They felt this was particularly valuable because the innovations they discussed cut across traditional health regulation boundaries (see Behold.ai example on slide 23), so regulators *"needed to act together to get it right"* by convening around a particular technology.

Case study 3

Information Commissioner's Office (ICO)
Regulators' Business Innovation Privacy Hub

Project at a glance – Regulators' Business Innovation Privacy Hub

Role as the regulator

The Information Commissioner's Office (ICO) is the **regulator of information rights in the UK**. The ICO enforces legislation primarily relating to data protection and freedom of information to protect individuals' rights (i.e. the EU General Data Protection Regulation (GDPR) and the UK Data Protection Act 2018).

As an *"horizontal regulator"*, ICO **looks after data protection across all sectors**, therefore also monitoring sector specific regulators as well as other sector-specific organisations.

ICO's Innovation & Technology Service, and the Innovation Department within it, **explore the application of personal data protection laws in the context of innovation and data-driven technologies**. Its responsibilities include the assessment of data protection impacts of risky processes by organisations (and their mitigation), high level engagement with big players in the digital economy (e.g. Facebook, Twitter, Google), and designing policy on regulation of new products or services.

Project vision

ICO's RPF project consists of the set up and implementation of the Regulators' Business Innovation Privacy Hub (Hub), The purpose of the Hub is to *"help other regulators to enable innovation within their sectors in a data protection and privacy respectful way. Upskilling them, finding new ways to collaborate on overlapping regulatory issues, enabling cross sector growth."* (ICO)

ICO explained that upskilling other regulators on good data protection practices will enable **safer and more efficient innovation in their sectors**, as *"next time [businesses regulators engage with] do a project where they have to build in data protection knowledge and thinking from the beginning, it is a far more efficient process."* (ICO)

ICO noted that the work of the Hub also aims to shift unhelpful perceptions of data protection compliance, as safer processes would ultimately lead to **heightened consumer confidence, and increased take up of innovation:** *"Innovators should remember that regulatory compliance is an opportunity, not a barrier."* (ICO)

Motivations for RPF bid

The Kantar team understood the ICO saw RPF funding as an **opportunity to be more proactive about embedding data protection best practice** in innovation work **across whole sectors.**

"Even the regulators might at some point have gone: 'we don't know about that legislation but it's highly likely that we can't do this'. So [the Hub] kind of helps ease the way for innovation, not just in the data protection field that we regulate directly but in all those other fields that other regulators cover, whether that's finance, utilities." (ICO)

The project team explained that RPF enabled them to establish **an innovative service model and** *"expand our area of influence",* **creating beneficial networks and relationships** across these sectors.

"[RPF gave the ICO] the opportunity to have the ability, the finances, and the remit, and the mandate to be able to go out and work cross-sectorally, and forge these relationships with all the regulators." (ICO)

Main activities involved

- Recruit the project team and establish internal working practices
- Reach out to RPF regulators and build initial links
- Establish connections with other regulators and promote the Hub's offer
- Liaise with regulators and the businesses they support to provide guidance and advice on data protection
- Participate in and contribute to relevant conferences and events
- Gather lessons and feedback from Hub's participants

Focus RPF programme outputs – see slide 3

3 - Reduced time or cost of introducing business innovation

4 - Improved business/investor confidence in business innovation regulation

6 – Other UK regulators influenced to take up a pro-innovation regulatory approach

Understanding of the problem and RPF purpose

Kantar understood that ICO had a clear understanding of the problem underpinning their work: a **lack of understanding of data protection requirements and opportunities in innovation,** and **the scope for further collaboration among regulators in this space**.

"There's a myth, a very common myth, that regulation and innovation do not work well together. That largely regulation is there to block things. Particularly around GDPR because so many people don't understand it. […] It's easy to just say we can't do that because of GDPR than to try and work out how you can do it." (ICO)

ICO explained they saw the possibility to be **more enabling in their approach to regulation,** "*helping people to do something rather than looking into it once there are complaints or something might have gone wrong."* (ICO)

The project team shared the following understanding of the RPF's purpose, and noted they felt that it was **in line with their own mission** to break down perceived barriers to innovation in the sectors they regulate, so it's easier and safer for businesses to innovate: "[*At a] very high level we saw the purpose of the RPF funding as a whole to be about working to strengthen the British economy. And that is through enabling businesses to have the confidence to innovate with regulatory support."* (ICO)

Challenges in setting up the project

An initial challenge ICO mentioned was recruiting a full team for the Hub and **quickly establishing working practices** (e.g. communication protocols and internal procedures) to be able to start their work. They explained all project team members came from different parts of the ICO, and while this soon generated benefits (as explained to the right), it took some time for them to confirm how to effectively work together: *"One of challenges was that we were not a team who had worked together before, so in addition to cracking on and think about how we were going to achieve the objectives of the project, we had to start putting processes in place."* (ICO)

The team also explained they had to quickly **familiarise themselves with data-driven innovation practices** and how it would apply to the sectors they'd be supporting. *"It was giving ourselves a crash course in innovation, how it would apply […] [ICO focussed on] looking at the legislation as we understand it, which in itself is fairly new, and then looking at the technologies and say 'well what does compliance look like for that technology'."* (ICO)

Additionally, it took time for the team to understand the **risk their advice may present for their organisation**, the legal implications of their work, and how to draft legal documents protecting their regulatory interests while not discouraging regulators' participation. "*This is something that we had to agree, our consideration of legal risk, those terms and conditions, making sure that we do have the right, where we don't feel particularly comfortable supporting a particular business, to say no."* (ICO)

Lessons learnt on project set up and planning

As set up activities progressed, ICO noted they could appreciate the **value of having a varied team coming from different backgrounds and combining complementary expertise** useful for the Hub's work, from stakeholder engagement to in-depth knowledge of the legal principles underpinning regulation.

"*I think having a wider awareness, not just looking from the point of view of the regulator, but also having an understanding of how* [advice] *might impact regulators and businesses from their perspective is really quite valuable.* (ICO)

ICO also reflected on the importance of ensuring that their project's team was employed full time and made permanent within the Innovation Department, so that they could **commit their full capacity to Hub activities and ensure continuity of their work** with regulators and other organisations**.**

The team stressed the importance of writing **accessible T&Cs for their work,** and learning to be flexible in order not to discourage regulators and innovators willing to consult with them. However, while ICO learnt they could be more flexible in their approach to Hub onboarding, they also noted the importance of being **clear with organisations about their role and remit for action.** For instance, they had to establish that while their purpose is to provide guidance on data protection, they can't act as a data protection officers or enact basic GDPR guidelines for businesses. "*Building that into the terms and conditions, and making sure that we have a shared understanding between us, the business, the regulators is definitely key."* (ICO)

Internally, ICO engaged:

Other teams in the Innovation Department

Wider organisation

The ICO business advice services and advice service

Senior leadership

"It's well and good for us as the regulator to tell other regulators we are stronger when we work together, but we need to model our behaviour internally as well." (ICO)

Nature of internal engagement and response from the organisation

The project team explained that throughout the course of the Hub's lifetime, they engaged their own organisation in a range of ways. They were **actively promoting their work and achievements by hosting regular 'roadshows'** (presentations to different ICO teams on the work the Hub carried out across different sectors and its accomplishments) and **publishing update articles on the ICO's internal magazine**. As other offices within the ICO manage relationships and have regular contacts with organisations the Hub may be interested in engaging, the project team explained that they developed a *'knowledge pack'* **for relevant colleagues**, which outlined the Hub's objectives and when they should pass on queries from businesses or other regulators.

While the team has been active in independently establishing contacts and relevant collaborations, some engagement opportunities falling within the Hub's remit could be picked up by the ICO' contact centre. The project team therefore worked hard to **strengthen links with the ICO advice service and business advice services**, so that they could identify relevant queries and refer them to the Hub. They were also dedicated to promoting their work thought conversations with the ICO leadership team to **ensure awareness, and secure buy-in and continuing support at the senior level.** The Kantar team understood that these engagement activities, showcasing the success and demand for the Hub services, played a key role in the decision of making it permanent within the Innovation Department.

"We were connecting the whole office together, saying 'this is happening and we're interested in hearing from you'. And people at all different levels within the organisation were therefore able to respond and know who was the specialist for different things […] they knew who to contact." (ICO)

Initially, ICO explained they experienced some challenges in engaging with other teams because of the **overlap in responsibility for managing relationships with regulators.** The team felt it was necessary to determine instances in which regulator and business contacts would be co-managed between teams, and establish an agreement on how relevant information can be shared. However, they felt that the engagement work described above payed off, as both other teams and senior colleagues soon began to **recognise mandate and the value of their work** with other regulators to achieve overall ICO organisational objectives, and started to increasingly collaborate: "*as a result of [internal engagement] we have been seeing increasingly that teams will be saying oh this is for the Innovation Hub, we'll forward it to them.*" (ICO)

The ICO team noted that **being open, approachable and personally involved in maintaining links with colleagues** from other parts of the organisation is key to foster valuable collaboration:"*[Internal engagement] really paid dividends, and it continues to do so, because it stimulates collaborative work."* (ICO) These principles also applied to the Hub's approach to external engagement, as explained in the next slide.

External stakeholder engagement

Externally, ICO engaged:

- RPF regulators (e.g. MHRA, FCA, SRA, CQC)
- UK Regulators' Network (e.g. Gambling Commission, CMA)
- CareerTech and EdTech innovators
- NHSx
- Open Banking Implementation Institute
- International data protection agencies in Singapore, Jersey and Bermuda

External engagement was fundamental for the ICO's project, which relied on collaboration with other regulators to achieve their vision: *"Through [engagement] you're spreading the awareness of GDPR, you're improving the compliance with GDPR, you're promoting good practice. Ideally that will link eventually to better practice across the board, a better trust in what people think is happening to their data."* (ICO)

The team explained they **reached out to several regulators,** starting with the RPF ones, to explain their work and promote the support available through the Hub, **worked to swiftly pick up queries, and participated in relevant events and forums** to 'put themselves on the map': *"at the beginning it was about finding that base so that we could encourage other regulators that there were benefits to working with us."* (ICO)

ICO pointed out that initiating collaboration was challenging in a few instances, particularly at the start of the project. They found that **some regulators** (e.g. in the health sector) **had different priorities or didn't have the internal capacity to dedicate to a collaboration with the ICO.**

ICO observed that **finding the right person to engage with in the organisation could be difficult** and that they had to work on how to establish relevant contacts and convey the benefits of the Hub. They did so by identifying and seeking networking opportunities, personally establishing contacts that could help stretch their outreach in the desired organisations and having informal conversations before formally partnering (as explained to the right).

The team also found that as they developed their offer and increasingly got involved with projects, they were able to build the experience necessary to more effectively demonstrate the value of their work and tailor their engagement approach. This led them to start **new partnerships and build on existing contacts to expand their network and gain stakeholders' trust**.

Lessons learnt on stakeholder engagement

A key lesson the project team highlighted was **the importance of calibrating timings for contacts when trying to initiate collaboration** with other organisations: *"if you're there too early people can't even see what issue they could possibly have, they're not ready to talk to you, they haven't thought that far, they haven't put their mind to it. Obviously if you arrive too late, then it can be very disruptive. It's about being there at the right point when people are ready to talk to you and ready to take things forward."* (ICO)

They reflected on the fact that by **softening their approach to engagement** they were able to **manage the tension described above, as well as stakeholders' conflicting priorities.** They did this by being more proactive about starting informal conversations before a specific collaboration opportunity arose, so they could be top of mind for stakeholders once they were ready to formally engage.

ICO also noted the value of **engaging with stakeholders in person**, through events or dedicated meetings, to ensure a positive response and efficiently reach the most suitable person to involve in their work: *"There is no substitute for turning up in person at an engagement event with different regulators and introducing ourselves that way because, although we sent the emails around, [that's] what really made a difference for getting access to the right person who believed in what we were doing and the potential of it."* (ICO)

The project team explained that as they started to build a portfolio of achievements, they were able to better showcase why stakeholders should collaborate with them and gain their trust. They were able to discuss their work with others (while maintaining confidentiality) and explain how that would be valuable to new contacts, tailoring their approach to the organisation's needs.

🌱 Initial positive outcomes and achievements

ICO felt that the higher-level objectives of the project, beyond those relating to the team's provision of advice to individual organisations were still difficult to identify at the time of the interview, as the effects of improved data protection practices will be longer term. However, ICO explained that, among other projects, they provided advice to the SRA's Legal Access Challenge finalists, which was well received and fed into their technologies; and supported the FCA with one of their fin tech "tech sprints", also identifying other areas they could support with (e.g. FCA's sandbox and direct support function). ICO felt positive about the future impact of the Hub, which has now been made permanent: showing an organisational interest in continuing innovation and a recognition of the project's value for the ICO: "*I think a result of the work are those strong stakeholder relationships and it means that complex conversations about new technologies that apply to a range of sectors are going to be easier to have.*" (ICO)

ICO felt that the **increasing, immersive collaboration with other regulators across sectors enabled by the Hub** was a key achievement. As a result the team started adopting a **more proactive approach to regulation and innovation and noticed a shift in the way they are perceived by the sector**: "*I think they see value in us being there now, they invite us, they want us in the room. So I think as far as dismantling barriers between regulators and regulated as well, I think that's helped tremendously.*" (ICO) This is connected to RPF programme focus output 3 & 6 and contributing to the RPF goal of enabling a pro innovation business culture in the UK.

Also, as the Hub, now made permanent, is coming out of the funding period, their remit can expand to include direct collaboration and support to businesses and innovators themselves as well as regulators (e.g. Nesta). ICO explained they started conversation with a range of organisations (e.g. Digital Catapult, LawTech UK) and would like to get involved in more tech sprints in the future after their successful collaboration with the FCA. The team felt confident about "*exciting engagements on the horizon*", opening up **more opportunities for developing privacy respectful innovation** (connected to RPF programme focus output 3 & 4 which may eventually lead to economic growth through safer, more efficient innovations enabled by the project).

ICO noted **that international regulators in Singapore, Bermuda and Jersey have got in touch to discuss their model**, offering them an opportunity to showcase the pro-innovation nature of UK regulation and affect regulation outside the UK. "*They have been very appreciative of us taking the time to talk to them about the whole model and how effective it is at slotting into other regulators pieces of work. Particularly they are interested in how data protection can support work that's happening in fintech.*" (ICO) While engagements were at an early stage, they provide a positive indication of contribution to the RPF goal of fostering a pro-innovation image for the UK internationally, and signal an appetite for the Hub's innovative model.

🎁 Beneficiaries of the project

Innovators and businesses benefit from the advice they receive. They are able to develop compliant products, efficiently building it in from the start	Eventually end users could benefit from their data being protected, promoting more confidence in and take up of innovative products and services	Other regulators are expected to gain an improved knowledge of data protection best practice and how to embed it in new regulation	ICO has been benefitting from working more effectively on innovation across sectors and better understand emerging technologies issues

"The work the ICO has been doing is really good, it's great, and I'd love to continue that relationship with them." (FCA)

"Even if all we manage to do is getting other regulators to say 'have we thought about data protection?' but not in 'a roll your eyes and think how difficult it's going to be'; in a 'we just need to work out how to do it' kind of way, then that benefits them as well as the people that they're working with." (ICO)

"[The project] has also been this opportunity to push the ICO influence much more widely and hopefully over time and as we develop these relationships other work will come our way and we'll have better information sharing and better intelligence sharing and I can only see that being a good thing." (ICO)

Specific stakeholder feedback

Financial Conduct Authority (FCA)

The Regulatory Technology (RegTech) team within the FCA was supported by the Hub with their **tech sprint** (i.e. hackathon) about privacy enhancing technologies. This was followed by a **workshop with academics and NHSx** to further develop their collaboration and dedicated **data protection training delivered by the ICO for their organisation**.

FCA explained that the ICO helped with the **data sets used for the event providing guidance about data protection to participants**: *"It's helpful to have someone like the ICO in there to be able to give them the right guidance"* (FCA)

FCA felt positive about the **mutually beneficial relationship** they established with the ICO, and explained this had **improved over the course of their work**: *"We came in pretty cold before the tech sprints and I think we've now got a pretty strong relationship. It's very warm. I think it was difficult to get their time beforehand, but now I'm pretty comfortable to pick up the phone, have a conversation with anybody on that team quite quickly."* (FCA) They also felt they would be keen to **continue collaborating** with the ICO on data innovation: *"We're always going to want to have [ICO's] input in ensuring that what we're doing is safe."* (FCA)

They reflected that **the Hub's work improved their understanding of data compliance**, and felt that **in turn the ICO gained an increased understanding of data privacy in the context of fin tech innovation**. FCA thought that the RPF provided the ICO with a valuable starting opportunity to develop their capability and innovation services: *"Giving [the ICO] that outlet to actually engage in the innovation space [through funding] is really really powerful and it can be a massive force for change."* (FCA)

The FCA also felt that their work and collaboration with the ICO presents **benefits for the financial sector more widely**: *"Having someone to speak to is just a good thing. It doesn't matter what kind of company I am […] having some people to speak to at the regulator that can actually help you ensure that you've got the conversation happening, and that you can feel comfortable with what you're doing."* (FCA)

Gambling Commission

The Gambling Commission is the regulator of commercial gambling in Great Britain. They sought ICO's support for a **Challenge they organised for the industry** around sharing personal data across different operators.

The Gambling Commission explained they **maintained constant communications** with the ICO leading up to their event and **viewed their collaboration with the Hub's team very positively**: *"We have had good communications levels, good engagement."* (Gambling Commission)

They noted that the only thing they would have improved about their engagement was introducing more **upfront clarity about the ICO's role and their remit**, as well as discussing avenues for further practical support early on, to manage expectations.

At the time of their interview, the Gambling Commission felt that **their collaboration with the ICO was at its early stages and expected it to continue building on their work on the Challenge.** While no innovative products had been developed yet as a direct result of engagement with the ICO, Gambling Commission explained that through their work with the Hub t**hey were able to further define challenges related to data protection** and **wider engagement between the ICO and the industry:** *"We have expanded our understanding of sandbox practices and codes of practice around GDPR, which was really helpful. We have widened the engagement for the industry and enabled the relationship there. I think we've opened the door to a lot of potential."* (Gambling Commission)

The Gambling commission also stressed how helpful discussing learnings from work in other sectors was for them, and **highlighted the value of cross-sector collaboration**: *"It makes a huge difference when two regulators cooperate. I am a great fan of cross regulatory engagement. I think the more cross regulatory projects we do the better for everyone."* (Gambling Commission)

Lessons learnt from effort to enable innovation across sectors

- The project team explained that a key lesson throughout their project was about the **value of cross-sector collaboration**, particularly given the ICO's remit as a cross-sector regulator. ICO felt that they gained an **improved understanding of how to make collaboration work** (see slide 31 for more detail) and learnt that different organisations need different approaches for engagement.

  "I think it is absolutely key that we work with other regulators. There are huge benefits there in terms of information sharing and I think more so making sure that other regulators in the sector are aware that in addition to the regulation in their sector they also have to think about data protection as well." (ICO)

- ICO also reported they draw learnings on the importance of **clarity about the service they can provide, in order to manage expectations,** as also noted by the Gambling Commission. The team also mentioned they have learnt to be more flexible in the way the draft agreements to make stakeholders feel safe engaging with them: "*When it comes to enabling innovation, it's very important that we set expectations on what we can offer and what the limitations are of the advice that we can give."* (ICO)

- Kantar judged that the project enabled the ICO to develop their understanding of the problem as the project team remarked the **importance of building compliance in innovation work from the start** as one of their main lessons: *"In order for innovation to be successful [compliance with data protection regulation] are things that regulators should be considering from the beginning. Very important when it comes to one of the key concepts within GDPR, which is data protection by design. [...] It may cost money, and require effort on the part of the business, however ultimately you're more likely to have a product that is valuable and usable and ultimately you'll be gaining the confidence of the consumer that they will think positively of these products."* (ICO)

- Finally, the ICO team highlighted the importance of **securing buy-in from other parts of their organisation** and the value of **internal collaboration to progress their work.** They felt these were critical to achieve their project objectives and give the correct and informed advice to the organisations they're engaging with.
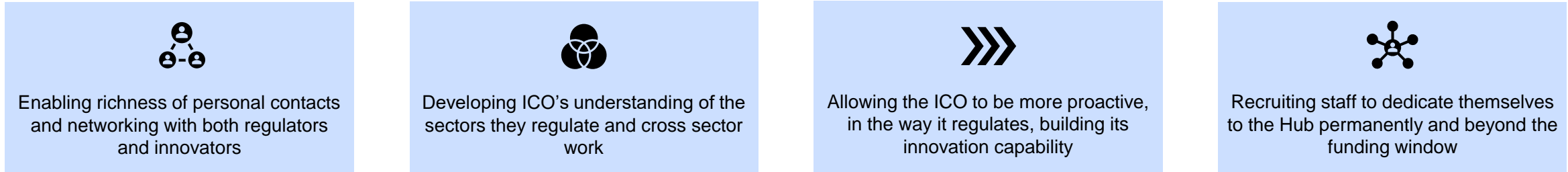
Plans to disseminate learnings

ICO shared a 'knowledge pack' with colleagues in other teams in their organisation, outlining the objectives of the Hub and when to refer queries or support request to them. The project team also mentioned the following plans to disseminate lessons from their project.

- Publishing a **lessons learned report** from their RPF experience;

- Circulating a **'top tips document' for innovators across sectors** considering how compliance with data protection regulator can affect their work;

- The team has been **collecting feedback from stakeholders** to review their work and inform future activities.

Team felt confident that they will continue work started with RPF and take additional opportunities coming from it, as the Hub is now a permanent team within the ICO's Innovation Department.

The RPF supported the ICO's effort to enable innovation in the sectors they oversee and support other regulators in supporting innovation, providing value in a range of ways:

Enabling richness of personal contacts and networking with both regulators and innovators	Developing ICO's understanding of the sectors they regulate and cross sector work	Allowing the ICO to be more proactive, in the way it regulates, building its innovation capability	Recruiting staff to dedicate themselves to the Hub permanently and beyond the funding window

"Without the RPF I do wonder whether all this engagement would have taken place in the same depth. It's enormously valuable." (ICO)

"[Having a dedicated team thanks to funding] *gives you a stamp of importance behind the project, it gives the project momentum, its mandate and a means of protecting it."* (ICO)

Thoughts on how the RPF could be improved and better support regulators if the programme were repeated

Overall, the ICO's experience of the RPF was positive. When asked if they could identify areas of improvement for the fund, responses referred to reporting and auditing procedures.

- The team felt **more flexible monitoring and reporting requirements would be beneficial**. In particular they felt these could be more closely adapted to the pace and timelines of regulators. For instance, ICO explained that they received a few 'last minute' requests from IUK monitoring officers and felt that a **longer notice for information requests** would be helpful for regulators. The project team also thoughts that IUK request for additional financial auditing could have been avoided as ICO is already regularly audited.

- ICO felt that the evaluation metrics (i.e. in Kantar's quarterly questionnaire) could have better reflected their project progress, as they felt that many of the metrics were not directly applicable to their work.

- ICO also felt that stronger promotion and continuous coordinated communications from BEIS about the RPF and its purpose would have facilitated liaising with other organisations, as they explained *"we have a lot of ground to break in one email".* Therefore, increased awareness of the RPF, particularly among other regulators would have been beneficial.

Case study 4

Intellectual Property Office (IPO)
Artificial Intelligence Solutions
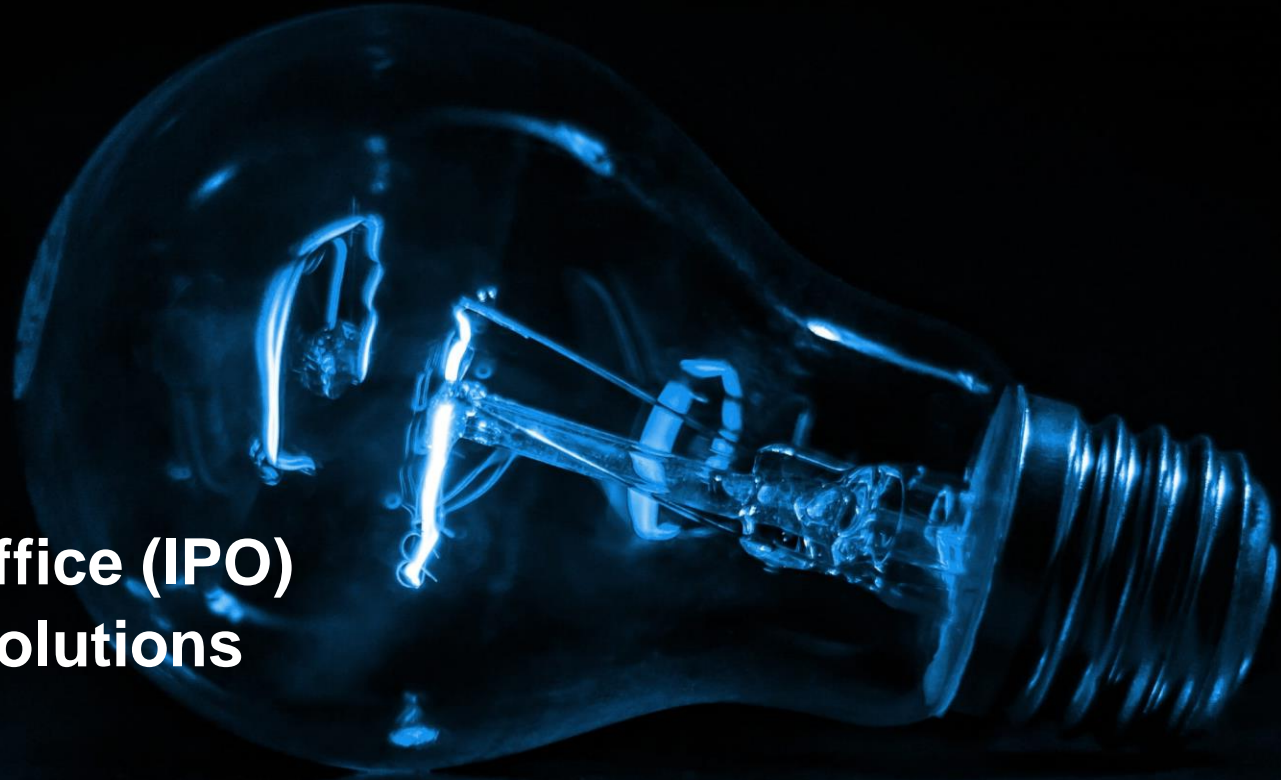
Project at a glance – Artificial Intelligence Solutions

Intellectual Property Office

🏛 Role as the regulator

IPO (the Intellectual Property Office) is the UK government body for intellectual property (IP) rights covering patents, designs, trademarks and copyright. IPO is an executive agency of BEIS.

IPO primarily issue **registered IP rights for patents, trademarks, copyrights and designs** but they also support IP policymaking and other areas including copyright enforcement. IPO are not an enforcement body but they work closely with the police intellectual property crime unit.

A major part of IPO's function is in the **assessment of rights applications**, through examiners **who check that applications are compliant and do not infringe on existing held rights.**

The IPO's key stakeholders are organisations rather than individuals, particularly attorneys, who are responsible for more than 50% of applications.

🎯 Project vision

The project focused on two key areas of IPO's work – trade marks and patents.

The trade mark work was further split into development of two tools, one for internal stakeholders (examiners) and one for users/applicants. **The examiner tool uses artificial intelligence (AI) to support examiners to more quickly compare applications against existing registered trade marks** to make their job more efficient.

The external tool aimed to integrate into the online application process to **help "novice applicants" assess their own applications and better understand the application process.** It uses AI to test whether applications breach any rules (e.g. around protected language or symbols) or infringe on existing marks.

The patents work, subcontracted to Cardiff University, is **a feasibility study to explore the possibility for AI to support examiners to compare applications with existing patents,** similar to the trademark work (above).

🐷 Motivations for RPF bid

IPO recognised that there were two key problems facing the regulation of IP:

Firstly, **a significant number of trademark applications from novice users were incorrect**, either in terms of the level of coverage sought or the restrictions around what could and couldn't be registered. This led to a significant number of rejections, wasting time for applicants and examiners.

Secondly, the number of existing patents and trademarks have increased every year, with **examiners needing to assess every application against an ever-growing pool of existing IP.** This proved to be an increasingly time-consuming process.

The IPO's idea was to use AI to address both of these issues, using machine-learning and intelligent search algorithms to **pre-assess applications for applicants**, helping them build a compliant application and **supporting examiners to more quickly and efficiently assess the uniqueness of applications.**

The RPF represented an opportunity for IPO to accelerate their exploration of these opportunities associated with AI.

📋 Main activities involved

- Development of AI-supported tools (specifically information retrieval and ranking tools to automatically compare applications with existing registrations) to support applicants and examiners with trade mark applications.
- A feasibility study (by Cardiff University) explored whether similar AI could support the assessment of patent applications.
- User research with potential users of the external trade marks tool to gain feedback on the beta version.
- Internal user research with trade mark examiners.

🔵 Focus RPF programme outputs

3. Reduced time or cost of introducing business innovation.

4. Improved business/investor confidence in business innovation regulation.

Understanding of the problem and RPF purpose

Kantar judged that IPO **did not have a strong understanding of the RPF's purpose.** The project sponsor noted that they did not understand the purpose at first, finding it *"fairly fluffy"* and the project leads felt that the scope was very broad. They noted that this breadth of scope benefited IPO in terms of what they wanted to look at, however they felt that the funders could tighten their scope and definition should they have a more specific focus in future (e.g. AI-related projects).

IPO's understanding of the challenges their own projects were addressing were clearly explained as:

- **A lack of user understanding around intellectual property rights**, leading to unsuccessful applications or inappropriate levels of coverage sought. This regularly leads to user difficulties in the application process, frustration and time delays.

- **Lengthy searches for examiners** assessing trademark and patent applications against an ever-growing list of existing trademarks and patents (e.g. 110 million patents growing by 3-4 million per year). These *"needle in a haystack"* searches are viewed as an inefficient use of examiners' time, which could be better spent on more detailed, higher quality appraisals of applications.

Challenges in setting up the project

Project setup could have been improved. *"We found out we were successful with our proposal, but it was all a bit unclear as to some of the hurdles we had to jump through to then formally kick off the project."* (IPO)

IPO felt that there were **some issues in communication with BRE and the Innovate UK monitoring officer** that led to initial confusion around administrative form-filling. They also felt that many of the Innovate UK forms they were asked to fill in were not applicable to them as government regulators. IPO felt that the forms had been designed for commercial entities, who they believe are the typical Innovate UK beneficiaries.

Associated with this was **a lack of clarity around VAT at the start.** It was unclear to IPO whether funding was inclusive or exclusive of VAT. Furthermore, they **found the Innovate UK invoicing system difficult to navigate**. However, they noted that their monitoring officer was very good at supporting them and spent a lot of time helping with this issue.

The profile of the spending was also an issue for IPO. Project setup lasted from Sept-Dec 2018, meaning that project delivery work didn't begin in earnest until January/February 2019. *"There was an expectation that because the money was being split over two financial years that we would be spending the money evenly over that time period, which was, we felt, a very unreasonable expectation."* (IPO)

Lessons learnt on project set up and planning

IPO would have preferred to have had **more information from the funder around the auditing requirements** earlier on in the process, to better plan and prepare. They also noted that **IPO should have spent some more time doing planning and scoping work right at the start** that would have helped them manage their time and resources better. Part of the issue for IPO was that they had not expected to be awarded the funding and so needed to quickly shuffle work internally to allocate resource. They noted that in future they will need to think about resource in advance to ensure they are ready to go if awarded funding.

Quicker access to the Innovate UK administrative 'Connect' portal (which took several months) would have been preferable. Furthermore, the detail requested was different to what they were asked for at the application stage which presented some gaps that needed filling. A more consistent level of detail would have been preferred.

IPO felt that Innovate UK were not used to working with public sector bodies, presenting difficulties in meeting requirements (e.g. on form-filling and project administration). However if they had to do it again, IPO would find it easier as they have now learned how to work with this system.

Internally, IPO engaged:

Trade mark and patent examiners

Project board

Programme board

IPO executive board

Wider staff

"I was a little bit nervous. Inevitably when you start talking about artificial intelligence, staff can get a bit concerned that they're going to lose their jobs or something as a result of it and that's absolutely not the aim of the piece of work. But actually the engagement was really good."
(IPO)

Nature of internal engagement and response from the organisation

During the project, IPO kept the wider business engaged through **"show-and-tells" to the whole business** after each sprint or milestone. These would focus on things like lessons learned or the user interface rather than any technical detail. These ninety-minute sessions to interested IPO staff provided **a valuable opportunity for the team to gain feedback and buy-in from key internal stakeholders.** Towards the end of the project they moved these sessions online to engage with more staff in more locations. They also conducted specific show-and-tells with examiners, where they could go into more detail and get specific feedback from this key user group for their project.

The IPO also felt that the sessions were **important to dispel myths and manage expectations around artificial intelligence** particularly around fears that this would lead to job losses. IPO felt that it was important to make clear to staff from the start that the project was about making their jobs more efficient and to assist them to make use of their expertise in a more efficient manner. By communicating this, the team felt that they had better buy-in from staff later.

The team held **further user-testing sessions with trade mark examiners** where examiners would interact with an early copy of the tool and give live feedback as they used it. These examiners provided useful feedback on both the internal and external tools. **Patent examiners were involved with the Cardiff University work (the patent project) through focus groups and user testing** to gain their feedback and keep them engaged with the work.

The project and programme boards met monthly to keep senior stakeholders engaged and to keep the project delivery on track. The project sponsor was also involved in presenting project progress to the IPO executive board twice yearly.

IPO felt that their internal engagement activities have impacted the organisation in that **they have demonstrated the value of AI in the future of their work.** This is evidenced by the buy-in from examiners into the project and the senior staff bringing AI into IPO's formal transformation agenda. Furthermore, the IPO executive board has agreed to internally fund ongoing work into developing AI solutions following the end of the RPF funded projects.

Externally, IPO engaged:

- Attorneys
- Novice applicants
- International IP agencies (World IP Organisation, IP Australia, etc.)
- Other regulators (particularly Care Quality Commission)

External stakeholder engagement

To validate and improve their externally-facing tool, IPO engaged in **user research activities** that supplemented the user research with internal stakeholders (see previous slide)**.** These primarily took the form of one-to-one testing sessions with intellectual property attorneys and novice users who were given access to a beta version of the tool and asked to go through a mock application process.

In addition to this, **IPO presented at conferences and private group sessions to gain further feedback from external stakeholders.** Through their engagement at conferences, IPO enhanced their network with attorneys in particular and used this, in part, to recruit for the one-to-one user research activities. The IPO's existing Research Advisory Group is a stakeholder group comprising attorneys, academics and other IP specialists formed to provide feedback on ongoing IPO projects. IPO presented their RPF-funded work to this group to gain further feedback and additional recruits for their user research.

Beyond the UK, the IPO engaged with a number of international IP organisations. This included the World IP Organisation, who IPO visited early in the project to mutually share experience, identify areas to collaborate and learn from each other. The IPO also engaged and shared learning with IP Australia. IPO have also had interest from Canadian and French IP offices and presented at a conference in Spain about the project to the European Intellectual Property Office.

IPO have engaged and shared knowledge with fellow RPF regulator, the Care Quality Commission (CQC), who are also working on an AI project.

Lessons learnt on stakeholder engagement

IPO found that **attending industry events was critical to building networks with key stakeholders such as attorneys and learning from other international IP regulators** such as IP Australia, with whom they shared knowledge due to their experience on a similar project.

IPO found that **as different IP agencies across the world aren't in competition with each other, collaboration for mutual benefit was to be encouraged.** IPO therefore contributed insight to the UN's World IP Organisation to help share their work internationally and learn from other global partners. IPO would have liked to develop stronger, deeper collaborations with international IP offices to achieve more but noted that this would have been challenging to set up. IPO explained that the key challenge is lining up the work in terms of priorities and timing so that it fits for the offices. They added that it can also be challenging for offices at a similar level of skills and desire to them (some higher, some lower) so that the collaboration isn't too one-sided.

IPO felt that the **user research activities were highly beneficial.** They felt that it may have been useful to carry out more research at an earlier point in the project but felt that there was a need to achieve a balance in terms of time, capacity and resource.

IPO also **found the interaction with CQC beneficial, but felt that BEIS could have done more to help facilitate this** with other regulators, potentially at an event like the launch event in London as IPO have limited existing links with other regulators.

🌱 Initial positive outcomes and achievements

IPO felt **very satisfied that they have successfully completed their first project exploring AI** and felt that there are now clear beneficial outcomes (in terms of efficiency savings and a smoother application process) for their internal and external stakeholders in both the trade marks and patents aspects of their work. IPO also noted that the project has **demonstrated the value of AI internally** such that the **IPO board is funding future research** after the RPF and **integrating AI into their formal transformation agenda**. Their external trade marks tool has been developed to the point of private beta testing, with a selection of users providing feedback. **Their next phase is a public beta** as part of their post-RPF work ahead of a public launch.

IPO noted that, **at this stage, the impact of their work is limited because their tools are still in development.** However they were confident, from the work completed to date, that the tools will deliver real benefits to internal and external stakeholders over the months following the case study interviews as the work continues. Their anticipated impacts are in line with the RPF goals to **enable business growth and boost value for consumers** by having a smoother process for protecting IP that ensures that applicants get the right coverage for them. This is particularly the case for smaller businesses that are more likely to be novice users and more likely to benefit from their tools. This also delivers against RPF Focus Output 3.

IPO believed that this work is laying the groundwork for future innovation in the IP sector (in line with the RPF goal to **foster a pro innovation business culture** and Focus Output 4). As an example, they noted that other IP offices around the world have been focusing on using AI to examine figurative (i.e. image-based) trade marks only. IPO is the only office looking at integrating this with word-based trade marks, which they noted account for the majority of applications. This also demonstrates the RPF goal of **projecting a pro-innovation image internationally**.

"Getting something that works and delivers a massively improved experience for our customers is incredible."
(IPO)

"They've been quite clever in how they've run the comparison between a mark and a previous mark looking at both figurative similarities and verbal similarities."
(Attorney user)

🎁 Beneficiaries of the project

Novice users (particularly small businesses) may benefit from **a smoother application process** and getting **the right trade mark coverage** for them.	Attorneys **may benefit from future iterations of the tool**, as more experienced users, through **more advanced tools.**	The UK may benefit from **a better IP system as this will attract more international innovators** who will have greater confidence in the UK IP system.	The IPO may benefit through **fewer non-compliant applications and a more efficient process** for examiners.

KANTAR

Stakeholder feedback

Attorney user

The attorney user is **an intellectual property lawyer at a major, multinational trade mark practice managing trade mark filing on behalf of clients**. The participant has experience filing applications in the UK, EU and wider world and is a regular user of the IPO's database to search for information. They typically work on behalf of larger organisations but have some smaller and charitable pro bono clients. The participant is also **a member of IPO's Research Advisory Group (see external engagement slide)** and was invited, through this, to participate in a feedback session on the external trade mark tool.

Their feedback on the user tool was that the new system **was useful for simple applications** where there is a clear breach of rules, "*but when it came to the world of looking at pre-existing marks, it really doesn't do very much more than say 'look, here's a bunch of other stuff that you might need to worry about.' It doesn't really tell you how to think that through.*" (Attorney user)

The participant felt that **the tool for examiners may be useful for attorney users** in the future - "*In an ideal world, once that AI tool is tested and trusted to some degree, something based on that would be very useful for professionals as well.*" (Attorney user) However, they noted that **the tool in its current form would likely be of no use to attorneys** as they are confident with the existing system. They felt that the RPF project focusing on novice users and examiners was "*kind of dealing with the small end of it for the users and then the big end of it for the examiners, but leaving out the professionals in the middle.*" (Attorney user)

IPO responded to this feedback by acknowledging that the tool is not designed for attorneys but disagreed that focusing on novice users represented a small issue, as novice users represent approximately half of their trade mark applications.

The attorney user viewed the tool as part of a bigger piece of work for the IPO in improving their website and online services, which they felt need updating to make more user-friendly.

Small business user

The small business user is **the inventor of a toilet-flushing aid for elderly and disabled people.** Their first experience with IPO was through patenting the invention in 2013 or 2014, with the help of a patent agent. They have more recently been dealing with IPO to renew the patent and have been considering a potential, future trademark application. **The participant was approached by IPO to be a novice user tester for their external trade mark tool** as part of the private beta.

The participant's feedback was that, in their opinion, **the new system was cumbersome**: *"If I tried to put in the name of my own product it came up with 3,000 possible related things, which is unworkable."* (Small business user) The participant also believed that **IPO could improve their tool by focusing on better understanding the user** including user journey, user needs and language that makes sense to users. The participant felt that **IPO could focus on a system to rank or filter results** similar to a Google search result or an online shopping filtering system to allow relevant results to be identified. The participant also felt that developing a bespoke AI was unnecessary for this and would likely be more costly and complex than an off-the-shelf solution.

IPO responded to this feedback by acknowledging the importance of user experience research (see next slide) but noted that this participant's feedback was not necessarily representative of the wider feedback from their sample. IPO noted, however, that the user's comments around cumbersome, high-volume search results were fair, but that a ranking system (as the user suggested) has already been integrated into the system. IPO also confirmed that their solution uses a blend of off-the-shelf AI services and custom models to deliver high quality results. This approach follows IPO's pre-project review of existing market services and solutions where they found that none met the needs of the organisation.

Therefore, while this individual feedback may not be read as representative of all stakeholders, it may still highlight a need for IPO to improve how they communicate their work (particularly in terms of the problem(s) they are aiming to solve and why their solution is the right approach) to users so users better understand its value.

Lessons learnt on enabling innovation in the IP sector

IPO noted that **working collaboratively with international IP offices enabled them to "fast track" their user research** by sharing knowledge and helping to develop their research questions and tools.

The timeframe for the later stage of the project was challenging for IPO, so they had to think of creative ways to achieve their objectives in a short space of time. **One idea they tried was a "hackathon" where they engaged a team of examiner users with service designers, developers, user researchers and product or service owners.** This group was brought together for a week-long event where they iterated quickly to build a prototype that they could then put back out for testing. IPO felt that this helped speed up their development work and is something they would definitely repeat.

IPO noted that **at times the AI nature of the work overwhelmed the focus on the business benefits and core objectives of the work**. Kantar's interpretation of this comment was that the depth of focus on the AI tool development and the breadth of opportunities they encountered occasionally resulted in the team losing sight of the bigger picture of what the AI needed to be doing for this project. They have learned that it is important to keep anchored to the core business needs through continued communication with internal stakeholders to avoid such scope creep.

IPO have learned that **user research is critical to developing a tool that meets the needs of its internal and external stakeholders**. However, the external stakeholders interviewed for this case study both had concerns with the version of the tool they tested. The small business user in particular felt that IPO needed to better understand the real needs of users. IPO also noted that finding the right balance for user research in terms of timing and allocation of resource is a challenge.

IPO reported that they have captured the feedback from users including the stakeholders interviewed for this case study. **This feedback is being incorporated into phase 3 of the project, which includes improvements to the customer journey** to address some of the common pieces of feedback. IPO noted that the time constraints on delivery for the RPF phases of the work meant that they didn't get to complete as many iterations of development and user experience research as they would have liked on the tool but are continuing to work on this. This ongoing work has already identified findings supporting evidence that users' expectations are not being effectively set and met by the current tool leading to confusion. Kantar judged that this supports the observed disparity between the user feedback in this case study (previous slide) and IPO's position. Furthermore it reinforces IPO's need for ongoing user research and stakeholder engagement, which they plan to address in their ongoing work.

Plans to disseminate learnings

IPO **presented their work at conferences and stakeholder groups** including their Research Advisory Group. They did not mention any future plans to present the work at events.

IPO **published a research paper with the findings of the feasibility study, with Cardiff University**. This paper has provided the basis of an internal paper to IPO's board to help them decide if they want to take the patents work further.

IPO also published online articles including a blog about the work completed on the project.

As the trade marks project is continuing into a further phase after the RPF funding ends, IPO will continue to explore dissemination opportunities as their work continues.

The RPF-funded work represents an early part of a wider programme of work for IPO and, as such, the full impacts of the work are yet to be realised or clearly anticipated. Furthermore, the feedback from the interviewed stakeholders highlights that IPO have yet to either fully address stakeholder needs or effectively communicate the potential value of the system to their stakeholders. However, with a view to their ongoing work on integrating AI into their services, IPO currently believe that the RPF has laid the foundations for future impacts including:

Improved clarity for novice applicants, supporting a smoother process to approval and making rejections less likely.	**Efficiency savings for examiners** allowing them to process applications more quickly and focus on higher quality appraisal of applications.	**Leading novel AI-related projects within the global IP sector** collaborating internationally and sharing knowledge.	**Facilitating UK innovation** by improving the process for innovators seeking to register and protect their intellectual property

"It wasn't like someone was watching over our shoulder with every pound we were spending." (IPO)

📈 Thoughts on how the RPF could be improved and better support regulators if the programme were repeated

- IPO were generally **very happy with the support** offered by the RPF and are **strongly considering bidding for future RPF funding** to support their ongoing work.

- IPO noted that it was important to have a **funding opportunity that allowed them to use the money in the way they saw fit** as IP is a niche topic with sector-specific processes and systems. IPO believe themselves to be the domain experts on IP so they were pleased that the fund was managed in a light-touch way (i.e. without the funder restricting or controlling the project).

- IPO's suggested areas for improvement include:

  - **Revising the administrative requirements for public bodies,** particularly in terms of documentation that they perceive to currently be more appropriate for commercial organisations and in providing greater clarity around VAT for public bodies.

  - **Improvements in the support from the monitoring officer –** IPO noted that their monitoring officer was very helpful, however needed to cover the project details at each quarterly meeting going over old ground. IPO felt that an officer with more sector-specific knowledge or more frequent meetings with the officer would avoid this.

  - **More information up front about requirements and fund administration –** IPO noted that a little more support and information up front would have been useful in helping them plan their projects, particularly in terms of fund phasing and auditing requirements. In the case of the latter, they felt that the need for an audit came as a surprise. IPO felt fortunate to have an internal auditor to manage this but note that there was no funding for the audit, which they would have preferred.

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Case study 5

Ofcom

Using blockchain for telephone number management

Project at a glance – Using blockchain for telephone number management

Role as the regulator

Ofcom is the regulatory and competition authority for the broadcasting, telecommunications and postal industries of the United Kingdom.

They help to make sure people across the UK are satisfied with what they see and hear on TV and radio, and that programmes reflect the audiences they serve. They provide advice and information to people through their website and call centre, registering complaints from people and businesses. This helps them to take action against firms when they let their customers down.

In regard to the telecoms sector specifically, Ofcom's work covers issues of infrastructure and competition as well as protecting consumers from harmful practices such as nuisance calls and unfair contracts.

Project vision

Ofcom explained that their project is a **proof of concept** to demonstrate whether blockchain technology can be used to solve problems around **telephone number portability** and **nuisance calls and fraud**.

Number portability is a regulated facility which allows customers to keep their numbers when changing telecom providers and is currently inefficient. Nuisance calls and fraud refer to calls where scammers target consumers by pretending to be somebody they're not.

Blockchain offers increased transparency between users and is resilient because the number database can be replicated. Updates can be seen in real-time, by all users. It therefore has the potential to improve customer experience when moving a number between providers, and reducing incidents of nuisance calls and fraud.

"It's a proof of concept project, so an early look rather than an implementation of a solution." (Ofcom)

Motivations for RPF bid

The project team explained that they recognised the RPF as an opportunity to address the aforementioned problems within the sector.

They said they wanted to use the UK number management and UK porting process for landline telephones as a user case reference model with a view to increase their understanding of the **capability of the technology** and understand **how they and their stakeholders might use it in the future**.

"We had a conversation with BT …and they noted that it was probably an appropriate time to revisit some of the ways that numbers are managed in the UK - particularly how they are ported." (Ofcom)

"I think broadly now everybody agrees that it's necessary. The question now is what is the right approach to use." (Ofcom)

Main activities involved

- Presentations and meetings with stakeholders to secure buy-in and active collaboration
- Developing and testing two concepts:
  - **Telephone management platform** – to address problems around number portability
  - **Digital identity wallet** – to address problems around nuisance calls and fraud by creating mechanism to authenticate calls
- Ofcom also set up two internal sandboxes (that they may widen out to external organisations in future). The purpose of these was to look at uses and implementation of blockchain technology

Focus RPF programme outputs – see slide 3

1. New business innovation through new licencing or sandbox regimes

3. Reduced time or cost of introducing business innovation

5. Improved consumer confidence in innovation

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Understanding of the problem and RPF purpose

Kantar understood that there are two key challenges Ofcom is trying to address with their project.

The first key issue is **inefficiency of number portability**. Numbers are moved between service providers using an old fashioned way of routing traffic through networks, which is inefficient as it means that consumers often won't be able to use their number during the switching period. This causes inconvenience for individual consumers and has a large economic impact on business consumers who may be unable to operate at full capacity during the switching period.

"This is not just a bit of a pain - it's actually got significant economic impact on some business customers." (Ofcom)

Ofcom also explained they have been noticing an issue of **scammers targeting consumers**, as a result of insufficient methods for authenticating calls. Tackling nuisance and scam calls is an ongoing priority for Ofcom to protect consumers from harm.

Kantar understood that Ofcom found the purpose of the fund clear at the point of application, but that there were aspects of the fund that they felt didn't fit their project. These are discussed on the last slide.

Challenges in setting up the project

The project team explained that a challenge in the set up of their project was around **resourcing.** Ofcom needed programmers to develop the software behind the 'telephone number management' platform, and as they do not have programmers that are based internally they had to outsource the task.

Further, Ofcom are bound by IR35 legislation, which makes contracting less attractive because it means that contractors pay the same amount of tax as permanent employees. This makes Ofcom a less attractive destination *"for the resources [they] need to build technical, innovative platforms"* and consequently securing the right people took longer than anticipated.

"We don't have programmers in Ofcom - we have to go out and get them…getting the skill sets and resources under IR35 is a problem." (Ofcom)

Another challenge that Ofcom described experiencing was related to the **stability of the blockchain** needed to build the platform itself, causing delays as a new code base had to be released. This issue was due to the "*immaturity of blockchain technology*". Because it's a relatively new technology, new versions and updates are regularly released, with older versions no longer being supported.

Lessons learnt on project set up and planning

Through project set up, Ofcom explained that they learnt about how to collaborate internally to meet the aims of the project.

Ofcom talked about the fact that they **collaborated more broadly and less formally** than they usually would. They brought together colleagues from different teams and, rather than relying on a structured governance process, were able to bring together an informal network of people from various teams across the organisation based on their interest.

Kantar understood that this was beneficial for Ofcom's progress as it allowed them to pull people in to help on an ad-hoc basis and receive input from staff members with different areas of expertise.

"We still had all our governance boards and everything else, but if we needed to pull people in we could do so unofficially and informally, just through people's interest and desire to help the project. That felt right for the project. " (Ofcom)

"It didn't need to be so formal as some of our policy projects." (Ofcom)

Internally, Ofcom engaged

Wider organisation

Staff members from various teams in the organisation through informal network and sandboxes

"Everyone is keen to see how we can use technologies to improve regulation, and that runs through the entire organisation in Ofcom. So getting people engaged is not a problem as long you're open, you listen to them and you start embedding some of that feedback into the process and people see it." (Ofcom)

"It's about bringing everyone on the journey." (Ofcom)

Nature of internal engagement and response from the organisation

The project team explained that they engaged their own organisation in a range of ways. They engaged widely with other teams (such as policy, competition and consumer protection) within Ofcom by **giving presentations and running workshops** to explain their project. They found it easy to engage people as staff were enthusiastic to learn about the ways in which technology can be used to improve regulation, and found that the presentations and workshops they ran were effective in educating colleagues about the proof of concepts being developed and the technology behind them. The project team emphasised the importance of *"bringing everyone on the journey"* by giving people a chance to input their thoughts and ideas to improve their work and secure internal buy in. They said that the response from within the organisation was overwhelmingly positive and that internal engagement played a part in changing mindsets within Ofcom about the potential of technology within the regulatory space.

"We will be introducing this technology and how it can underpin and support the tech consumers… in that regard we are educating and changing mindsets within Ofcom about what the art of the possible is, and how we can extend that art across many different things." (Ofcom)

A senior member of the project team explained that Ofcom successfully applied for additional funding to create two **sandboxes** when it became clear that the technology they were exploring had other relevant applications to their sector, such as digital identity. These sandboxes pulled together staff from different teams with the purpose of getting input from across the organisation on uses and implementation of technology. As a result of the blockchain sandbox (the digital identity sandbox is yet to launch), Ofcom felt that they have a better understanding of the capability of the technology, which has helped them in developing the platform and will be helpful also when addressing future problems where technology is relevant.

So far, all sandboxing has been internal to Ofcom only (no external stakeholders have been involved), and they are using some of the outputs to inform their policy thinking. They are currently formulating plans for how to include external stakeholders in their discussions, however the strategy lead highlighted that it has been more difficult to get engagement with external parties recently due to COVID-19.

In addition to the formally appointed project team, Ofcom said that they pulled together an **informal network of staff from various functions** (e.g. legal, strategy, finance). They did this by discussing and presenting the work they were proposing, and staff were brought in based on their interest and desire to help.

Externally, Ofcom engaged

A range of UK telecom providers

ITSPA (trade association)

NICC (UK telecoms technical standards organisation)

Office of Telecommunications Adjudication

Other UK regulators (e.g. ICO and FCA)

"We got their active collaboration.. we've developed a proof of concept system that is now undergoing testing, firstly internally, but then on a distributed basis." (Ofcom)

External stakeholder engagement

Ofcom said that they engaged with about 20 external stakeholders throughout their project. These were all companies from the **UK telecoms industry that use telephone number resources**, and included several large companies such as BT and Vodafone, as well as smaller ones such as Gamma and Magrathea Telecom. Ofcom highlighted the importance of engaging smaller organisations as these tend to be *"more aligned to the new technology"* due to their recent entry to the market, and therefore increased tendency to make use of the latest technology to deliver voice services.

A **trade association** (ITSPA) provided Ofcom with a list of telecoms providers to contact. Through engagement, Ofcom was hoping to gain support for reviewing processes by testing the products, and support for adopting new technologies in the future. Ofcom felt that they secured an **active collaboration** with stakeholders, giving advice, testing the platform and providing feedback.

The project team said that they engaged with stakeholders through various avenues: a **forum** set up by a standards body (NICC), through **individual meetings,** and through a **liaison group**.

The liaison group functioned as a steering group where Ofcom would present project progress to various representatives from industry to hear their views and get feedback form them, which they found useful to help work through technical challenges. They would also ask representatives from industry to champion the project within their own organisations.

Ofcom worked with ICO and FCA on the significance of data protection rules and their application to new technologies and found this helpful in furthering their understanding of data management and blockchains.

Lessons learnt on stakeholder engagement

Ofcom said that the biggest challenge they faced in regard to stakeholder engagement was around **managing expectations**. Stakeholders had various expectations around the project. Some misunderstood Ofcom to be working towards implementing a solution rather than developing a proof of concept, while others incorrectly believed that Ofcom were going to make the adoption of new technology mandatory – an approach that they did not like. However, Ofcom found that stakeholders were generally keen to listen to their ideas and cooperate due to the fact that number portability is a long standing problem in the sector that affects several organisations.

"At the beginning there were these expectations on it, both positive and negative, and we had to change and get people thinking a bit differently." (Ofcom)

Ofcom said that the best way to manage stakeholder expectations and gain their trust was by being **honest and upfront** in communications about the scope of their project. They explained that **engaging with stakeholders at an early stage** helped enable them to learn and develop together and promote a willingness to look at this 'old' problem in a new way. Ofcom felt that this approach also enabled a more open relationship between them.

However, one stakeholder interviewed said that, although they were engaged early on, they were disappointed to find that collaboration decreased after the initial stage. This is explained on the stakeholder feedback slide.

🌱 Initial positive outcomes and achievements

Ofcom said that they have built a initial platform to enable number management that has been tested and received feedback, and have built a second version that will be undergoing testing imminently. By doing this they have shown to the sector that **innovation through technology is possible**, which may open avenues for implementation and ultimately fulfil RPF evaluation outputs 3 and 5 and overall goal of enabling economic growth. The project team explained that they have secured high-level buy in for testing the latest version of the platform by sending out a letter to CTOs at four key stakeholder organisations.

Ofcom also reported having talked to **international regulators who are keen to see their work** (primarily Mexico and Cyprus), which suggests that the project has started promoting a pro-innovation image for a UK regulator, one of the RPF goals. A senior member of the team explained that Ofcom have also used the work they've been doing on the project to feed into a **formal consultation process** that they launched last year to look at the options for technological solutions to the number portability issue. However, they emphasised that, as the project is still ongoing, there is not yet consensus within the sector on whether technology using blockchain will be the solution that is adopted to improve number portability. The project team mirrored this by highlighting that, as a sector, telecommunications is still in the early days of implementing blockchain technology and that the next couple of months will be instrumental in solidifying thinking around how this can deliver impact and boost value for consumers.

The project team talked about having built **strong relationships with sector stakeholders** over the course of their project, contributing towards the RPF goal of fostering a pro-innovation business culture in the UK. They described stakeholders as being enthusiastic about contributing to the project and this was reflected in Kantar's discussions with stakeholders. However, the project team also suggested that it might have affected how Ofcom's capabilities are viewed within the sector, but Kantar's interpretation was different. One of the stakeholders expressed some doubts over whether Ofcom will be able to encourage enough organisations to adopt new technology, and worried whether the momentum built up during the project will be maintained long-term.

"It makes people look at regulators and say actually wow they're doing something different, they're trying to fix a problem in a way that isn't using regulatory tools. So maybe there's a little bit of something else there about what our capabilities are." (Ofcom)

"We're trying to fix a problem for them, they can recognise that. At the same time we're building something we can use and the sector can use, so it's a win-win for us." (Ofcom)

🎁 Beneficiaries of the project
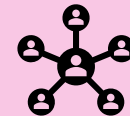
Ofcom will benefit by increased knowledge of innovative technology, influencing their future work. They also expect to benefit from stronger relationships with stakeholders	If the proof of concept leads to a solution being adopted, consumers could benefit from more seamless switching process and a reduction in nuisance calls and fraud	The project lead said that telecom providers could benefit in the future by their knowledge of technology from having been involved in testing, and if proof of concept leads to adoption, by gaining access to the platform	Regulators in other countries may benefit from learnings once project has been concluded, by applying these to their own organisations

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👥 **Specific stakeholder feedback**

Magrathea Telecom

Magrathea Telecom are a UK supplier of managed, next-generation voice services to business clients. Their General Director sits on the council of ITSPA (trade association), and through them got involved in Ofcom's RPF funded project.

They explained that they have been involved throughout the duration of the project. They contributed to **concept development** at the beginning and have helped to **test and give feedback** on the first version of the 'telephone number management' platform, and are currently helping to test the second version. They lamented the fact that development took longer than hoped which illustrates the point Ofcom raised about the importance of managing stakeholder expectations.

"It's been much slower than I would have hoped." (Magrathea)

Magrathea emphasised that the project team had been very communicative and proactive, and were very happy with the contact with Ofcom. They said that it has been effective in **opening up discussions and has raising awareness** within industry, having been highlighted at several industry events, and praised the fact that Ofcom are seeking to address an issue with a big impact on consumers.

However, they did express some concerns about whether this proof of concept will ultimately lead to a solution. Ofcom does not intend to mandate a solution, and Magrathea questioned whether the process will carry enough weight to create change within the industry without a stricter approach.

"Industry might not have the impetus for change." (Magrathea)

BT

BT funded their own project on blockchain in 2018 which generated interest within the telecom industry towards use of technology as a means of addressing the issue of number management, portability and telephony fraud. For the Ofcom initiative, BT explained that they **provided knowledge and expertise in the initial phase of the project**, however they felt that they were not consulted or involved as much as they would have expected after that, but did not know why this was the case. They would have expected and liked to have fed into the design and functionality aspects of the platform development as they would have been able to do so based on their own experience in this area.

"It's been very much Ofcom's project. We haven't had much influence since September last year." (BT)

At the time of the interview, BT had received a letter inviting them to evaluate the latest version of the technology, and would be starting this shortly. However, they thought that **meaningful testing would be difficult** as the timeline for completing testing was too brief and the viability of the PoC environment as a test platform was likely to be questionable, explaining that delays to the project caused by technology challenges prevented a meaningful evaluation of anything more than blockchain network basics.

In response to this, Ofcom acknowledged that although they have done some basic testing, technical challenges prevented the scaled testing they had wished for. They ran two blockchain networks – one which was distributed and one hosted on the Azure PoC environment. They shut the community network down and reopened the Azure one in order to finish off testing work and cover most of BT's questions, and will be meeting with BT again to run through elements they could not achieve. They highlighted that, although it will not have met their desired goals of a full evaluation, they have proven a number of elements and can see how it can be used to support future digitised regulation and other service areas.

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RPF Evaluation – Final case studies

Lessons learnt from effort to enable innovation in the telecom sector

Ofcom said that the key lessons they learnt were around **external collaboration and the technology itself.**

The project team reiterated the importance of **engaging stakeholders at an early stage** and **working on things together.** They did this within the project by involving stakeholders through both development and testing of the platform. The team talked about the fact that they made sure to be **easily contactable and communicative** to maintain positive working relationships, and about the importance of being **open and honest** about their progress to manage expectations.

Ofcom explained that they had worked with stakeholders in a slightly different way than before**.** Normally they would be liaising with regulatory affairs departments and through formal channels such as information requests and established forums. However, in this project, the project team had worked directly with the technology counterparts within stakeholder organisation, and they found that this was beneficial in giving them **a more well-rounded view of the organisation**, and therefore more knowledge that they can use when making decisions around policy.

"I think you get a more holistic view of how an organisation operates and what its priorities are, which then informs your approach to wider policy issues." (Ofcom)

The project team explained that they learnt **how to engineer the software** for the 'telephone number management' platform. Due to the complex nature of the technology and it being unfamiliar to Ofcom, they learnt through trial and error, Kantar understood that, through building and testing the platform with stakeholders, they have learnt about important **functionality and design** aspects. A senior member of the project team highlighted that the sandboxes set up to look at uses and implementation of technology had given those involved a **better understanding of the capability of the technology** – knowledge that could be useful for other applications besides the 'telephone management platform' and 'digital identity wallet'.

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Plans to disseminate learnings

Internally, the project team is **presenting the platform to Ofcom staff**, and they will be looking at how to apply the learnings from the project to other responsibility areas.

"We haven't made a final decision on what we will do. We certainly will write something up for general consumption for best practice and to write up what we did. [Team member] is also internally presenting the platform to people. We haven't really decided yet what we will do externally." (Ofcom)

However, they have not yet made a decision on external dissemination, although they confirmed that they will compile a write up of the process. They said that they believe they **are committed to publishing public papers on their blockchain work**, in which they will cover performance, costs, findings and learnings.

They explained that they have already delivered design documentation to the NICC (UK technical standards body) in order for the technical community to learn about the platform Ofcom have built, but that this will not be publicly published. In addition, the project team said that they would like to open source the platform i.e. make it freely available to download on the internet.

The RPF supported the Ofcom effort to enable innovation in their sector, providing value in a range of ways:

Increasing understanding of innovative technology and how it can be applied to problems in the sector	More holistic understanding of stakeholders, meaning more aligned approach on policy issues in future	Enabling collaboration with the sector by involving stakeholders in the development and testing process	Building momentum within the industry to find a solution to a long standing problem.

"We have changed people's thoughts and ideas and got them moving. From a regulatory innovation project that's fantastic, so the whole industry now is engaged and regardless of whether this platform is successful they want to resolve the problem and they want to resolve it in the next two years. Everyone's enthusiasm and drive to resolve the problem is kicking in and we're going to work hard to maintain that." (Ofcom)

Thoughts on how the RPF could be improved and better support regulators if the Programme were repeated

Ofcom were very pleased with the fact that RPF funding allowed them to work towards a possible solution to important issues within the sector and set up sandboxes. The following suggestions for improvement were offered:

- The **award structure** caused some issues. For example, Ofcom explained that not being able to claim VAT which means 20% of the award is lost straight away, and that they would have liked more flexibility in terms of how the funding was split so as to avoid having to give back money that they couldn't spend.

- Ofcom also felt that the evaluation **metrics** could be updated to more accurately reflect their intentions. They felt that the metrics relied too heavily on commercialisation, and therefore did not adequately take into account how Ofcom works as an organisation (i.e. they are not a go-to-market organisation) and the scope of their project (as a proof of concept).

- Ofcom felt that the **communication** with BEIS could be organised differently. They highlighted that their contact with the BEIS official was helpful, but that they would have wanted easier access to someone who could empower them, for example in their discussions about the funding structure. They suggested having a straight line of communication with the project board where they could ask questions in written format and receive a written response. They also said they would like more communication about future editions of RPF and suggested giving people a quarter's notice so regulators can prepare by running internal innovation competitions.