

# Innovation Sandboxes: Complex Ambitions into Measurable Results

Innovation Sandboxes for Government and The Public Sector.



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# Introduction

**Traditional procurement is designed for buying clearly defined solutions, but it struggles with complex, less well-defined problems that demand engagement across multiple stakeholders or domains. At the other end of the spectrum, academic research excels at deep theoretical exploration, but often lacks the grounded, industry-driven focus needed for effective technology application.**

**Sandboxes bridge this gap: a structured environment where government, industry and regulators work together to generate evidence, test options, and shape solutions that are both credible and usable — all at commercial speed.**

An innovation Sandbox is more than a test bed — it is a structured environment that brings government, industry and technology providers together around a shared challenge.

Within the “walls” of the Sandbox, stakeholders can experiment under lighter constraints, align priorities, and see how new technologies perform in practice. Evidence is generated quickly and iteratively, without the financial, operational or regulatory risks of live deployment.

The result is collaboration with purpose: real-world insights delivered in weeks, not years.

This Safetytech Accelerator guide to Sandboxes provides a clear framework for addressing multi-layered problems.

**It's done in weeks, not years.**

**“In a Sandbox, the conversation shifts from selling products to solving problems together.”**

# Who Uses Sandboxes and Why

**Innovation Sandbox programs are structured, real-world testing environments where new technologies, industry partners, and regulators collaborate to experiment and solve a defined challenge. Sometimes this involves a dedicated physical site where technologies can be piloted; other times it is purely virtual – defined by the collaboration, the agreed guardrails, and the intent of the partners involved.**

**Sandboxes are a flexible model, typically led by:**

**Regulators** – running regulatory Sandboxes to test how innovation interacts with rules and compliance, and to generate evidence that informs policy and guidance.

**Public sector departments and agencies** – exploring how specific technologies can address their priorities, and how government can best engage with or enable those innovations.

**Private sector problem owners and asset holders** – using Sandboxes to tackle dedicated challenges within their operations, working with technology providers to test and prove solutions in a safe, structured way.

**A Sandbox moves much faster than academic research, while challenging the traditional ethos of vendor contracting – allowing ambitious, complex problems to be tackled together.**



# Who Uses Sandboxes and Why

## Why a Sand Box?

- **Problem-led, not product-led:** Work begins with the sponsor's problem statement and success measures. Technologies are selected because they address the problem, not because a vendor is pushing them.
- **Collaboration over reports:** Regulators, industry and experts co-design and test together. The output is traceable evidence that supports decisions, not just another document.
- **Safe space to innovate:** Trials are run in controlled or simulated conditions with agreed safeguards. Regulatory settings are clarified or eased where appropriate to de-risk testing for all parties. accelerates adoption.
- **Evidence to decision:** Findings are structured and packaged into policy options, procurement pathways and adoption playbooks – so leaders can move from exploration to action with confidence.

'When you have both time and the money, and you're fighting for market leadership from an already strong position. You're comfortable owning and maintaining a complex tech stack that's critical for your market differentiation.'

# Who Uses Sandboxes and Why

## The Trigger to Use a Sandbox

When the problem is complex, less well defined, or requires collaboration across multiple domains.

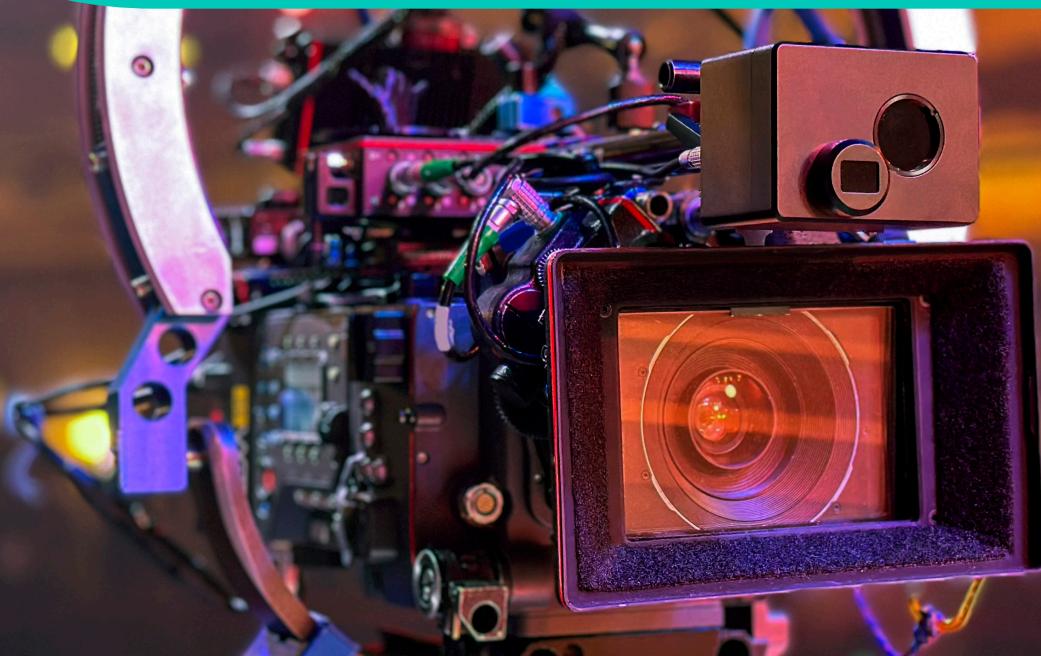
When you need real-world evidence and working answers — not just theory or advice — a Sandbox is the right tool.



# Four Key Stages to The Journey

Problem owners need a different way to innovate. The Safetytech Accelerator Sandbox approach makes that change practical by pairing vendor-neutral scouting and disciplined experiments with traceable evidence.

We bring novel technologies and problem owners into controlled trials, capture what works, and convert it into procurement specifications, regulatory guidance and an adoption playbook.



# Four Key Stages to The Journey

Here's how to start your own Sandbox:

## 01 Sandbox Design

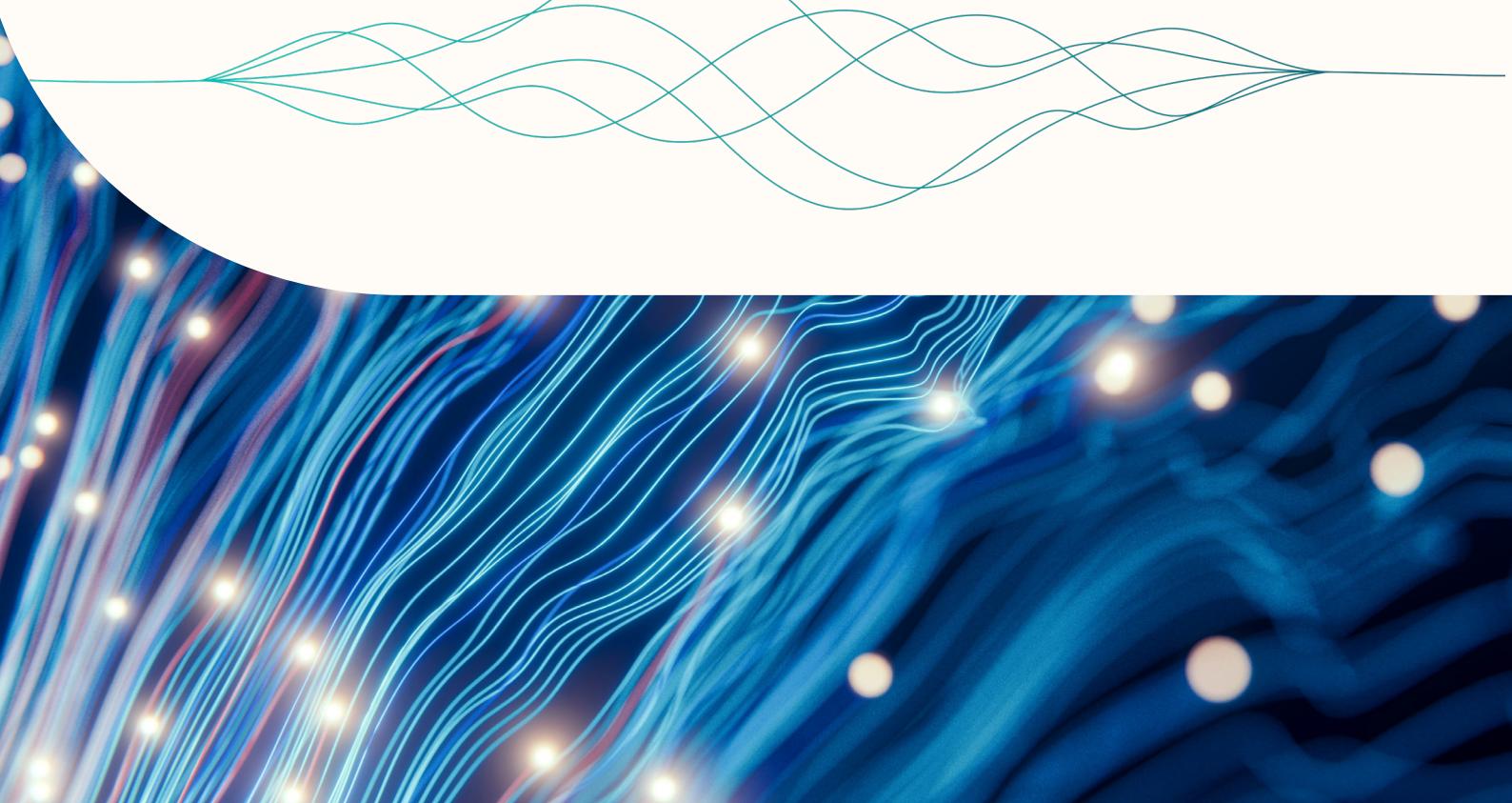
We start by framing the “essay question” – a strategic problem that matters.

- Examples: How can regulation data be better provisioned for digital tools?  
How can low-carbon materials be scaled on UK roads?
- We refine the question to make sure it's real, relevant, and connected to wider priorities.
- We define who should be involved: start-ups, corporates, academics, regulators and set the value proposition that will attract tech into the space (access to data, funding, expertise, or markets). 1.

## 02 Sandbox Design

We open a public call for ideas and invite participants to respond with how they would approach the question and what their own goals are.

- We actively scout and engage, running due diligence to ensure alignment.
- We build a diverse cohort of participants with the right mix of technologies, perspectives and motivations.
- Mentors from industry and government are mobilised early and treated as core contributors, not just observers.



# Four Key Stages to The Journey

## 03 Experimentation

Each project begins by defining clear success measures. These are shaped both by the technology company's ambitions and by the sponsor's priorities.

For example, in one Sandbox a regulator wanted to understand how best to provision regulatory data for emerging applications, while a participating start-up aimed to prove that regulatory data could be ingested into an LLM and turned into a valuable service for end-users.

Teams then run hands-on experiments: building proofs-of-concept, integrating real data, and engaging directly with frontline users for feedback.

In practice this can mean a start-up working with the regulator to access and interpret datasets, while also testing use cases with industry clients who would benefit from the service – all within the same Sandbox.

We test three things systematically:

- **Demand:** Is there genuine customer need?
- **Value:** What impact does it create, and at what cost?
- **Feasibility:** Is it technically and practically possible?

The most promising solutions are then piloted in live environments with safeguards, moving decisively beyond theory into practice.



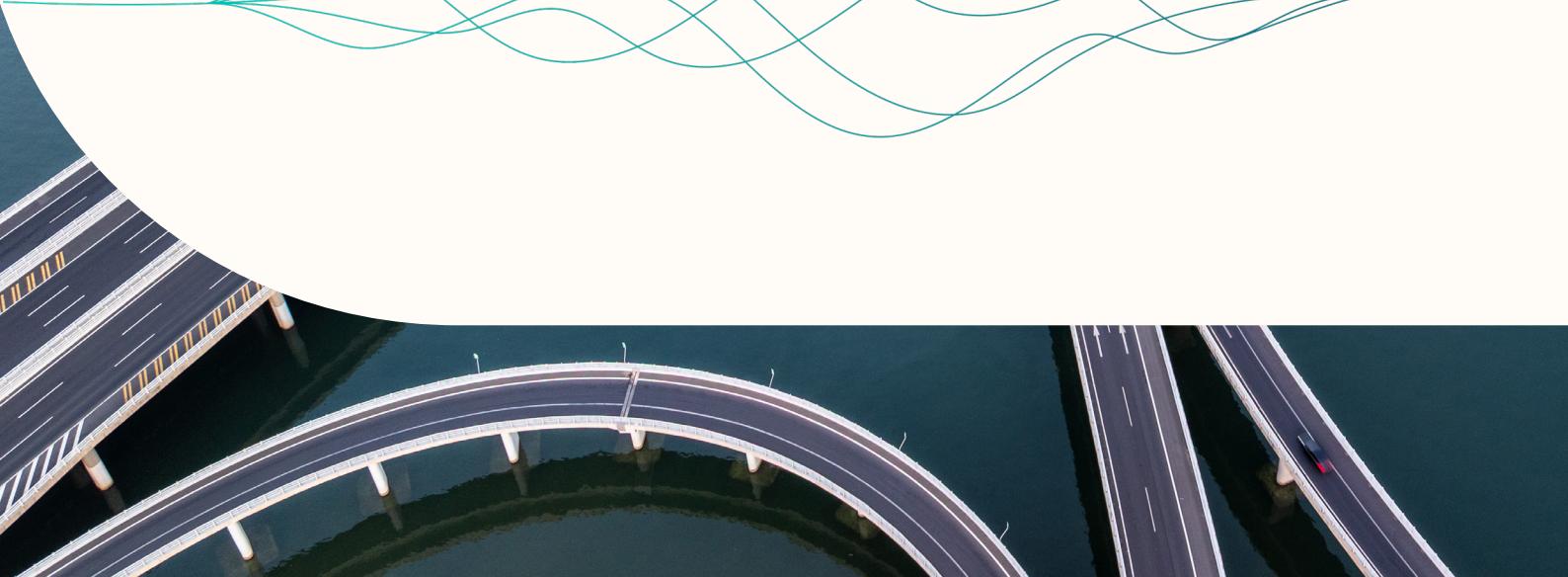
# Four Key Stages to The Journey

## 04 Legacy & Impact

A Sandbox is designed to generate knowledge and turn it into action. We don't just capture results, **we package them into usable outputs** and drive change through multiple avenues.

**A Sandbox is designed to generate knowledge and turn it into action. We don't just capture results, we package them into usable outputs and drive change through multiple avenues.**

- Procurement pathways and adoption playbooks: practical tools that shorten the route from trial to deployment.
- Product roadmaps: feedback and data that help technology companies refine features, improve usability, and accelerate growth.
- Partnership models: frameworks for ongoing collaboration between regulators, problem owners and innovators.



# A Valuable Difference

**Government innovation is at a crossroads. Traditional approaches often produce lengthy reports and slow consensus, whereas technological advancements demand decisions supported by usable evidence.**

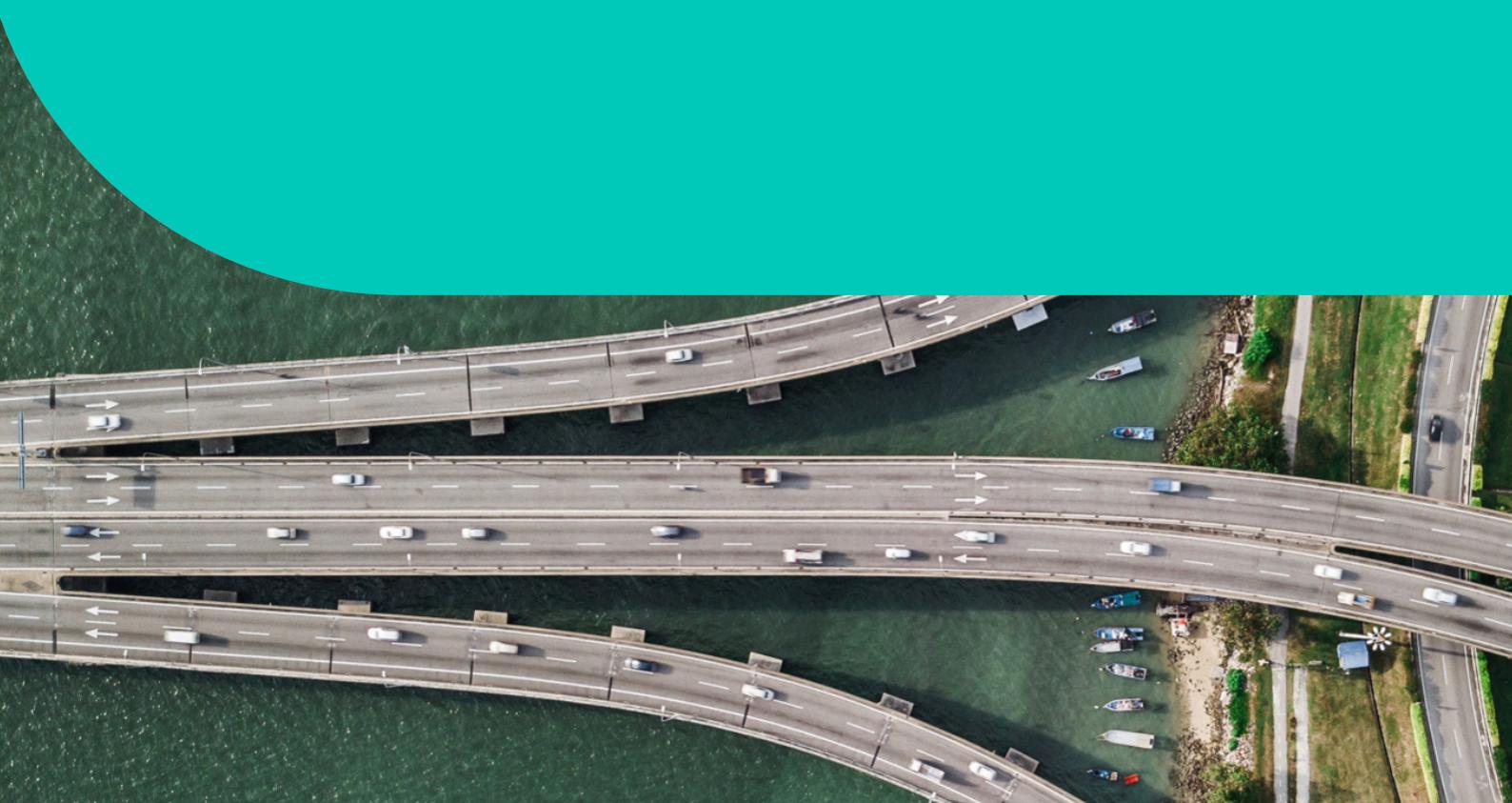
Agencies need a different model that puts the problem owner at the centre, runs disciplined experiments with the regulator at the table, and translates results into policy, procurement and delivery.

## For Regulators

- Repositioned as facilitators of innovation rather than just enforcers.
- Strengthened feedback loops between regulation, innovation and market adoption.
- Gained actionable insights into how emerging technologies (e.g. AI, automation) intersect with regulation and compliance.
- Knowledge generated directly informs policy development and future regulatory approaches.

## For Technology Companies

- Refined solutions in line with both regulatory and client drivers.
- Secured new contracts and industry partnerships.
- Improved product accuracy and usability with real-world feedback.
- Identified barriers to adoption (e.g. data quality, lack of standards) and worked with regulators to address them.
- Built credibility and market readiness by demonstrating impact in real-world contexts.



# A Valuable Difference

## For the Wider Economy & Tech Ecosystem

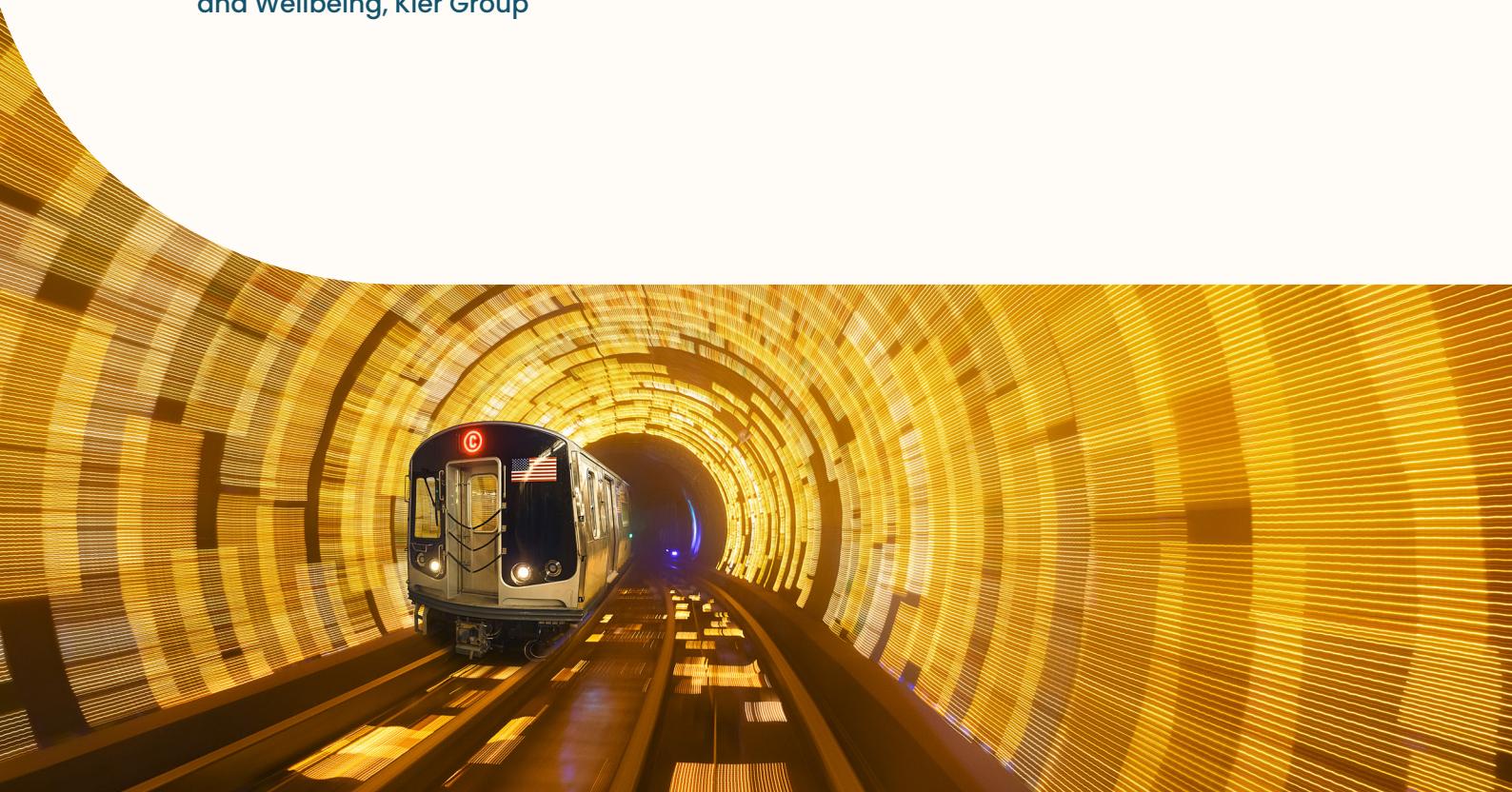
- Fosters new partnerships between government, regulators, industry and start-ups.
- Reduces barriers to entry for innovative companies, making it easier for them to bring solutions to market.
- Stimulates the growth of emerging technology sectors aligned with public needs (e.g. safety, sustainability, digital regulation).
- Creates repeatable models that can scale across industries, accelerating diffusion of innovation

## For End Customers (Industry Problem Owners)

- Gain access to solutions tested with their needs at the centre.
- Benefit from tools and products refined through real-world use and feedback.
- Reduced risk in adopting new technology—they know what works, under what conditions, and with what safeguards.
- Ultimately, safer workplaces, more efficient processes, and lower costs through smarter compliance and adoption of innovation.

**'When you have both time and the money, and you're fighting for market leadership from an already strong position. You're comfortable owning and maintaining a complex tech stack that's critical for your market differentiation.'**

James Bird, Group Head of Health Safety and Wellbeing, Kier Group



## CASE STUDY: ACCELERATING INDUSTRIAL SAFETY INNOVATION

# Smarter Regulation Sandbox (SRS)

## The Challenge

**The UK construction sector faces significant safety challenges: in one year alone, 69,000 workers suffered work-related ill health and 45 lives were lost. A major factor is the complexity of the regulatory landscape. Regulations are available online but not in a machine-readable form, leaving companies with a high compliance burden and limited ability to leverage digital tools.**

## Key Question:

How can digitalisation of regulations reduce burdens, accelerate compliance, and ultimately make workplaces safer?

### The Sandbox Approach

Launched in 2024, the Smarter Regulation Sandbox created a safe space for regulators, industry, and technology providers to explore solutions together.

- Exploration: How machine-readable regulation and structured data can reduce compliance costs and improve safety.
- Collaboration: Regulators, construction firms, and tech providers co designed and tested solutions.
- Technology application: Start-ups integrated regulatory data into their products, demonstrating AI and data analytics in action.

### Support provided

- Guidance and data access from the Health and Safety Executive (HSE).
- Direct mentorship from major construction industry players.
- Structured innovation support to refine ideas into practical outcomes.
- Promotion and engagement across industry networks.



## CASE STUDY: ACCELERATING INDUSTRIAL SAFETY INNOVATION

# Smarter Regulation Sandbox (SRS)

## Outcomes for Technology Companies

- **Plinx:** Enhanced SiteOS with AI-driven compliance checks; identified barriers such as unstructured data and lack of standards.
- **Comet Analysis:** Used HSE data to create proof-of-concept AI compliance tools, tested in real-world contexts like Eurotunnel.
- **Pillar:** Piloted real-time fatigue monitoring; flagged 13% of workers daily as suboptimal, leading to app improvements and expansion plans.
- **Evercam:** Validated AI for comparing planned vs. actual construction progress; integrated weather data for risk prediction.
- **Navatech:** Commercialised AI copilots for real-time HSE insights; improved accuracy from 88% to 94%; secured three industry contracts.

## Outcomes for Government & Regulators

- Strengthened HSE's position as a proactive, innovation-supportive regulator.
- Validated the Open Regulation Platform (ORP) as a machine-readable, structured source for real-time compliance tools.

- Created a repeatable Sandbox framework now inspiring other regulators (e.g. FSA).
- Drove dedicated engineering and development work in government to better provision data for regulatory innovation technology providers

## Wider Impact

- Advanced digital-first innovation in regulation, setting a pathway for AI and analytics in compliance.
- Built new partnerships between government, industry, and technology providers.
- Demonstrated how Sandboxes can translate regulation into practical tools that improve safety and efficiency.

**“The Sandbox built really close relationships with the HSE and new clients, which made it much more efficient to collaborate. That trust also seeded new ideas and drove the development of our product.”**

Tommy Williams, PLINX CEO/Founder





# About Safetytech Accelerator

If you're facing a high-stakes problem that demands both speed and certainty, Safetytech Accelerator can help design and run a Sandbox that delivers trusted evidence, accelerates adoption, and builds stakeholder confidence.

Contact our team to discuss your challenge, explore relevant case studies, and outline how a Sandbox could work in your environment.

Visit us at [safetytechaccelerator.org](https://safetytechaccelerator.org)

We partner with corporate and institutional clients in high-risk industries to address their most critical challenges in occupational safety, health, risk, performance, and sustainability.

By providing strategic innovation advice, supporting the identification, and piloting of new solutions, running corporate accelerators and sandboxes, collaborative initiatives, and bespoke innovation programmes, we help them solve complex problems with the world's best technologies.

Safetytech Accelerator was established by Lloyd's Register in 2018 and incorporated as a business in 2021. To date, we have partnered with over 60 industrial organisations with more than three million employees and a combined annual revenue of \$2 trillion.

We have engaged over 600 technology companies and delivered over 70 emerging technology projects and deployments for clients, including Amazon, PepsiCo, Maersk, Shell, National Safety Council, Seaspan Corporation, Health and Safety Executive, and Anglo American.

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