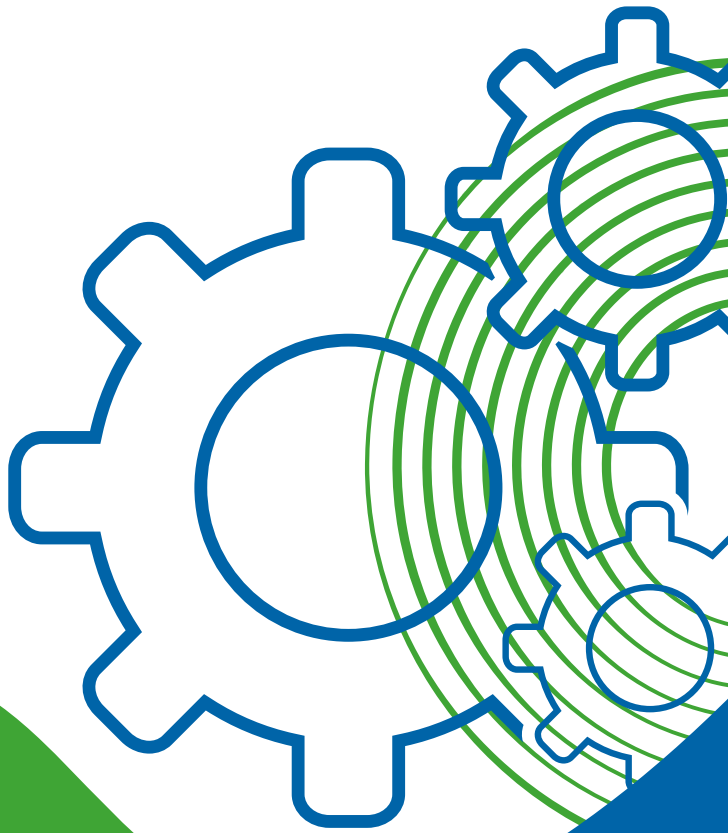
Department for Transport

ADEPT LIVELABS2 Decarbonising Local Roads

Centre of Excellence for Decarbonising Roads

Toolkit for innovators entering the roads industry

2026



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Disclaimer: This report is a living document

It captures insights and learning from the Barriers to Decarbonising Roads Sandbox at a specific point in time. The pathways, and recommendations reflect real experiences of stakeholders in the industry.

We welcome your feedback

As the sector continues to evolve, we actively welcome feedback, challenge, and additional perspectives. Your input will help shape future iterations of this work and inform what comes next. Please scan the QR code below to provide any feedback:

How to Enter the UK Roads Sector: A Strategic Blueprint for Startups

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Introduction

The UK roads and highways sector offers significant opportunities for innovation in decarbonisation, materials, and digital infrastructure, but the path to market requires strategic understanding of a complex, relationship-driven ecosystem. This playbook synthesises insights from industry practitioners, local authorities, Tier 1 contractors, testing facilities, and previous innovators.

The aim of this toolkit is to provide **startups & innovators in the roads industry** with a practical **guide for successful market entry**.

The playbook is structured on the four key pillars of success in the UK local roads sector:

1. **Understanding how decisions are made** across a fragmented procurement landscape, including who controls budgets, who specifies standards, and where pilots fit.
2. **Building relationships with the right people** inside local authorities, particularly those willing to support and push an innovation internally.
3. **Validating technology against recognised standards** and real local road conditions, with evidence that demonstrates clear value to cost-conscious councils.
4. **Designing pilots that local authorities genuinely want to run** and can realistically adopt if they work.

Acknowledgements

Special thanks go to the startups, mentors, local authorities, Transport Scotland, universities, and contractors for their openness, insight and determination to challenge existing practice within a complex and risk-averse sector. Their contribution has shaped the national understanding of how innovation can be embedded in the highways industry.

Live Labs 2, is a three-year, UK-wide £30 million programme, funded by the Department for Transport, aimed at decarbonising the local highway network. It includes seven projects, grouped by four interconnected themes, led by local authorities working alongside commercial and academic partners. North Lanarkshire Council, with support from Amey, leads the north campus for the Centre of Excellence for Decarbonising Roads, while Transport for West Midlands, with support from Colas, leads the south campus, creating a national framework for collaboration and knowledge sharing.

The Centre of Excellence for Decarbonising Roads provides a national focal point for decarbonisation in the roads sector and maintains a Knowledge Bank that captures emerging approaches. This activity supports knowledge sharing and helps authorities track developments aligned with decarbonisation objectives.

The Market Playbook: Your Blueprint for Launch

SECTION A: THE MARKET PLAYBOOK – HOW TO ENTER THE UK ROADS SECTOR

1. Understand How Decisions Are Made

1.1 Understanding different authorities in the UK

The UK roads sector is a complex ecosystem of decision-makers operating at different levels with varying appetites for innovation.

National level (England, Scotland and Wales)

At the national level, overarching standards and regulations are set by:

- **National Highways (England):** Operate 4,500 miles of the Strategic Road Network (motorways and major A-roads) across England[1]
- **Transport Scotland:** Operate 2,300 miles of Scotland's trunk road network[2]
- **The Welsh Government:** Operates 1,000 miles of Wales' motorway and trunk road network[3]

These bodies are responsible for their respective strategic or trunk road networks and establish the technical, safety and operational requirements for road design, construction and maintenance. Alongside these national bodies, local authorities are responsible for the vast majority of the UK's road network (with the exception of Northern Ireland). While local standards are often influenced by national frameworks, councils retain flexibility in how specifications are applied to local roads.

[1] Roads we manage - National Highways
[2] Chapter 4: Road Network | Transport Scotland
[3] Improving our roads | Welsh Government

Local Authorities (England, Scotland and Wales)

Local authorities operate the majority of the UK road network across England, Scotland and Wales, managing local and minor roads outside the strategic or trunk networks. These networks are managed by local authority county councils, unitary authorities, and metropolitan districts.

- **England:** 317 local authorities manage approximately 167,000 miles of road, representing around 88% of all roads[4]
- **Scotland:** 32 local councils manage approximately 30,000 miles of road[4]
- **Wales:** 22 local authorities manage approximately 18,000 miles of roads[4]

Local authorities are generally also resource-constrained with no clear innovation budget, meaning that conversations with people from local authorities are critical.

The Department for Infrastructure (DfI) Northern Ireland

DfI is responsible for all public roads in Northern Ireland, making its procurement and governance more centralised than elsewhere in the UK.

It has 11 local councils and approx. 16,000 miles of roads[5]. This makes engagement simpler once key contacts are established. DfI is also implementing a Procurement Enhancement Programme, creating potential entry points for new suppliers.

1.2 Understanding the supply chain dynamics

Road maintenance delivery in the UK does not follow a single, uniform supply chain. Instead, it varies by authority. Understanding which model an authority operates under is critical for identifying decision-makers, entry points, and routes to adoption. Innovators must be aware of these when deciding who to propose their innovation.

Contractor-led (principal contractor) model

In many authorities, road works are commissioned by an **asset owner** and delivered via a **principal contractor** model:

- **Asset owners / clients** (e.g., local authorities and National Highways) define the need, tender & award contracts (often via frameworks).
- **Tier 1 / principal contractors** (e.g., Tarmac, Kier, Amey, Colas) win and deliver the works and manage delivery risk.
- **Suppliers** include specialist SMEs, asphalt producers, materials suppliers, and subcontractors that provide products and services to use on site.

[4] Road lengths in Great Britain: 2021

[5] Northern Ireland Road Network and Condition Statistics 2023-24

In this model, delivery risk, insurance, and performance liability usually sit with the Tier 1 contractor, while local authorities often retain influence over material acceptance, trial permission, and alignment with policy priorities such as carbon reduction or sustainability.

What this means in practice:
Innovations should **support contractor delivery objectives** and **align with authority priorities**. Startups may therefore engage with both the authority and the Tier 1 contractor, particularly ahead of tenders, to enable innovations to be incorporated into bids as part of the contractor's value proposition against authority priorities.

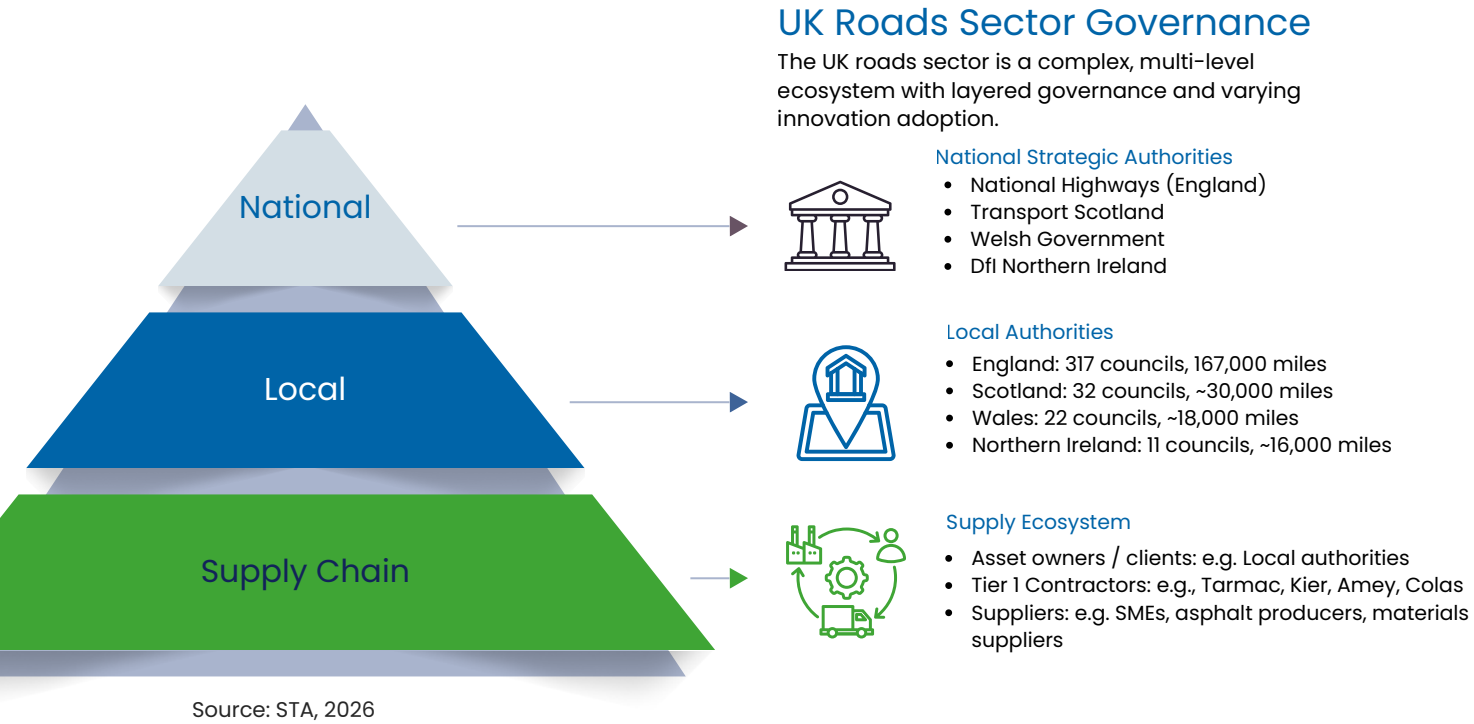
Direct Labour Organisation (DLO) model

Some authorities, typically in Scotland, deliver road maintenance directly using in-house teams through a Direct Labour Organisation (DLO). In these cases:

- The local authority acts as both **client and delivery organisation**, controlling budgets, programming, materials selection, and testing.
- External contractors and suppliers are typically engaged only for larger, specialist, or capital-intensive schemes.

DLO authorities often directly fund trials and manage operational risk, particularly for small-scale or incremental testing within routine maintenance programmes.

What this means in practice:
Startups can typically **engage directly with council highways, materials, or operations teams.** Authorities can identify suitable schemes, approve trials, and introduce innovators to relevant contacts, where needed. Decision chains are often shorter, but **budgets are tightly constrained** and closely managed.



Source: STA, 2026

1.3 Current Trends and Opportunities in the Market

Several powerful market drivers are currently shaping the UK roads sector, creating genuine opportunities for new materials and approaches:

Carbon Reduction Imperative

The UK's Net Zero 2050 commitment is translating into real demand for lower-carbon road materials and construction methods. Local authorities face increasing pressure to demonstrate emissions reductions in their road maintenance and new construction activities. Councils are actively seeking lower-carbon materials and processes, particularly where these can be delivered without significant cost premiums.

Sustainability and Circular Economy

There is strong demand for innovations that cut material use, enable reuse, and reduce transport emissions, such as in-situ recycling, recycled or waste-derived materials, and solutions that extend pavement life. However, environmental benefits alone are not enough: councils expect equal or better performance and competitive cost compared to conventional materials.

Regional Variation

UK road challenges vary by region due to differences in geology, climate, and specifications. Fenland areas (Norfolk, Suffolk, Cambridgeshire, parts of Lincolnshire) struggle with peat and soft clay, while Scotland and Northern Ireland have largely granitic geology. Wales and southern England face their own ground and rainfall conditions. Therefore, solutions must be positioned regionally: technologies that work in Scottish granite may not be suitable for East Anglian peat.

Chronic Underfunding

Many authorities want more preventative over reactive maintenance, but in practice chronic underfunding means many remain stuck in a largely reactive mode. For startups, this creates two opportunities:
(1) materials and approaches that credibly extend pavement life and reduce repeat interventions, and
(2) innovations that can evidence strong whole-life cost and performance benefits
These are more likely to be trialled as authorities look for ways to shift gradually toward preventative maintenance. However, with limited innovation funding, councils will only support trials that solve real local problems and involve a realistic, shared-risk approach.

2. Build the Right Introductions

2.1 Understand the stage of your innovation

Technological Readiness Level (TRL)

Before approaching industry professionals or applying to innovation programmes, you should have a clear and honest view of how mature your technology is. The UK Government uses the **Technology Readiness Level (TRL)** framework (Levels 1–9, where Level 9 represents a fully commercialised product) to assess innovation maturity, and it is widely used by funders, local authorities, and contractors to determine what type of engagement, testing, or trial is appropriate.

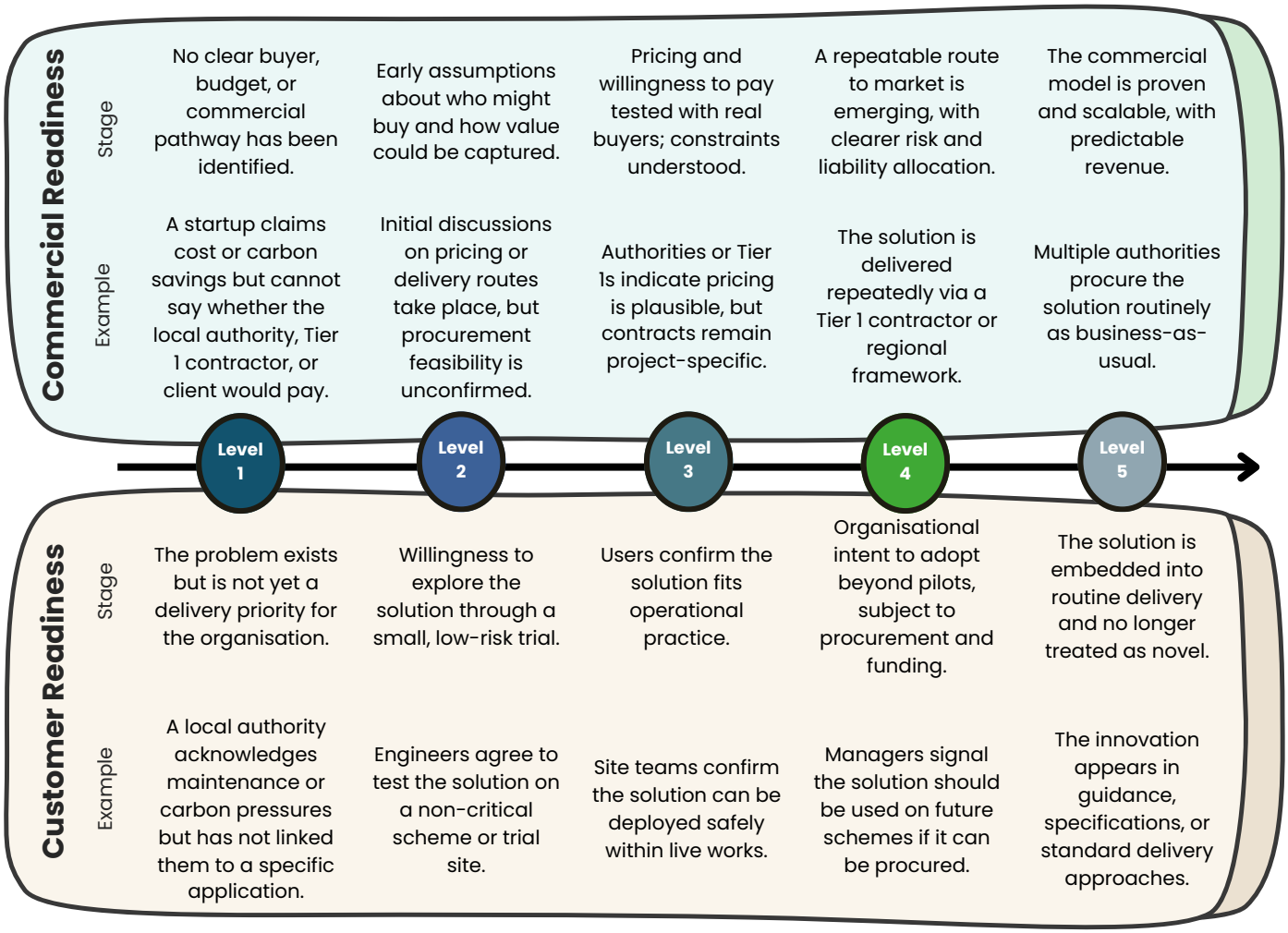
Most local authorities are unwilling to trial materials below TRL 5-6. They need evidence that the approach works at reasonable scale.

There's a critical gap that many startups encounter: getting from TRL 4 (academic proof of concept) to TRL 6 (pilot-ready). This gap is precisely where partnerships with universities, national laboratories, Tier 1 partners, or formal programmes (Live Labs 2) can help.

Commercial & Customer Readiness Levels

Commercial Readiness Level (ComRL) describes how prepared an innovation is to be sold, procured, and sustained at scale. It focuses on the viability of the business model rather than the technical performance of the solution. Customer Readiness Level (CRL) describes how prepared organisations are to adopt and use an innovation in practice, including their willingness to change established ways of working.

In the roads sector, customer and commercial readiness develop in parallel rather than sequentially with customer readiness often advancing through trials ahead of commercial readiness due to complex procurement and risk structures.



In practice, **Commercial Readiness** in highways is unlocked when **Customer Readiness** within local authorities is established, with identified champions, operational fit, and intent to adopt rather than simply trial.

2.2 The Decision-Making Hierarchy

Innovation adoption in highways is driven from the **technical level upward,** rather than from senior management downward. Successful engagement depends on identifying the individuals who understand, assess and ultimately enable the deployment of new materials and technologies.

Primary Contacts: Technical Practitioners

The most effective starting point is with technical practitioners, such as:

- **Pavement engineers**
- **Materials engineers**

In a well-structured local authority, there is typically one key technical lead whose remit includes evaluating new materials, engaging with standards bodies and overseeing trials. These individuals often sit within county laboratories or specialist highways teams. They have the technical expertise to assess the feasibility and performance of innovations and can authorise or sponsor small-scale trials within existing frameworks.

Supporting and Influential Roles

Alongside technical leads, several other roles play an important part in the adoption process:

- **Asset managers:** influence investment decisions and maintenance strategies
- **Procurement officers:** understand how materials and services are incorporated into specifications and contracts
- **Environmental or carbon reduction leads:** increasingly shapes procurement and approval decisions

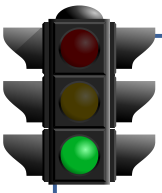
Identifying and engaging this broader group helps ensure that an innovation is both technically credible and commercially viable within the authority's operating constraints.

The Role of Senior Leadership

Senior highways leaders, such as Directors of Highways or Heads of Service, operate primarily at a strategic level. Their focus is typically on policy alignment, funding, governance and stakeholder management. While their support can be valuable at later stages for scaling, early engagement at this level is often less effective and usually results in redirection to technical teams.

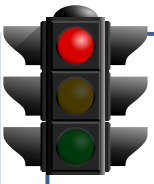
Figure 2: Who Should you Talk to

Approaching the right stakeholders dramatically accelerates your path to deployment. The wrong contacts waste months and damage your credibility.



Pursue These Contacts

- **Pavement engineers / Materials engineers:** Technical expertise with authority to trial innovations.
- **Asset Managers:** Budget authority and maintenance focus
- **Procurement Officers:** Understand standards and material approval processes
- **Environmental/ Carbon Officers:** Increasingly influential in decision-making



Avoid These Contacts

- **Director of Highways:** Wrong level, politics-focused rather than technical
- **Chief Executives:** Too strategic, limited operational involvement
- **Elected Councillors:** Political considerations outweigh technical merit

These contacts may seem impressive but they rarely have the technical authority at the implementation level.

Source: STA, 2026

Figure 3: Professional Platforms

National Bodies

IAT, CIHT, IHE, ADEPT, Highways UK provide direct practitioner access.

Associations & Regional Forums

MPA, REA, RSTA, provide forums and technical committees with regular engagement opportunities.

Innovation Platforms

Live Labs 2, CEDR, LCRIG provide curated and formal innovation contacts.

County Labs

Norfolk, Lincolnshire, Staffordshire, Derbyshire, Devon, Hampshire, Northumberland and Teesside labs offer direct access to materials testing practitioners.

Source: STA, 2026

2.3 How to Find the Right People

There are various types of professional platforms outlined below. They play a central role in bringing practitioners together to shape how innovations are understood, compared and progressed.

Advice for startups:

- Start by identifying the platform right for you based on the type of innovation.
- Learning how to access the platform eg. Through associate memberships.
- Identify the stakeholders that align to your solution, and track the themes that come up repeatedly.
- Use the relevant platform to test fit: does your solution match the problems being discussed?
- Listen, iterate your messaging and approach, and then aim to share your idea through a talk, case study or show-and-tell.

1. National Professional Bodies

National professional bodies provide visibility across large numbers of local authorities and major contractors. They also help shape shared priorities and sector-wide understanding of emerging issues.

Institute of Asphalt Technology (IAT)

The Institute of Asphalt Technology is a professional body for engineers and practitioners working in asphalt design, production and application. It plays a key role in knowledge-sharing, technical guidance and professional development across the asphalt sector.

For startups, IAT provides opportunities to sense-check technical assumptions, and a credible forum to discuss performance evidence with those responsible for specifying and delivering asphalt on the ground.

The Chartered Institution of Highways & Transportation (CIHT)

The Chartered Institution of Highways & Transportation is the professional body for people working across highways, transport infrastructure and network management. It influences professional standards, policy thinking and good practice across local authorities, consultants and contractors.

For startups, CIHT offers visibility into how highways decisions are made, and a platform to position innovations within wider discussions on asset management, sustainability and network performance.

Institute of Highway Engineers (IHE)

The Institute of Highway Engineers (IHE) is a national professional body representing highways practitioners across local authorities, consultancies, contractors and academia. While it does not set standards or approve products, it plays an important role in shaping professional practice and convening the engineers who influence specification, trials and adoption.

For startups, engagement is typically most effective through attending open events, regional branch meetings and conferences, which provide visibility, early feedback and relationship-building opportunities with practitioners.

Highways UK

Highways UK brings together local authorities, Tier 1 contractors, consultants and national bodies through conferences, forums and technical sessions. Their events are widely used by practitioners to exchange knowledge on delivery challenges, procurement constraints and emerging technical approaches.

For startups, Highways UK provides exposure to the wider highways ecosystem and an opportunity to understand how innovations are discussed in a delivery and procurement context.

Association of Directors of Environment, Economy, Planning & Transport (ADEPT)

ADEPT represents over one hundred local authorities and convenes technical working groups and specialist forums that bring together senior practitioners from across the country. These forums influence collective thinking on policy direction, asset management priorities and the types of innovation local authorities are prepared to explore.

For startups, ADEPT offers insight into where councils are collectively willing to explore new approaches.

Scottish Collaboration of Transportation Specialists (SCOTS)

SCOTS is a strategic collaborative body representing Scotland's 32 local authorities and seven regional transport partnerships. Playing a pivotal role in the design, delivery and maintenance of the nations transport systems, SCOTS contributes to innovation and performance improvement across the network.

For startups, SCOTS provides a single entry point to engage multiple Scottish local authorities on real transport challenges and scale adoption.

2. Supply Chain and Associations

The materials supply chain plays an important role in shaping what is deliverable at scale within the highways sector. Startups can typically engage by joining as associate or affiliate members, which grants access to technical committees, working groups and member forums.

Mineral Products Association (MPA)

The Mineral Products Association represents the materials supply chain and contributes to discussions on standards, specifications and production realities. Its work influences how materials are assessed for practicality, consistency and long-term viability within the market.

For startups, engagement with the MPA provides early insight into how new materials are viewed by producers, helps align innovations with real manufacturing constraints and build credibility with producers early.

Road Emulsion Association (REA)

The Road Emulsion Association represents manufacturers and suppliers of bitumen emulsions used across maintenance and surface treatments. Its work influences specifications, testing methods, and acceptance of new emulsion technologies, including those aimed at reducing carbon, lowering temperatures, or improving durability.

Engagement with the REA is particularly relevant for startups working on low-carbon binders, bio-based emulsions, or novel chemistry that must integrate into existing asphalt and maintenance practices.

Road Surface Treatments Association (RSTA)

The Road Surface Treatments Association represents contractors and suppliers involved in surface dressing, micro-surfacing and preservation treatments used widely by local authorities. It plays an influential role in shaping good practice, technical guidance, and client confidence around surface treatments, particularly where whole-life performance and cost efficiency are priorities.

For startups developing new binders, additives, or surface treatment technologies, RSTA provides direct insight into operational realities and routes to early adoption on local roads.

3. Regional Practitioner Forums

Regional forums support practitioner-level collaboration and knowledge exchange within defined geographies. They are frequently where shared interpretations of standards and good practice develop. Key regional and specialist practitioner forums include:

- Eastern Pavement Forum
- Transport Scotland Pavement Forum
- Flexible and High Modulus Roads Group (FHRG)
- Future Highways Research Group

For startups, they reveal local risk appetite and informal consensus that often shapes adoption decisions and can help to frame their innovations credibly before trials, procurement or specification discussions.

4. Innovation and Collaboration Platforms

Certain organisations are structured specifically to convene councils, industry and innovators around emerging solutions and innovation activity.

The Local Council Roads Innovation Group (LCRIG)

The Local Council Roads Innovation Group (LCRIG) is a community interest membership organisation that connects local authorities with suppliers, innovators, academia, and central government to support the development and adoption of innovation in local roads. With all English highways authorities in membership, as well as representation from Scotland and Wales, LCRIG provides a trusted forum for collaboration and practical discussion around the challenges faced by the sector. It does this through national events such as the Innovation and Learning Festival, regional engagement, working groups, webinars, and shared learning activities.

For start-ups, LCRIG provides an accessible entry point to build visibility and engage directly with local authority practitioners across the LCRIG community and through initiatives such as funded places at the Innovation and Learning Festival. In addition, working alongside Crown Commercial Service, LCRIG developed a route to market for innovative SMEs through the Innovation Procurement System (IPS).

2.3 The Role of Independent Advisors

Independent advisers can add real value because they bring sector credibility and active practitioner relationships, and can sit on a startup's advisory board. They help startups find the right technical champions, understand sector dynamics, secure credible introductions, validate problem–need fit, and navigate standards. This type of support is most effective once a startup has a reasonably developed product and a clear hypothesis about market need.

Relevant adviser profiles include:

- Retired highways professionals
- Consultants with deep sector experience
- Local leads or individuals with operational expertise in the target market, particularly for international startups

Engagement Best Practices

Ask diagnostic questions before pitching	Send cold emails to senior executives
Listen more than talk (70/30 rule)	Use generic pitch decks
Follow up in writing consistently	Communicate one-way without listening
Build relationships over months	Expect quick decisions
Demonstrate understanding of regional problems	Ignore regional variations and local context

2.3 Strategic Sequencing of Conversations

The recommended sequence for building introductions is:

Phase 1: Understand Market Context

First, establish a clear understanding of the road problem you're addressing and where in the UK that problem is most acute. Have conversations with 5-10 practitioners across different authorities and forums to understand if your problem statement is real and how it manifests regionally. During these conversations, you're not pitching, you're asking diagnostic questions about challenges, current practices, and constraints. These conversations help you refine your value proposition to be problem-focused rather than solution-focused.

Phase 2: Identify Champions

Through these initial conversations, you will typically identify 1-2 practitioners who genuinely understand the problem you're addressing and who have expressed interest in potentially trailing a solution. These are your champions. Once identified, deepen the relationship and understand what evidence or validation they would need to consider a pilot.

Phase 3: Explore Formal Programs

Once you have a clear problem and hypothesis, investigate whether there are active programmes that align with your innovation to accelerate deployment timelines and get relevant funding.

Phase 4: Co-develop Pilot Approach

Rather than designing a pilot unilaterally and presenting it to councils, work with your champion (and potentially with your formal programme if you've accessed one) to design a pilot that they genuinely want to run. This might involve understanding their specific road conditions, maintenance schedule, performance metrics they care about, and budget availability. The pilot design should emerge from this conversation, not precede it.

Phase 5: Engage Tier 1 Partners

Once you've identified a willing local authority partner and have a clear pilot design, engage Tier 1 contractors who can execute the trial and provide implementation insights. The local authority you engaged with may introduce you to their current contractors to arrange trials. A Tier 1 partner brings manufacturing capability, project delivery experience, and importantly, credibility in the sector. This is where you transition from pilot to potential commercialisation.

However, it is important to note that the order of the conversation between local authority, Tier 1 partners, or National Highways will differ depending on the conversations and the people you meet at the different touchpoints.

Figure 4: Sequence for building introductions

Source: STA, 2026

3. Validate Your Technology in the Right Order

3.1 Understand which standards to align with

The UK roads sector operates within layered statutory, technical, and assurance frameworks. Some requirements apply nationally, while others vary by jurisdiction, road authority, and asset ownership. Together, these shape how materials are approved, trialled, adopted, and procured. Startups must therefore understand both the national baseline and the regional variations that influence validation and deployment.

At a statutory level, highways activity in England and Wales is underpinned by the **Highways Act 1980**, which defines the duties of highway authorities. In Scotland, the Roads (Scotland) Act 1984 is the Scottish equivalent of the Highways Act 1980.

In practice, however, material approval and assurance are driven by standards, specifications, and contractual frameworks set by the relevant road authority, rather than just by the Act itself.

National Baseline Standards

Across the UK, a common set of technical standards underpins how highways are designed, built, and maintained by local authorities and road operators. There is applicable specification set for each country- and contract/version-dependent. These standards form the baseline reference point for much of the wider highways sector. Most important ones are:

- **Standards for Highway Works (SHW)** – the primary specification governing materials, workmanship, testing, and quality requirements and is provided in country-specific versions. It sits inside the Manual of Contract Documents for Highway Works (MCHW).
- **Design Manual for Roads and Bridges (DMRB)** – the overarching design, safety, operational, and environmental standard, which references SHW for material specifications
- **Manual for Streets (MfS)** for residential and low-speed environments

The SHW is the principal document against which road materials are assessed. Key SHW clauses relevant to materials innovation include:

- Clause 803 – Unbound sub-base materials
- Clause 821 – Bound sub-base materials
- Clauses 1003–1006 – Asphalt surface courses
- Clauses covering binders, aggregates, recycled materials, secondary aggregates, and additives

Note: SHW clause numbering and requirements can vary by country and edition/contract version, so cross-check clause references against the version you are working to on Standards for Highways.

Conforming and non-conforming materials

Materials proposed for use are assessed against the relevant SHW clauses.

A **conforming material** fully satisfies the applicable SHW requirements for its intended use and performance characteristics. Where conformity is demonstrated, the material may be used within National Highways works subject to contractual and project-specific requirements.

A **non-conforming material** does not fully meet one or more SHW requirements. Use of such materials requires submission of alternative evidence demonstrating equivalent or superior performance. Approval is typically sought through an **Alternative Specification** process, which involves additional testing, technical justification, and formal review, and may extend approval timescales.

Quality and competency assurance

Suppliers operating on National Highways projects must comply with the **National Highways Sector Schemes (NHSS)**. These are sector-specific quality and competency frameworks accredited by the **UK Accreditation Service (UKAS)**. For innovative or non-standard products, this is often complemented by product certification via the British Board of Agrément (BBA) and its Highways Authorities Product Approval Scheme (HAPAS), which assess the performance and suitability of highway products against defined acceptance criteria.

Examples of UKAS-accredited certification and assurance bodies active in highways include **BSI**, **LRQA**, **SGS**, and **Kiwa**, which provide independent verification that supports decision-making by local authorities and contractors.

Relevant NHSS schemes for material suppliers typically relate to:

- Road surfacing and paving
- Manufacturing and production
- Structures, fasteners, and coatings

NHSS certification requires:

- Compliance with the relevant Sector Scheme Document
- Audit by a UKAS-accredited certification body
- A quality management system aligned with **ISO 9001** or equivalent
- Evidence of workforce competence and training

Certification is issued for three years, subject to surveillance audits.

Carbon and environmental requirements

From December 2025, all contractors and sub-contractors on National Highways projects must demonstrate compliance with **PAS 2080**, the specification for carbon management in infrastructure. PAS 2080 requires:

- Identification and quantification of embodied carbon in materials
- Whole-life carbon assessment covering construction and operation
- Defined carbon reduction targets and governance arrangements
- Supply chain transparency and collaboration

Material suppliers are expected to provide robust, evidence-based carbon footprint data. Alignment with **ISO 14001:2015** environmental management systems is increasingly expected.

3.2.2 England

Local highway authorities in England manage the majority of the road network and operate under standards regimes that may differ from National Highways. While national standards are often referenced, councils retain significant discretion.

When selecting a local authority for a trial, it's important to review local requirements early. Most councils publish their own:

- Highway Design Guides
- Construction Specifications
- Adoptable or Declared Standards

These documents interpret national standards in line with local asset strategies and maintenance practices.

Material approval and adoption

- Local authorities are not required to follow National Highways approval routes.
- Non-conforming materials may be considered where:
    - o Equivalent performance is demonstrated
    - o Whole-life cost and maintenance risk are acceptable

Please note: Innovative materials may be accepted for trials but refused for adoption without sufficient long-term evidence.

3.2.3 Wales

Wales broadly follows the same technical standards as **the national standards**, but supplements them with guidance reflecting Welsh geography, climate, and policy priorities.

Welsh Government trunk roads

Welsh Government trunk roads apply Wales-specific adaptations, including:

- **Welsh Government DMRB Notes of Guidance** – adapting DMRB to Welsh geography, climate, and policy context
- **Highways Adoption Advice Notice (March 2023)** – guidance emphasising flexibility and fitness for purpose in adoption standards

Welsh local authority standards

Welsh local authorities publish **Declared Highway Standards** governing roads intended for adoption. These typically:

- Reference DMRB for trunk and higher-speed roads
- Apply Manual for Streets for residential environments
- Explicitly allow site-specific departures where justified

Examples include:

- Cardiff Council Technical Design Standards
- Carmarthenshire County Council Highway Design Guide
- Rhondda Cynon Taf Council Highway Standards

Formal adoption processes apply, but the structured flexibility creates opportunities for innovative materials supported by evidence.

3.2.4 Scotland

Transport Scotland manages the Scottish trunk road network and has its own specification framework.

Key standards include:

- **TS2010 Surface Course Specification**
  - o Governs stone mastic asphalt and other surface courses
  - o Specifies aggregate grading, binder properties, fibre additives, and durability requirements
- **Table 2.2S – Permitted Pavement Surfacing Materials**
  - o Identifies materials permitted for use on Scottish trunk roads
  - o Distinguishes between automatically permitted materials and those requiring Approval to Proceed
- **Scottish Road Reinstatement Specification**
  - o Governs reinstatement following road openings and utility works
  - o Specifies asphalt materials, compaction methods, and granular materials

However, compliance with SHW requirements does not automatically transfer to Scotland's trunk road requirements. Separate testing and approval aligned with Transport Scotland specifications is typically required.

Scottish local authority standards

Scottish local authorities do not necessarily use TS2010.

3.2.5 Northern Ireland

In Northern Ireland, trunk roads and roads intended for adoption by the **Department for Infrastructure (DfI)** are governed by the **Design Manual for Roads and Bridges**, as set out in **RSPPG E003 (Roads Design Standards)**.

Key elements include:

- Mandatory application of DMRB to DfI trunk roads
- Design Exception Memorandum (DEM 180/19) for departures from DMRB requirements
- Residential road standards under:
    - DMRB, or
    - Creating Places guidance, and
    - Private Streets (Northern Ireland) Regulations 1994

Local authorities (11 councils) have limited flexibility for locally maintained roads, but engagement with DfI is often required where innovative materials are proposed.

3.2 Understand where to get evidence

There are county-run testing laboratories, private laboratories and specialised research institutions like the Transport Research Laboratory and universities. These labs differ significantly in their approach to startups and new materials.

County-Run Laboratories

County-run testing laboratories in the UK play a central role in generating and interpreting the technical evidence used by local authorities to assess new materials and construction approaches.

As one mentor described the role of local authority laboratories:

> "If a startup comes to us, we can talk to them with an understanding of what certification or testing we need from you first."
>
> *Lincolnshire County Council Highways Engineer*

The laboratories operated by local authorities are in the following locations:

- Norfolk
- Lincolnshire
- Staffordshire
- Derbyshire
- Devon
- Hampshire
- Northumberland
- Teesside

County laboratories are typically guidance-oriented and work collaboratively with startups to design staged testing pathways, starting with low-cost screening and progressing to full specification testing only where results justify it.

This approach can save significant time and cost. Their close alignment with local authority engineers and regional conditions also means they help shape evidence that decision-makers trust and advise on locally appropriate testing strategies.

Scottish Road Research Board (SRRB)

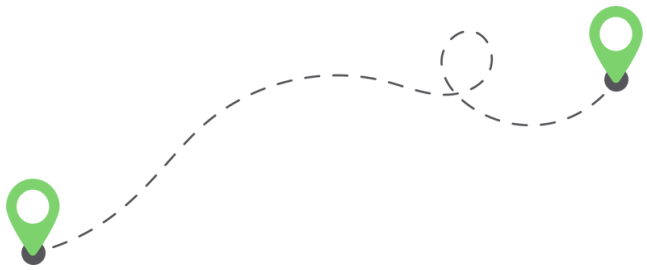
The Scottish Road Research Board (SRRB) undertakes technical assessments and evidence-based reviews to support Scottish local authorities in improving road materials, practices, and performance across the network.

Private Testing Laboratories

Private laboratories typically operate on a transactional basis. Startups specify the tests required, pay upfront, and receive test results. Private laboratories generally provide less guidance on test selection or staging. This approach can be faster and, in some cases, more specialised, particularly where niche equipment or rapid turnaround is required. Some examples include:

Practical highways lab evidence (UKAS-accredited testing)

- JL UK
- Construction Testing Solutions (CTS)
- Simtec
- Celtest
- Socotec



Lab testing + product certification:

- SGS
- Kiwa
- Intertek

University Testing and Research Laboratories

Universities offer an alternative testing and validation route, particularly for novel materials, low-carbon binders, or approaches that fall outside established specifications. They are well suited to exploratory testing, fundamental material characterisation, and research-led evidence generation that can underpin future standards or approvals.

Institutions with well-established highways and materials research capabilities include:

- **University of Nottingham**, asphalt and pavement research through the Nottingham Transportation Engineering Centre
- **Aston University**, asphalt, materials engineering, accelerated performance testing
- **University of Leeds**, with pavement engineering and materials durability facilities
- **University of Birmingham**, road asset management, civil engineering materials, and low-carbon construction
- **University of Liverpool** – asphalt and materials research
- **Swansea University** – asphalt and pavement materials

Costs and routes to access university support

University work is rarely free, but startups can manage cost through three common routes:

1. **Independent reporting of existing data** – academics review and verify existing test results and produce a formal report (typically the lowest-cost option).
2. **PhD or research student projects** – students undertake defined research aligned to the innovation, with much of the cost covered by the university or public funding.
3. **Knowledge Transfer Partnerships (KTPs)** – a salaried researcher is placed within the company for ~2 years, jointly supervised by the university; SMEs typically cover part of the salary and overheads.

How to engage with universities:

Discuss the specific research questions and testing support required. Share any existing evidence for independent review and advice on next steps.

Initial conversations with academics help determine the most cost-effective route based on technical maturity, evidence gaps, and budget. While university testing is typically slower than commercial labs, it can generate peer-reviewed evidence and deeper insight that builds credibility, de-risks early-stage innovation, and informs future specification development.

Transport Research Laboratory

The Transport Research Laboratory provides specialist testing and research services across highways and transport, including safety testing, crash testing, materials performance and whole-life assessment. Its outputs are widely recognised across the sector and can carry significant weight with national bodies and large contractors.

Product certification: BBA and HAPAS

Laboratory testing alone may not be sufficient to support wider acceptance. In these cases, structured third-party product assessment and certification can provide additional assurance.

- **British Board of Agrément (BBA)** – provides independent assessment of construction products for fitness for purpose, durability, and performance.
- **Highways Authorities Product Approval Scheme (HAPAS)** – operated by BBA, offers a recognised assessment route for highway products that fall outside standard specifications.

What this means for startups:

BBA/HAPAS certification should be considered once early trials are successful, to support wider acceptance and reduce adoption risk.

What Councils Trust

Councils are risk-averse for good reason as they manage public assets with limited budgets. They trust certain types of evidence more than others:

Most trusted:

- Accredited laboratory testing from county labs (as councils work with them regularly and understand their standards)
- Accredited laboratory testing from private or university labs (but may not provide the full scale of analysis needed for a local council)
- Long-term field performance data (5+ year performance records from operational roads)
- Data from similar geological/climatic regions (for example, Norfolk council will place more weight on evidence from similar fenland conditions than from Scottish trials)
- Performance data from well-regarded local authorities in similar regions
- Formal trial data from Live Labs 2 or equivalent programmes (because these involve multiple authorities and standardised evaluation)

Moderately trusted:

- Tier 1 supplier endorsement or co-development (important signal thatestablished players see value)
- Data from pilot projects in other regions (if well-documented)

Less trusted:

- Vendor claims without independent verification
- Theoretical modelling without experimental validation
- Data from very different geological/climate contexts

Councils expect transparent, balanced evidence. Open acknowledgement of limitations, performance constraints, and cost–benefit trade-offs builds confidence.

Please note: Local highway authorities talk to each other about innovations.

Startups should be transparent about prior trials, their results, lessons learned, and any modifications made since. This ensures credibility and trust.

4. Run a Pilot That Councils Actually Want

4.1 What Councils Are Looking for in a Pilot

A pilot must address a real problem, provide genuine value, and fit within the local council's operational and budgetary constraints. Critical elements councils look for:

1. Problem Statement:

Before discussing your solution, have you precisely articulated the problem you're solving? "Local authorities want to reduce carbon" is too vague. More precise problem statements: "Peat-substrate roads in fenland areas require over-specification (40% more material) or frequent repavement due to subgrade movement, costing £x per km per year." This specificity demonstrates you understand the market and have done the diagnostic work.

2. Value Proposition:

What will the pilot demonstrate? Is it carbon reduction? Cost reduction? Improved durability? Extended pavement life? Reduced maintenance frequency? Crucially, the value proposition must be articulated in terms councils care about: life-cycle cost per km, carbon reduction in tonnes CO2e, maintenance cost reductions, or risk mitigation. Not in terms of material properties (your binder has 20% better stiffness) unless that material property directly translates to one of the above.

3. Commercial Viability:

Councils want to know this isn't a one-off pilot. If your pilot succeeds, can you actually supply at scale? Do you have manufacturing capacity or partnership with a supplier who does? What is the realistic cost per unit at commercial scale? If the pilot material costs 40% more than conventional materials, councils need to understand the cost-benefit story that justifies this. If the benefits are real but the material is commercially unproven, be honest about this and discuss the path to commercialization.

4. Scalability:

Will this work only at this one site, or does this pilot build toward broader adoption? If you're piloting a material that requires site-specific design (because geology or conditions vary dramatically), articulate this clearly. If you're piloting something that can scale to national deployment, say so. Councils want pilots that eventually lead to broader adoption, not pilots that are interesting but fundamentally un- scalable.

4.2 Operational Readiness: What You Must Prepare

Supply Chain: Can you supply the volume required for the pilot? At what cost, and with what lead time? Do you manufacture, or do you work through distributors or Tier 1 partners? What happens if demand is higher than expected? Councils need confidence that operational constraints won't derail a trial.

Before approaching councils about a pilot, you must be operationally ready. Councils will ask detailed questions about:

Production Capability: If your pilot is successful, what is your production roadmap? Can you scale from pilot volumes (perhaps 1,000-5,000 tonnes) to commercial volumes (10,000-100,000+ tonnes annually)? Manufacturing partnerships with Tier 1 suppliers or established materials companies give councils confidence that scale is achievable.

Risk Management and Insurance: How will you manage risk if something goes wrong? Do you carry professional indemnity insurance? Product liability insurance? What is your warranty or performance guarantee? Councils need assurance that they're not assuming unlimited risk.

Compliance and Standards: You must have a clear narrative about how your material complies (or will comply) with relevant standards. Have you completed laboratory testing? Are you working toward accredited certification (NHSS if relevant)? What is your timeline? Vague answers to this question are a red flag to councils.

4.3 Evidence and Validation: What You'll Need to Collect

The pilot itself is a data-collection exercise. Work with councils to establish what success looks like and what data you'll collect:

Performance Metrics:

Structural performance: In-situ testing to demonstrate the material performs as expected under actual loading. This might include GPR (ground penetrating radar) surveys, deflection testing, or coring and lab analysis.

Durability: Visual inspections at regular intervals (quarterly or semi-annually for the first 2-3 years) to track cracking, rutting, surface deterioration. Photographic records are essential.

Environmental performance: If carbon reduction is a key value proposition, you need data on embodied carbon (lifecycle assessment), operational carbon (if relevant), and carbon vs. conventional materials. This should follow PAS 2080 methodology to be credible.

Cost Data:

- Material cost per tonne
- Installation cost (labor, equipment)
- Total project cost per km
- Life-cycle cost compared to conventional approach
- Maintenance cost implications (if applicable)

Site-Specific Data:

- Geological and subgrade conditions (soil type, groundwater, bearing capacity)
- Traffic volumes and composition (if available)
- Climate and weather patterns during the trial period
- Any site-specific factors that affected performance

The value of a pilot is whether it generated precise, comparable data that councils and designers can use to make procurement decisions at other sites. Vague conclusions ("the material performed well") are less valuable than specific findings ("the material showed 15% less rutting than conventional materials under equivalent traffic loading at this site; cost was 12% higher but life-cycle cost was equivalent due to reduced maintenance intervals").

SECTION B: BARRIERS & HOW TO OVERCOME THEM

As startups progress through the UK roads procurement and adoption pathway, barriers emerge at predictable points. These challenges are rarely technical alone; they reflect structural, procedural, and cultural constraints within public infrastructure delivery. The following sections outline the most common barriers experienced by startups at each phase, alongside practical mitigation approaches.

Phase 1: Understand Market Context

Barrier: Unclear or Fragmented Problem Signals

Early practitioner conversations often surface inconsistent or region-specific descriptions of the same issue. Problems may be acknowledged but deprioritised due to short-term operational pressures, funding uncertainty, or competing maintenance demands. Startups frequently struggle to determine whether a problem is genuinely material or simply situational.

Without a clearly validated problem statement, practitioners are left thinking, "This is interesting, but I don't understand why I should care." Startups risk building solutions that lack urgency or alignment with practitioner priorities, leading to weak engagement later in the process.

How to mitigate it

- Treat early conversations as diagnostic, not promotional.
- Test whether the same issue appears across multiple authorities, even if expressed differently.
- Probe constraints explicitly, including budget pressure, delivery risk, and political priorities.
- Refine the problem definition until it is consistently recognised as real and actionable.

Phase 2: Identify Champions

Barrier: Informal Support Without Authority

Startups often identify practitioners who are enthusiastic and knowledgeable but lack formal authority to approve trials or commit budgets. Support may exist in principle, but internal approval pathways remain opaque.

"Stakeholders involved continue to rely on deeply ingrained ways of working and systems."

When champions cannot convert interest into decisions, progress stalls and startup resources are absorbed without tangible outcomes.

How to mitigate it

- Clarify what authority the champion holds and what they can realistically influence.
- Ask early which approvals or committees are required to progress a pilot.
- Use champions to navigate the organisation, not as sole decision-makers.
- Expect engagement to broaden as commitment increases.
- Ensure to continue engagement with passionate stakeholders over time

Phase 3: Explore Formal Programmes

Barrier: Misalignment Between Innovation Stage and Programme Expectations

Formal programmes offer credibility and potential co-funding, but often assume innovations arrive close to "shovel-ready." Startups may find expectations around evidence, scale, or delivery capability difficult to meet at early stages.

"Procurement expects [innovations] to be fully 'shovel-ready', complete with proven mechanical performance, sustainability credentials, and viable unit economics"

Applying too early can lead to rejection but waiting too long can slow momentum and delay learning.

How to mitigate it

- Assess programmes against your current readiness, not future ambition.
- Seek informal conversations to clarify expectations before applying.
- Be explicit about what support is required (e.g. validation funding, trial sites).
- Use programmes to complement direct practitioner engagement.

Phase 4: Co-Develop the Pilot Approach

Barrier: Translating Interest into a Viable Pilot

Even where willingness exists, pilots are constrained by maintenance schedules, budget availability, insurance, and risk management processes. Startups may be asked to absorb disproportionate cost or liability, or to redesign pilots repeatedly without clarity on success criteria.

The startup observes that *"limited production capacity and restricted pilot funding introduced perceived risks for larger organisations,"* slowing progress despite interest.

Poorly scoped pilots risk becoming isolated demonstrations with limited value for adoption.

How to mitigate it

- Co-design pilots around existing maintenance activities where possible.
- Agree success metrics and data requirements upfront.
- Keep pilots focused on learning and decision-making, not scale.
- Ensure pilots are explicitly linked to a next step, not treated as an end in themselves.

Phase 5: Engage Tier 1 Partners

Barrier: Transition from Innovation to Delivery

Tier 1 contractors are essential for scale but startups may fear IP exposure, while Tier 1s require confidence in performance, compliance, and supply capability. But without Tier 1 engagement, scaling is difficult.

A startup with an innovative material engaged a Tier 1 supplier, but refused to share technical details due to IP concerns. Without sufficient information to assess manufacturability and risk, the Tier 1 could not commit, forcing the startup to seek trial opportunities elsewhere.

How to mitigate it

- Engage Tier 1s once a credible pilot and authority partner are in place.
- Be clear about what IP is core and what can be shared under agreement.
- Start with limited-scope collaboration before long-term commitments.
- Frame engagement around delivery capability and shared value creation.

Cross-Cutting Barrier: The Trial-to-BAU Gap

Barrier: No Clear Path from Successful Trial to Routine Use

Successful trials do not automatically translate into funding and adoption. Funding often ends at pilot stage and *"each trial currently operates as an isolated exercise,"* leading to repeated testing and slow market validation.

One startup participated in the National Highways Low Carbon Accelerator, received mentoring from a Tier 1 supplier, and made progress to the point of needing prototype development. The Tier 1 mentor was willing to co-fund the prototype work. However, the partner couldn't get the purchase order together and the funding evaporated. The startup was left at TRL 5-6 but unable to progress to TRL 7-8 without the funding that had been promised but didn't materialise.

How to mitigate it

- Discuss post-trial pathways before pilots begin.
- Seek clarity on how evidence can be reused or recognised elsewhere.
- Align pilots with wider frameworks or specification pathways where possible.
- Design trials as stepping stones toward business-as-usual use.

BARRIERS & MITIGATIONS ALONG THE PROCUREMENT AND ADOPTION PATHWAY

PHASE	BARRIER	MITIGATIONS
Phase 1: Understand Market Context	Without a clearly validated, practitioner-relevant problem, start-ups risk building solutions that lack urgency, alignment, and engagement.	Treat early conversations as diagnostic, test cross-authority relevance, probe real constraints, and refine the problem until it is clearly recognised as actionable.
Phase 2: Identify Champions	Startups often face stalled progress when enthusiastic champions lack decision-making authority and organisations default to entrenched ways of working.	Clarify a champion's authority early, understand approval pathways, use them to navigate the organisation, and broaden engagement as commitment grows.
Phase 3: Explore Formal Programmes	Formal programmes add credibility but expect shovel-ready solutions, forcing startups to balance early rejection against lost momentum.	Evaluate programmes based on current readiness, clarify expectations early, and use them to support, not replace, practitioner engagement.
Phase 4: Co-Develop the Pilot Approach	Pilots often face operational, financial, and risk constraints, and poorly scoped trials can limit adoption despite interest.	Design pilots around existing activities, set clear metrics, focus on learning, and link them to the next step.
Phase 5: Engage Tier 1 Partners	Tier 1 contractors are key for scaling, but startups must balance IP protection with giving enough detail for partner confidence.	Engage Tier 1s with a credible pilot, share only necessary IP, start small, and focus on shared value.
Cross-Cutting Barrier: The Trial-to-BAU Gap	Successful trials often stall without follow-on funding, leaving innovations stuck despite proven progress.	Plan pilots as stepping stones by clarifying post-trial pathways, evidence use, and alignment with broader frameworks.

Feedback on engaging with local authorities

Stakeholder engagement:

Different stakeholders care about different things. Develop materials that address their specific concerns:

For technical practitioners:
Focus on performance data, testing standards, specific problem solved

For asset managers:
Focus on life-cycle cost, budget implications, risk management

For council leadership:
Focus on carbon reduction, public benefit, strategic alignment

For Tier 1 partners:
Focus on market opportunity, scalability, partnership upside

Avoid generic pitch decks. Instead, **customise communication** to each stakeholder's interests and concerns.

Be Transparent About Limitations and Trade-offs

A major source of credibility is **being honest** about your innovation's strengths and limitations. For example:

> "Our material reduces carbon by 20% compared to conventional asphalt, but costs 15% more. However, extended pavement life means life-cycle cost is equivalent."

> "This approach works well for fenland geologies but may not be optimal for areas with solid rock substrates."

> "We've successfully tested this at lab scale (TRL 5) but haven't yet demonstrated itat commercial production scale."

This honesty **builds trust**. Practitioners will assume you're hiding problems if you oversell benefits and avoid discussing trade-offs.

Conclusion

The UK roads sector represents a genuine opportunity for innovation in decarbonisation and new materials. The sector is currently undergoing a significant transition driven by net-zero commitments, chronic underfunding, and regional variations in road challenges.

Successful market entry requires strategic understanding of a complex, relationship-driven ecosystem that varies significantly across England, Scotland, Wales, and Northern Ireland. **Startups must move beyond product-focused development to become market-focused: understanding whether the problem being solved is real, material, and something practitioners genuinely want to address.** Startups must navigate distinct standards frameworks, the SHW and DMRB for National Highways and English councils, TS2010 & HRA for Scotland, Welsh Government standards with local flexibility, and DfI standards for Northern Ireland.

The path to successful innovation in this sector follows a clear sequence: understand the market (including regional variations) → build the right relationships → validate your technology rigorously → design pilots that councils want → execute professionally → scale through partnerships. Each phase has distinct requirements and common pitfalls outlined in this blueprint.

The most critical differentiator between successful and unsuccessful startup innovations is **finding champions within local authorities or testing bodies** who genuinely understand your problem, believe in your solution, and have the political capital to advocate for it internally, whether in a local authority or a Tier 1 company. This requires authentic engagement, genuine listening, and willingness to adapt your approach based on practitioner feedback.

Most importantly, **successful market entry requires patience and authenticity**. The roads sector doesn't move fast, but it does move. Startups who approach this sector with genuine understanding of its complexity and regional variations, long- term commitment to the market, willingness to partner strategically, and evidence- based validation will find significant opportunities to drive innovation and create both commercial and public value.

The next few years represent a critical window: carbon commitments are driving real demand for innovations, formal programmes are available now to support deployment, and industry is motivated to find better solutions. Startups who understand this landscape across all UK regions and engage strategically can accelerate the innovation on UK roads while building sustainable businesses.

Appendix

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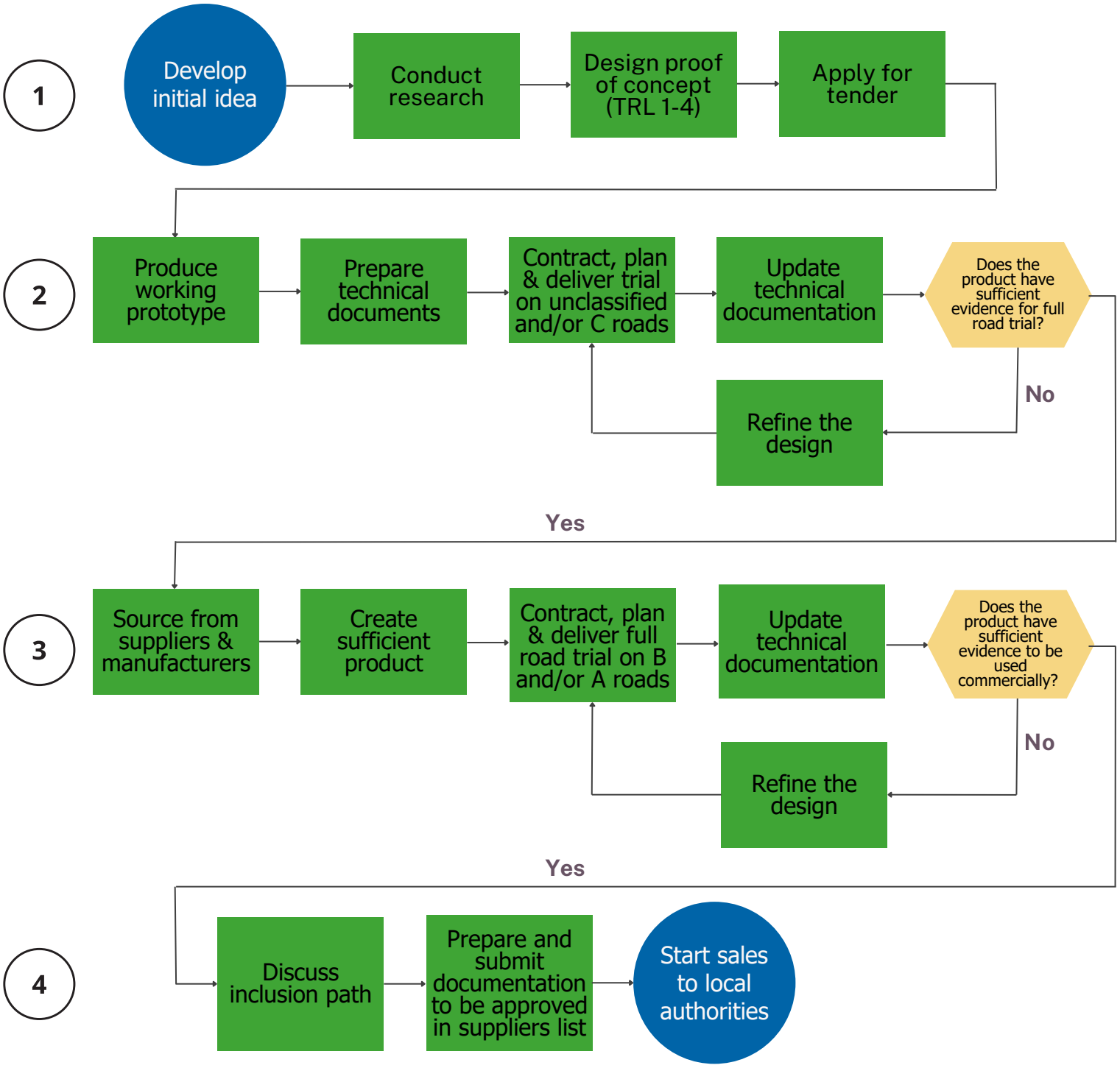

1 **Stage 1**: Understand the market need

2 **Stage 2**: Develop working prototype & early trials

3 **Stage 3**: Develop commercialised product & run full road trials

4 **Stage 4**: Procurement

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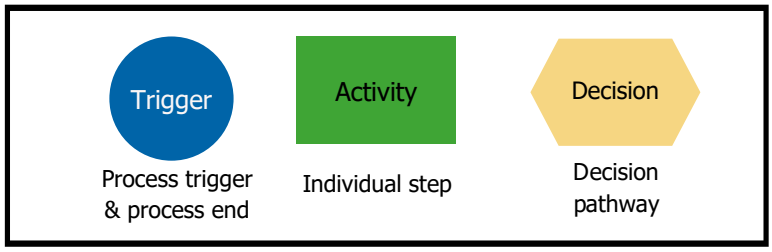

REGULATIONS: MUST HAVE CHECKLIST

01. Technical, Safety, Legal & Ethical Compliance

1. Technical Standards ☐	**2. Material Performance** ☐
Compliance with relevant road authority technical standards (e.g. SHW, DMRB, or locally declared standards)	Evidence of material performance appropriate to the intended application
3. Health & Safety at Work ☐	**4. Safe Systems** ☐
Compliance with the Health and Safety at Work etc. Act 1974	Safe Systems of Work (SSoW) in place
5. RAMS ☐	**6. Hazardous Substances** ☐
Risk Assessments and Method Statements (RAMS) completed	COSHH compliance where hazardous substances are involved
7. Product Regulations ☐	**8. Modern Slavery Act 2015** ☐
Compliance with applicable product regulations, including CE or UKCA marking where required	Compliance with Modern Slavery Act 2015 supply chain obligations, proportionate to organisational size

Notes:

REGULATIONS: OUGHT TO HAVE CHECKLIST

02. Quality, environmental, and performance requirements to enable scale-up and repeat use.

1. Quality and Assurance ☐

□ Documented quality management system (typically aligned with ISO 9001)

□ Repeatable manufacturing or supply processes

□ Documented testing, performance, and quality control procedures

2. Environmental ☐

□ Credible embodied carbon data for the material

□ Evidence of environmental performance relative to conventional alternatives

□ Early alignment with PAS 2080 principles, where formal compliance is not yet required

3. Adoption Readiness ☐

□ Evidence addressing durability, maintainability, and whole-life performance

□ Compatibility with existing maintenance practices and skills

Notes:

REGULATIONS: SHOULD HAVE CHECKLIST

03. Procurement & Adoption Readiness

1. Carbon & Sustainability ☐

□ Formal PAS 2080 compliance or clear alignment with the PAS 2080 framework

□ Lifecycle assessment covering both construction and operational phases

□ Alignment with local authority or regional Net Zero roadmaps

2. Environmental Management ☐

□ Environmental management system aligned with ISO 14001

□ Transparent reporting of environmental impacts and continuous improvements

3. Organisational Maturity ☐

□ Workforce competency frameworks aligned with recognised industry standards

□ Supply chain transparency beyond minimum statutory requirements

4. Adoption Signal ☐

□ Evidence that these elements are in place or in progress to support faster procurement and partnership discussions

Notes:

REGULATIONS: COULD HAVE CHECKLIST

04. Longer-Term or Strategic Requirements

1. Standards and Certification ☐

□ National Highways Sector Schemes (NHSS) certification

2. Market & Supply Chain Integration ☐

□ Full integration into tier-one contractor supply chains

□ Established commercial and operational relationships with national contractors

3. Data & Systems Maturity ☐

□ Advanced data reporting aligned with client asset management systems

□ Ability to integrate with multiple client digital platforms and standards

4. Scale & Geographic Readiness ☐

□ Multi-region approval strategy in place

□ Validation and assurance processes suitable for national deployment

Notes: