MATcelerate Health

Completing the Application Form

1. Background Information

This briefing document provides detailed guidance for Technology Transfer Offices (TTOs) completing MATcelerate Health application forms. It explains each field in the overview tables to help you present your technology's strengths and development needs effectively.

1.1 About the MATcelerate Health Programme

Gain access to funding and insight from industry leaders to help turn materials-based health technology innovation idea into a commercially viable proposition.

MATcelerate Health builds on the proven success of MATcelerate ZERO, which has supported materials and net-zero innovations across leading UK universities including Manchester, Oxford, Cambridge, Imperial, UCL and Bristol. The industry partners bring extensive experience from companies such as Rolls Royce, Johnson Matthey, Air Products, Evonik, and Coca-Cola Euro Partners, demonstrating the calibre of commercial expertise available to support technology development.

For health technologies, we are working with industry leaders and investors who understand the unique challenges of healthcare innovation, including regulatory pathways, clinical validation requirements, and health system adoption processes. The industry partners span medical device companies, digital health organisations, and healthcare investment firms.

1.2 Understanding De-Risking in Health Technology Development

The concept of "de-risking" is central to how industry partners evaluate technology investments. In essence, innovations can be viewed as a bundle of interconnected risks, each representing potential failure points that could prevent commercial success. These risks multiply together - if any critical risk remains unaddressed, it can undermine the entire technology's commercial value.

For materials-based health technologies, key risk categories typically include:

- **Technical risks**: Will the technology perform consistently and safely in real-world conditions?
- **Team risks**: Does the founding team have the expertise and cohesion to execute successfully?
- **Regulatory risks**: Can the innovation achieve necessary approvals within reasonable timelines and costs?
- **Manufacturing risks**: Can the technology be produced at scale with acceptable quality and margins?
- **Market risks**: Do healthcare providers and patients actually want this solution enough to pay for it?
- **Reimbursement risks**: Will insurance systems or healthcare budgets cover the costs?

Effective de-risking involves systematically addressing the highest-impact uncertainties first - those that, if left unresolved, would most significantly reduce the technology's commercial potential. This is why external validation through credible third parties is extremely valuable: it provides independent evidence that reduces specific risks in the eyes of potential investors, partners, and customers.

The MATcelerate Health programme specifically targets this de-risking process by funding external validation studies that address critical commercial barriers, helping academic innovations become more attractive to industry partners and investment.

1.3 What Makes This Programme Different

Learning-Focused Approach:

Even if applications are not selected for funding, applicants will receive feedback from industry assessors highlighting:

- Strengths of your technology and development approach
- Key areas for further development before reapplication
- Market and technical insights from industry perspective
- Recommendations for next steps and potential support resources

This feedback is designed to strengthen technology's commercial readiness and improve future applications.

Collaborative Development Process:

Selected projects work collaboratively with their TTOs and relevant industry partners to:

- Refine project scope and deliverables based on industry insight
- Develop compelling pitch presentations for the Investment Committee
- Access bespoke expertise/advice through the application process
- Build relationships that extend beyond the funding period

Important Note: This programme supports technologies across lower TRLs/early development stages and recognises that academic teams typically need commercial advice/coaching and industry connections - that's exactly what Matcelerate Health aims to provide. The focus should be on accurately describing the technology's current status and the validation needed for the next development stage.

1.4 Funding Objectives and Scope

This funding is designed to cover work that de-risks materials-based health technologies for industry integration, clinical adoption, and scale-up. The programme supports short sprint projects (typically 6-9 months) to de-risk critical aspects of commercialising materials-based health technologies, such as:

- Regulatory testing and compliance validation (e.g. biocompatibility, electrical safety, cybersecurity)
- Health economics studies and cost-effectiveness analysis
- Manufacturing scale-up and quality system development
- System integration testing with new/existing medical devices

- User testing with healthcare professionals and patients
- Clinical validation studies in real-world healthcare settings

The funding supports work done externally to the university under contract by specialist partners such as Contract Research Organisations (CROs), NHS Trusts, clinical testing facilities, regulatory consultants, or health economics consultancies. This external validation approach provides credible evidence that supports commercial development and regulatory submissions.

2. Project Overview Section

2.1 Applicant Details

Purpose: Establish key personnel and institutional context for the technology

Guidance:

- **Lead Researcher/Inventor:** Primary academic responsible for the technology development
- **Co-inventor(s):** Other researchers with significant contributions to the innovation
- **University and Department(s):** Include all relevant academic departments involved
- **Additional collaborators:** List any external academic or industry collaborators already involved
- **Funding partner restrictions:** Note any limitations from existing grants or contracts that might affect commercialisation
- **TTO reference number:** Internal tracking reference for your institution
- **TTO member:** Primary TTO contact managing this application

2.2 Project Details

Purpose: Provide essential project parameters for quick assessment

Project Title Guidance: Keep to maximum 30 words. Should clearly convey the technology and application. Avoid jargon that industry partners might not understand.

Technology Options:

- Biomaterials
- Medical Devices
- Flexible electronics e.g. sensors
- Equipment/medical instruments/Robotics
- Sustainable materials e.g. PPE/alternative packaging

Technology sectors

- Medical devices
- Digital health
- Diagnostics
- Biotechnology
- Healthcare AI

Guidance: Choose the sector that best describes your technology's primary classification for regulatory and commercial purposes.

Proposed Project Duration Guidance: Typical projects run 6-9 months. Consider the time needed for external partner engagement, testing, and analysis. Include key milestone timing.

Total Investment Request Guidance: Amount should reflect actual external costs needed. Funding is flexible - can range from £50k for focused validation to £125k for comprehensive studies, depending on scope and impact potential.

2.3 Technology & Project Overview

Technology Readiness Level (TRL) - Purpose: Understand current development stage to tailor appropriate support

Selection Options:

- **TRL 1-3 (Basic research):** Fundamental research, proof of concept in laboratory
- **TRL 4-5 (Technology validation):** Laboratory/clinical validation, prototype testing, pilot studies

Guidance: Be honest about current TRL. Lower TRL technologies often benefit most from external validation to advance development stage.

Primary Technology Focus Area - Purpose: Ensure your technology aligns with our programme scope and industry partner expertise

Selection Options:

- **Wound care technologies:** Solutions for wound healing, monitoring, treatment, or prevention
- **Bone implants:** Orthopaedic implants, spinal devices, bone healing technologies, related materials
- **Bioelectronics:** Neural interfaces, biosensors, electrical stimulation devices, implantable electronics
- **Cross-cutting (multiple areas):** Technologies that span multiple focus areas

Guidance: Select the primary area where your technology offers the strongest value proposition. If your technology has applications across multiple areas, choose the one with clearest commercial pathway.

Guidance: Choose the application where your technology has the strongest clinical evidence or greatest potential impact.

Target Patient Population Size (UK) - Purpose: Understand market opportunity and potential impact scale

Selection Options:

- **<1,000 patients/year:** Ultra-rare conditions, very specialised applications
- **1K-10K patients/year:** Rare conditions, niche applications
- **10K-100K patients/year:** Moderate-sized patient populations
- **100K-1M patients/year:** Substantial patient populations
- **>1M patients/year:** Large-scale, high-impact applications

Guidance: Provide your best estimate based on available literature. If uncertain, explain your reasoning in the narrative sections. Both large and small patient populations can be valuable depending on unmet need.

Proposed Validation Study Type - Purpose: Identify the external validation that will most advance your technology

Selection Options:

- **Technical due-diligence:** Laboratory-based performance testing, materials characterisation
- **Regulatory testing:** Testing required for regulatory submissions (ISO standards, biocompatibility)
- **Manufacturing scale-up:** Production process validation, quality system development
- **Health economics study:** Cost-effectiveness analysis, economic impact assessment
- **User testing:** Healthcare provider usability, workflow integration studies

Guidance: Focus on the validation step that would most significantly advance your technology toward commercial readiness or next funding stage.

Primary Validation Setting - Purpose: Understand where validation can be most effectively conducted

Selection Options:

- **Laboratory:** Independent testing facilities, research laboratories
- **Clinical Research Facilities/RTOs:** Clean rooms/GMP facilities
- **Healthcare facility:** Real-world healthcare environments for workflow testing
- **Manufacturing facility:** Production environments for scale-up validation
- **Desk-based research:** Advice from consultancies, modelling, market research.

Guidance: Consider where validation will provide the most credible evidence for the target application.

Regulatory Pathway - Purpose: Understand regulatory requirements and plan appropriate validation

Selection Options:

- **Class I device:** Low-risk medical devices, minimal regulatory requirements
- **Class II device:** Moderate-risk devices requiring 510(k) clearance or CE marking
- **Class III device:** High-risk devices requiring PMA approval or extensive clinical data
- **Software as Medical Device (SaMD):** Digital health solutions with regulatory classification
- **No regulatory approval needed:** Non-medical applications, wellness technologies
- **Uncertain:** Regulatory pathway unclear, may require regulatory consultation

Guidance: If uncertain, note this - regulatory consultation can be part of your validation project. Understanding the pathway is valuable regardless of current uncertainty.

2.4 Development Status & Support Needs

IP Protection Status - Purpose: Understand current intellectual property position

Selection Options:

- **Provisional patent filed:** Initial patent application filed, 12-month priority period
- **Full patent application submitted:** Complete patent application submitted to patent office
- **Patent granted:** Issued patent providing protection
- **Trade secrets/know-how:** Proprietary knowledge without patent protection

Guidance: All IP stages are acceptable. Early-stage IP can be strengthened during the programme through validation data and commercial development.

Previous Commercialisation Support - Purpose: Understand what commercial development support has been received

Selection Options:

- **No previous support:** Academic research funding only
- **University commercialisation programmes:** TTO support, proof-of-concept funds
- **Government grants:** Innovate UK, SBIR, other innovation funding
- **Industry collaboration:** Research partnerships, sponsored research
- **Previous accelerator/incubator:** Startup accelerator or incubation programmes
- **Investor interest:** Angel investors, VC engagement (even if no funding yet)

Guidance: List any support received - this helps us understand what additional support would be most valuable and avoid duplication.

Key Competing Technologies - Purpose: Understand the competitive landscape you're operating in

Selection Options:

- **No direct competitors identified:** Novel approach without existing alternatives
- **Academic research competitors:** Similar technologies in development at universities
- **Early-stage companies:** Startups working on similar solutions
- **Established medical device companies:** Large companies with competing products
- **Different technological approaches:** Alternative solutions to same clinical problem

- **Indirect competition:** Current standard of care or workaround solutions

Guidance: Competition often validates market need. Focus on what makes your approach different or better rather than minimising competitive threats.

Primary Validation Objective - Purpose: Understand the key milestone this project aims to achieve

Selection Options:

- **Prove technical feasibility:** Demonstrate core technology works in target application
- **Generate health economic evidence:** Understand and develop health economic arguments for the technology or identify the most promising value proposition or use-case
- **Validate market need:** Confirm healthcare providers/patients want this solution
- **Demonstrate manufacturability:** Prove technology can be produced at scale/cost
- **Support regulatory submission:** Generate data required for regulatory approval
- **Attract industry partnership:** Create compelling case for licensing or investment
- **Enable next funding round:** Achieve milestones needed for Pre-seed/Seed or major grant

Guidance: Focus on the single most important outcome that would unlock the next stage of development.

External Partner Type Needed - Purpose: Identify the type of external expertise most valuable for your project

Selection Options:

- **Contract Research Organisation (CRO):** Clinical research services, regulatory testing
- **Academic medical centre:** Clinical validation, physician engagement, patient access
- **NHS Trust or healthcare provider:** Real-world clinical validation, system integration testing
- **Specialised testing laboratory:** Standards compliance, biocompatibility, performance testing
- **Catapult Centre:** to leverage their expertise, facilities, and early-stage prototyping capabilities to advance our technology from proof of concept (TRL 3) toward commercial readiness.
- **Regulatory consultant:** Regulatory strategy, submission preparation, agency guidance
- **Health economics consultancy:** Cost-effectiveness analysis, health technology assessment, reimbursement strategy
- **Manufacturing/engineering partner:** Scale-up services, production validation, design for manufacturing
- **Multiple partner types:** Project requires diverse external expertise and coordination. If so, specify.

Guidance: Identify the partner(s) that can provide the most credible and valuable validation for your specific technology and market.

3. Project Specification

This section provides guidance for completing the detailed project specification portion of the application form.

3.1 Project Overview, Vision and Scope

Guidance: Provide 2-3 bullet points (maximum 100 words total) covering the high-level concept, vision, and key activities. Focus on the core problem, solution approach, and key validation activities planned. Emphasise commercial potential and patient impact over technical specifications. Industry assessors review multiple applications, so clarity on differentiation and healthcare system value is essential for standing out.

3.2 Rationale for Health Technology Accelerator Investment

Guidance: Build the investment case by establishing the unmet clinical need with specific patient data and current treatment limitations. Quantify the health economics opportunity including potential cost savings or efficiency gains. Connect validation activities directly to commercial barriers - specify which technical or commercial risks this project eliminates and how results will support licensing discussions or regulatory submissions. Industry partners look for technologies that address clear market failures with credible paths to adoption.

3.3 Background and Work to Date

Guidance: Present a development timeline that demonstrates technical progress and commercial momentum. Include key achievements such as prototype development, validation studies, regulatory consultations, and clinical engagement. Highlight external validation received, relevant publications, and any industry interest. Quantify performance improvements over current solutions where possible. This section should evidence both technical feasibility and market traction.

3.4 Unmet Clinical Need and Problem Being Solved

Guidance: Establish the clinical and economic burden using epidemiological data, patient numbers, and healthcare system costs. Specify why current solutions are inadequate - whether efficacy, safety, cost, or workflow limitations. Include both direct costs and broader impacts such as quality-adjusted life years. Connect to healthcare trends such as demographic changes or cost pressures that amplify the need for your solution.

3.5 Project Duration and Milestones

Guidance: Structure milestones to enable clear go/no-go decisions and demonstrate progression toward commercial readiness. Typical projects are 6-9 months with 2-3 major milestones. Each should represent significant de-risking with clear success criteria. Consider dependencies between milestones, partner availability, seasonal factors, and buffer time for regulatory consultations or additional testing requirements.

3.6 Investment Request and Budget Breakdown

Guidance: Base budget on actual market costs for external validation services. Include detailed milestone breakdown showing fund deployment timing. Major categories typically include partner fees, testing costs, regulatory consultation, and contingency. Justify significant expenses by explaining how they advance commercial readiness.

3.7 Project Deliverables

Guidance: Define deliverables that advance commercial prospects beyond this programme. Focus on outputs that support licensing discussions, regulatory submissions, or investment decisions. Consider technical reports with statistical analysis, regulatory guidance documents, clinical protocols, health economics models, and market research. Ensure deliverables are formatted for industry partner use in their decision-making processes.

3.8 Milestone Demonstration Criteria

Guidance: Establish objective criteria for milestone completion with quantitative metrics where possible. Define success, partial success, and failure scenarios with implications for project continuation. Include review points with industry mentors to maintain commercial alignment. Document how milestone achievements will inform next development phases and licensing discussions.

3.9 External Development Partners

Guidance: Select partners based on relevant experience, appropriate certifications, and reputation in your application area. For clinical validation, consider NHS Trusts, academic medical centres, or specialist CROs. For regulatory testing, identify accredited laboratories with device class experience. Explain partner selection rationale and address any potential conflicts of interest. Note any preliminary partner interest that demonstrates project feasibility.

3.10 Project Risks and Mitigation

Guidance: Address technical, commercial, regulatory, and operational risks with specific mitigation strategies. Include both preventive measures and contingency plans. Technical risks might involve performance variability or manufacturing challenges. Commercial risks could include market acceptance or competitive threats. Regulatory risks might involve changing requirements or additional data needs. Show how project design incorporates risk mitigation and how learning will inform future development.

4. Clinical Need, Commercial Considerations, IP and Market Dynamics

This section provides guidance for the commercial assessment portion of the application.

4.1 Technology Differentiation

Guidance: Explain how your technology addresses unmet clinical need and what clinical outcome improvements it provides versus current solutions. Focus on clear value proposition.

4.2 Competitive Landscape

Guidance: Describe commercially available products/technologies and how your approach differs. Competition often validates market need - focus on differentiation rather than denying competitors exist.

4.3 Intellectual Property Position

Guidance: Address IP definition, ownership, freedom to operate challenges, and how this project will generate or add value to IP. Be honest about IP uncertainties.

4.4 Market Dynamics

Guidance: Provide overview of market size, key clinical areas, target populations, and healthcare adoption factors. Use credible sources and be realistic about market access challenges.

4.5 Route to Market

Guidance: Specify licensing vs spin-out strategy, potential partners (medical device companies, pharma, digital health), and regulatory pathway requirements (CE marking, FDA approval, etc.).

5. Next Steps for Development After Funding

5.1 Further Development Requirements

Guidance: Describe work required after this project to achieve licensing/spin-out readiness, including high-level timelines and estimated costs (clinical trials, regulatory submissions, manufacturing scale-up).

5.2 Future Funding Requirements

Guidance: Identify further funding needs and access strategies, including relevant sources (Series A, government grants, industry partnerships) and types of collaborators for co-development.

6. Application Success Tips

Effective applications balance technical credibility with commercial realism. Industry partners seek technologies with strong scientific foundations, clear market opportunity, and realistic development timelines.

When positioning technology strengths, focus on genuine competitive advantages - superior clinical outcomes, cost reductions, workflow improvements, or better patient experience. Strong preliminary data provides crucial credibility, particularly evidence of performance in relevant conditions beyond laboratory proof-of-concept. Clinical champion engagement demonstrates healthcare professional buy-in and willingness to participate in development. Clearly articulating unmet need requires specificity about current solution limitations and how your technology addresses gaps that matter to patients and healthcare systems.

Realistic development stage assessment strengthens applications. Honest TRL evaluation builds credibility with industry partners experienced in technology development challenges. Clear next steps demonstrate strategic thinking about how validation results inform future decisions. Specific validation goals show focus and understanding of evidence requirements for commercialisation. Appropriate resource requirements indicate planning capability and respect for programme investment.

Learning objectives help industry partners understand validation project value beyond immediate results. Consider what the project will reveal about commercial viability, how results will guide development decisions, and which commercial or technical choices depend on validation data. This positions validation as strategic risk reduction rather than purely technical exercise.

Common application weaknesses stem from misconceptions about programme expectations. Academic teams often underestimate their advantages - industry partners value strong technical foundations and expect to provide commercial guidance. Competition concerns are usually misplaced since competitive landscapes often validate market opportunity. Focus on differentiation rather than dismissing competitors. Early-stage technologies are not disadvantaged as the programme funds across TRL levels, with earlier technologies often offering higher potential returns. Commercial uncertainty is expected from academic teams - the programme provides industry guidance/advice specifically to develop commercial strategy. Honest uncertainty assessment combined with thoughtful consideration of commercial factors is more effective than overly detailed plans that may lack realism.

Remember: This programme is designed to support academic innovations with commercial potential. Focus on accurately representing your technology's current status and the validation that would most advance its development.