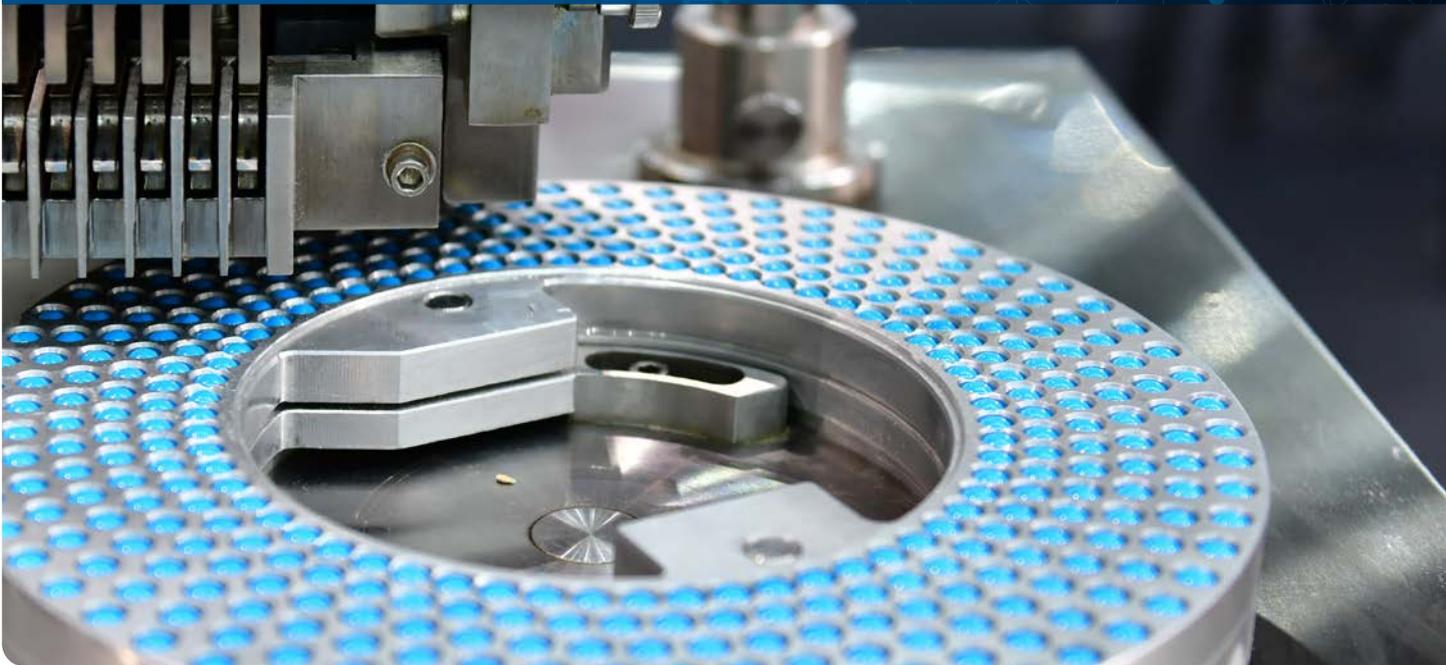


Medicines Manufacturing Innovation Centre

Strategy 2021 - 2024

Looking to the future of pharmaceutical production





“The Medicines Manufacturing Innovation Centre has a clear purpose to create a sustainable, competitive advantage in UK pharmaceutical manufacturing. By innovating in close partnership with industry, we will bring agile, scalable, and flexible manufacturing technologies to commercial reality. The productivity and sustainability gains we achieve will reduce the time and cost of pharmaceutical development, delivering greater benefit to patients.

To enable this ambition, we have created a strong and flourishing partnership based on our shared commitment to deliver impact for society and the economy. We do this by joining up our world class research, development, and innovation capabilities and by working with our stakeholders to deliver results at pace.”

Frank Millar

Chief Executive Officer
CPI

About the partnership

CPI is part of the UK's High Value Manufacturing Catapult. We help companies to develop, prove, scale-up and commercialise new products and processes. Our vision is to create a healthier society, cleaner environment and a vibrant UK economy by ensuring every great invention gets the best opportunity to become a successfully marketed product.

Alongside partners in industry, government and academia, CPI has created the Medicines Manufacturing Innovation Centre to develop, prove and commercialise disruptive technologies for the pharmaceutical industry. We operate a model focused around Grand Challenges where the pharmaceutical industry and its supply chain work together to identify and overcome major industry hurdles, aiming to reduce the time, resources and cost of medicines manufacturing, to ultimately deliver benefits to patients.

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“The Medicines Manufacturing Innovation Centre plays a vital role in Scotland’s economic recovery from the global pandemic as we seek to create new, sustainable, high quality jobs and capitalise on future global medicines and healthcare opportunities. With the capacity to create hundreds of jobs directly and across collaborative supply chains, there is no other facility like this in the world. It’s a fantastic endorsement of Scotland’s global excellence in high value manufacturing to attract investment like this, drawing on our skills, innovative companies and academic expertise.

Industry leadership and co-investment has been central to shaping the centre and will remain at the heart of what makes it a success. We’re proud to contribute £15 million funding alongside our industry expertise to help deliver the Medicines Manufacturing Innovation Centre, providing a platform for companies across the UK to collaborate, innovate and develop world-leading medicine manufacturing processes and technologies.”

Linda Hanna

Interim MD
Scottish Enterprise

Foreword

Looking to the future of pharmaceutical manufacturing and supply is at the heart of our work at the Medicines Manufacturing Innovation Centre, and what we have been engaged in since we were launched in 2018 by CPI and our founding partners University of Strathclyde, UK Research and Innovation (UKRI), Scottish Enterprise (SE) and industry partners, AstraZeneca and GSK.

We are proud of what has been achieved over the last two years. The initial technology innovations are on track, the facility design will be state of the art for pharmaceutical manufacturing and we are building a strong team

In this document, we set out our refreshed strategy for the next three years, focussing on promoting our potential through global cooperation and engagement and overcoming industry’s self-identified ‘Grandest Challenges’ through a collaborative approach.

In developing this refreshed strategy, we were driven by our ambition and commitment to help solve the challenges that the pharmaceutical industry faces now and in the future, including those that have become even more apparent and critical during the COVID-19 pandemic.

There is now, more than ever, a need to address global health challenges, equalise access to medication and streamline supply to patients. We can do this by rethinking current manufacturing processes and innovating new technologies that can quickly adapt to the changing needs of global populations.

Our strategy is based on five pillars that drive our ambitions into the wider global innovation ecosystem. We lay out our priorities under each pillar and bring them all together into a roadmap which summarises our plan of action over the next three years. We will track progress of our objectives in an annual report.

The Medicines Manufacturing Innovation Centre partnership has now grown to over 20 organisations and this strategy provides a unique opportunity for continued collaboration within the innovation ecosystem and for the future of pharmaceutical manufacture. With focus, hard work and innovative thinking, I believe this strategy can be delivered effectively in the coming years.

Dave Tudor

Managing Director of the Medicines Manufacturing Innovation Centre, Biologics, and Quality CPI



Introduction

Key challenges pharmaceutical companies and healthcare face today

Ageing populations, the cost of drug development and the need for environmentally sustainable manufacturing processes are just some of the challenges facing the pharmaceutical industry today.

The increasing cost of global healthcare systems has led to a need for more cost-effective medicines driving the need for a step change in efficiency and flexibility of both the manufacturing process and medicines supply chains.

Coupling these challenges with the development of new, patient-specific and stratified medicines will help clinicians to choose the right medicine for the right patient at the right time, leading to overall better patient outcomes.

Future of pharmaceutical development and manufacture

New medicines are trending towards more complex, stratified products with lower volumes. This in turn is accelerating the move from the traditional large batch manufacturing approach, based on forecast demand with supply continuity buffered by large amounts of inventory to continuous and minibatch manufacture.

As the requirement for smaller batches, multi-product equipment trains and distributed supply

options increases, there is an opportunity to fundamentally change the way that medicines are manufactured.

Emergent, data driven technologies and manufacturing innovation are increasing the responsiveness of the supply chain reducing time to market for all high-tech supply chains from aerospace to FMCG. However, in the pharma sector they are not being adopted at the same rate due to perceived risks, regulatory compliance concerns and financial constraints.

There is a clear opportunity to develop and drive adoption of manufacturing methods that are more agile, cost effective and environmentally sustainable, including:

- Integration of manufacturing assets via digital platforms for real-time supply chain visibility
- Flexible and modular manufacturing for stratified medicine production
- Ultra-efficient production, enhancing productivity with reduced capital outlays driving a lower overall cost of goods
- Application of digital twins for the development and advanced control of the manufacturing process
- Accelerated paths to market through streamlined clinical trials supply of medicines to patients.

Economic impact summary

Medicines Manufacturing Innovation Centre will generate over 100 high value jobs and is forecast to generate £200 million investment in advanced technologies over the first five years.

Medicines Manufacturing Innovation Centre demonstrates a very strong business case for both the UK and Scottish Governments with competitive ROI, SME growth, and job retention or creation.

Medicines Manufacturing Innovation Centre is expected to generate substantial wider economic impacts, in particular relation to:

- Increasing the attractiveness and competitiveness of the UK as a location for inward investment
- Creation of an international beacon in medicines manufacturing over the next 5-10 years bringing increased international engagement and potential to attract firms that do not currently have a presence in the UK
- Empowering existing major sites of economic activity in the UK to gain a greater share of international investment
- Safeguarding existing economic activity in the related supply chain in the UK

To ensure a holistic appraisal of the success of Medicines Manufacturing Innovation Centre, the partners have established a set of KPIs to measure the impact of our innovation.

The contribution of the pharmaceutical sector extends beyond the activities of pharmaceutical companies themselves, with their output supporting employment and income right across the UK economy.

Overall, the Medicines Manufacturing Innovation Centre project demonstrates good value for money for the proposed public sector investment and contribution from Scottish Enterprise and UKRI.

Why the industry needs the Medicines Manufacturing Innovation Centre

The 2017 UK Life Sciences Industrial Strategy recommended that sustained industry success could be achieved via a partnership approach with the pharmaceutical industry, academic research hubs and government agencies to accelerate development and integration of a new generation of manufacturing.

The Medicines Manufacturing Innovation Centre was conceptualised by the University of Strathclyde and created by six founding partners to deliver this goal through a portfolio of ambitious and digitally transformational Grand Challenges.

Medicines Manufacturing Innovation Centre builds on collaborative early stage work and proof of concept activities carried out at research centres. Commercialisation of these ideas is generally expensive and carries risk, so an individual company may not be able to justify the spend, despite the potential return on investment. Therefore, we designed our business model to enable commercialisation of such ideas through fully collaborative innovation in our Grand Challenges.

By sharing costs, risks, knowledge and ideas, having strong regulator relationships and providing open-access innovation services, the Medicines Manufacturing Innovation Centre will play a key role in the UK medicines development and manufacturing innovation infrastructure, investing in digital medicines manufacturing innovation to tackle today's health and environmental challenges and those of the future.

The UK medicines development and manufacturing innovation infrastructure

The UK and Scottish Lifesciences Strategies have a clear focus to drive innovation outcomes and advanced technology capabilities through the creation of leading innovation centres. Medicines Manufacturing Innovation Centre will play a pivotal role within this innovation ecosystem.



Our vision

To be internationally recognised for translating advanced technology into all areas of the pharmaceutical supply chain, to create a vibrant UK technology ecosystem.

The Medicines Manufacturing Innovation Centre partners believe that innovative technologies should be at the heart of modern medicines manufacture, leading to:

A healthier society

Improved healthcare outcomes through novel medicines, reduced costs and increased access for patients

A cleaner environment

Minimised environmental impact (net-zero agenda)

Inward investment

Lower costs and driving growth in UK manufacturing

An enhanced UK economy

Onshoring expertise and encouraging manufacturing back to the UK

Revenue growth to the pharmaceutical industry

Open access to innovative technology leading to accelerated product development and commercialisation

Our mission

To innovatively solve industry-wide technology challenges and maximise digital technology opportunities within the pharmaceutical supply chain.

Through shared ideas, risks and costs, this partnership will help companies develop, demonstrate and commercialise the next generation processes for medicines manufacturing. It will enable new advanced technologies to be proven at scale in a GMP-compliant environment accelerating the commercialisation of more agile and sustainable manufacturing processes within the medicines supply chain.

Our values and behaviour

How we go about our work is shaped by our values and undertaken in line with our four key behaviour standards:



Standards
Following rules



Risk management
Being mindful



Involvement
Getting involved



Communications
Speaking up

Visionary

We have foresight of how science can help society.

Enterprising

We turn innovation into wealth.

Connected

We enable unique connectivity and engagement.

Professional

We always deliver on our promises.

Inspiring

Our passion energises those around us.

Inclusive, diverse, and fair

Treating those in our team and others with respect in all of our interactions, behaviours, and decisions.

Our operating and partnership model

We employ a collaborative operating model, creating partnerships between industry, academia and government. This flexible model enables partners to join through a combination of direct funding and benefit in-kind contributions towards resources or technology.

In our mobilisation phase, prior to centre completion, we used the expertise and funding from our founding partners for our initial Grand Challenges and to build the GMP Centre in Glasgow.

As we continue to shape the Grand Challenges to achieve our mission, we have expanded the Medicines Manufacturing Innovation Centre to over 20 organisations and are always looking to expand our network of partners and collaborators to help us deliver the right innovation.

Our ambitious Grand Challenges are each unique multi-million-pound projects and as we define our funding strategy and industry partner groupings for future Grand Challenges to make the most impact, we envisage our funding coming from a combination of diverse sources.

We intend to evolve the operating model to introduce a fee for service and/or license opportunity for industry to utilise the new technology.



“The Technical Advisory Committee has two roles: to comment on the progress of the Medicines Manufacturing Innovation Centre’s Grand Challenges and to provide insight on innovations that could benefit medicines manufacturing and patient care. The TAC combines the technical expertise of the centre’s partner organisations and draws on knowledge from other sectors to advise the teams delivering the Grand Challenges and to support the executive leadership. It is important that the Medicines Manufacturing Innovation Centre can access the technical expertise that helps it achieve its mission and in that context the TAC’s contributions are important to the success of the innovation centre.”

David Littlejohn

Chair of the Medicines Manufacturing Innovation Centre Technical Advisory Board



“It has been great to collaborate with industry, government, academia and others over the past two years in supporting the operationalisation of the Medicines Manufacturing Innovation Centre and its initial Grand Challenges. Working together to secure an internationally competitive leadership position for the UK in life sciences for the long-term is our objective and we have made great start. GSK has long advocated the value of collaborations like the Medicines Manufacturing Innovation Centre to capitalise on our world-class science base and deliver innovation that drives growth and improves patient care. As a major life sciences company based in the UK and one of its biggest investors in research, we have been delighted to actively contribute as a founding partner and look forward to its future evolution.”

Andy Dwyer

Global Manufacturing Technologies Director
GSK

Grand challenges

Our Grand Challenges are a portfolio of collaborative projects, designed to be digitally disruptive and transformational, addressing the key challenges raised by the industry consortia.

These ambitious projects aim to reduce inefficiencies, environmental footprint and costs of drug development and manufacture to the industry but are ultimately directed at bringing significant benefits to patients. To maintain the disruptive thinking, Grand Challenges must meet one or more of the following criteria:



Flexible and modular designs for continuous manufacturing



Digitally enabled real-time quality control



Digital product and process design and operation



Supply chain integration



GRAND CHALLENGE 1

Continuous direct compression digital test-bed

Grand Challenge 1 is redefining how we produce oral solid dosage medicines more robustly and efficiently using continuous direct compression (CDC). A world class demonstrator will be delivered to prove CDC principles for commercial scale. The benefits demonstrated will accelerate industry's adoption of streamlined, agile formulation technologies and digital twins in drug product development and manufacture, to reduce the development burden, cost to patients and carbon footprint of production.



GRAND CHALLENGE 2

Automated clinical trial packing and QP release platform

Current manufacturing processes for clinical trial products struggle with long lead times and are often ill-suited to adaptive clinical trial supply. Grand Challenge 2 will deliver a modular automated clinical bottle packing line that can be linked to a qualified person (QP) dashboard for real-time batch release, enabling agile just-in-time (JIT) multi-oral solid dosage product packing and smart labelling. This will have significant benefits, ultimately reducing material waste, cost and environmental footprint and giving patients a faster and cheaper supply of clinical trial medicines.



GRAND CHALLENGE 3

Cost effective and sustainable oligonucleotide manufacturing

Currently, oligonucleotides are time-consuming and expensive to produce. Grand Challenge 3 is redesigning the oligonucleotide manufacturing process through development of scalable, liquid phase API processes which will enable oligonucleotides to be manufactured on an industrial scale, at speed and at lower cost. Through this Grand Challenge, we will enable the industry to provide this exciting class of new medicines to wider patient populations at affordable prices and in a sustainable way.

The centre

A world class GMP facility for innovation in medicines manufacture.

The Medicines Manufacturing Innovation Centre is a state-of-the-art facility adjacent to Glasgow Airport in Renfrewshire, Scotland and is part of the Advanced Manufacturing Innovation District Scotland (AMIDS). It will create a capability where highly skilled people can develop advanced technology and our team can train the workforce of the future.

The aim of the centre is to become an international beacon for innovation in medicines manufacturing, incorporating capabilities for development and manufacture of drug substances and drug products in a GMP-compliant environment.

As a flexible and adaptable building, the centre enables industry, academia, healthcare providers and regulators to work collaboratively to address challenges along the medicines supply chain.

The clean rooms each support activities and services for the Grand Challenges. Users can evaluate, test and prototype processes using an array of advanced Industry 4.0 manufacturing technologies including

continuous, digital and autonomous manufacturing.

Furthermore, the events space provides a hub for pharmaceutical sector focussed and knowledge sharing activities.

In the first two years the centre has attracted over £80 million of investment, supporting direct and indirect employment opportunities. Indirect employment will be generated through start-ups, SMEs and large companies who will grow their businesses using the transformative manufacturing technologies developed within the Medicines Manufacturing Innovation Centre.



“The Medicines Manufacturing Innovation Centre is a globally unique capability where people drive forward innovation to prepare the pharmaceutical supply chain for next-generation medicines. This collaboration between government, academia and industry will enable digitally disruptive technologies to be proven at scale resulting in an enhanced UK innovation landscape, a minimised environmental impact, and ultimately, improved patient outcomes.”

Maureen Wedderburn

Chair of the Medicines Manufacturing
Innovation Centre Supervisory Board



Our strategic plan

In order to achieve our vision of accelerating towards a vibrant UK innovation ecosystem of cross supply chain innovation, it is essential for our strategy to focus on how we achieve key parts of our mission to develop, demonstrate and commercialise 'disruptive' technology solutions into the pharma industry.

We have developed five strategic pillars which underpin this mission. Within each strategic pillar, we have identified the key priorities over the next three years and this is summarised in our Strategic Roadmap.



Commercialisation of advanced technologies

Addressing industry's greatest manufacturing challenges through our technology innovation.

Sustainable technology leadership

Promoting a sustainable future for the industry.

Skills and capabilities

Enabling the development and sustained deployment of the technology into the wider ecosystem.

Business growth

Ensuring we have the resources and investment to achieve our bold ambitions.

Collaboration and partnerships

Establishing and fostering relationships to accelerate and realise the full value of the technology.

Commercialisation of advanced technology

We will continuously develop and demonstrate advanced technologies that increase the productivity of medicines manufacturing to increase environmental sustainability and patients' access to affordable medicines.

We will become a technology leader in the industry allowing us to accelerate the commercialisation of these technologies. Through our continuous engagement with industry and academic partners, we will influence the best-in-class future technologies, identify the priorities to support in future innovation and enable the manufacturing component of interconnected digital supply chains.

Deliver the benefits from the Grand Challenges

We will focus on executing our current Grand Challenge pipeline and demonstrating the clear benefits to our partners. This includes the core operational and environmental benefits of the technologies themselves and the consequent financial benefits

Evolve with intent into new technology areas

We will maintain the pace of our disruptive, transformative Grand Challenges and evolve beyond our initial oral-solid dosage arena, leading the wider industry into new technology areas

Demonstrate connected supply chain

We will design for data connectivity across the supply chain, developing data driven 'smart factory' technologies for state-of-the-art connected processes. These will exemplify the benefits of an intelligent digital factory by bringing visibility upstream and downstream of manufacturing

To deliver on our priorities, we will:

Drive current Grand Challenges to completions

The Grand Challenge teams will maximise delivery of benefits and ensure the Grand Challenges are appropriately governed.

Decide future Grand Challenges

Through an in-depth understanding of the industry's key challenges and an effective business process, we will champion the Grand Challenges that propel the biggest benefits to the industry.

Build out our connected supply chain narratives

We will articulate how our work in smart factory and data connectivity fits in to the wider end-to-end supply chain.

Skills and capabilities

The partnership will have the skills and capabilities to deliver the Grand Challenges and will support creation of the long-term skills and capabilities in the wider ecosystem for the successful commercialisation of the technology solutions in the pharmaceutical industry.

Develop and support delivery of the industry ecosystem requirements for sustainable technology commercialisation

We will identify and establish new mechanisms for the partnership to influence, accelerate and contribute to the development of the pharmaceutical sector skills agenda for advanced technology, both externally and internally within CPI.

Deliver the internal growth plan

To support the delivery of our Grand Challenges and operation of the centre, we will execute the people growth plan: upskilling our current staff, recruiting to fill our knowledge gaps and partnering with organisations to bring in specific skill sets.

To deliver on our priorities, we will:

Define the required skills and capabilities to deliver Grand Challenges

We will review internal knowledge and skills and perform a gap analysis against the requirements for the Grand Challenges.

Identify key partners and innovation centres to connect with for knowledge sharing opportunities

We will work to understand similar Centre of Excellence training and knowledge sharing models for implementation.

Connect with existing mechanisms and forums to influence the wider skills agenda

We will become part of skills strategy groups and where appropriate, we will influence strategic academic research.

Collaboration and partnerships

Our relationships with partners and regulators are central to propelling solution delivery and driving the adoption of advanced technology within the pharmaceutical industry.

We will unite the brightest minds in a collaborative space and grow our network within the wider ecosystem. We will collaborate at the forefront of technology development to have a bigger impact on the global community and establish the UK as a great place to introduce and licence new technologies.

Build and strengthen existing partnerships

We will continue to deliver technology innovation with our existing partners. We will forge stronger relationships with them through timely and effective communication.

Establish ourselves in a leading position in the global innovation ecosystem

We will be the partner of choice within the pharmaceutical industry and form new international partnerships within the wider academic, philanthropic and digital innovation ecosystem, based on common technology agendas, collaborative innovation and the potential for impact. We will connect, share and drive engagement with the SME community and through our technology, connect networks of existing and future expertise.

Collaborate to support regulator alignment on regulatory landscape and priorities

We will reinforce and establish strong relationships with global regulators through structured work streams and by interacting at the right time, positioning ourselves as the voice of medicines manufacturing innovation and as the intermediary between innovative technology companies and pharmaceutical regulation. We will support alignment between the regulators on regulatory landscape and priorities, collaborating on regulatory frameworks for adoption of digital innovation in medicines manufacturing and providing robust demonstrations of advanced technology in a GMP compliant environment.

To deliver on our priorities, we will:

Develop robust communications and engagement plans for current partners

We will collaborate with current partners to understand where they fit into the strategic vision.

Identify new partners to fill strategic gaps

We will partner globally and in the wider academic and innovation ecosystem.

Define regulator strategy and plan

We will create and execute a clear regulator engagement plan.

Sustainable technology leadership

Through the delivery of our Grand Challenges and partnerships with environmental expert groups, we will become recognised thought leaders in advanced technologies that deliver environmentally sustainable outcomes.

We will additionally demonstrate our commitment to sustainability through all our activities and behaviours at the centre. In these ways, we will proactively support the pharmaceutical industry's environmental sustainability goals.

Drive net-zero through innovation leadership

We will drive the environmental sustainability agenda in the industry in two ways. Firstly, by demonstrating the environmental benefits of the technologies in our Grand Challenges. Secondly, by leveraging relevant forums and relationships to articulate those benefits, raise awareness and drive the industry to adopt environmentally sustainable advanced technologies.

Evidence our commitment to the environment through all our activities

Through utilising novel supply chain technologies, we will evidence our environmental commitment and the net zero contributions of all our activities: from our supply chain, technology and delivery of Grand Challenges, in our behaviours, design and operation of the centre and in our consideration of new projects undertaken.

To deliver on our priorities, we will:

Generate data and evidence from all activities

We will link the data generation from Grand Challenges to our data connectivity technology plans.

Articulate and benchmark the environmental impacts from the Grand Challenges

We will devise reusable and consistent metrics to define the impact of the Grand Challenges on the wider green impact to the industry.

Connect with existing mechanisms and forums to demonstrate our net zero commitment

We will demonstrate our green credentials at relevant forums and establish relationships with environmental regulators.

Business growth

In order to deliver on our commitments, partnerships and ambitions, we will build on our launch funding and deliver a robust financial growth plan.

We will expand our investment opportunities and use our sector knowledge, ambitious leadership, experience and messaging to explain our value proposition, broaden our reach internationally and stay at the forefront of innovation.

Capitalise on our assets and capabilities

We will maximise our internal sources of funding and generate income from our assets (Grand Challenges and the technologies already delivered) and our capabilities to support the uptake of our technology in the industry (consultancy).

Deliver a financial growth plan

We will ensure a robust strategic mechanism is in place for rolling out our three-year growth plan.

Diversify our external sources of funding

We will diversify our income streams to maximise the potential from our business model and expand our external sources of funding. We will work to construct the income streams in the following way: collaborative research and development (CR&D), philanthropic and consultancy income; fee for service; fee for license; cash funding from pharmaceutical partners, technology partnerships or venture capitalists.

To deliver on our priorities, we will:

Articulate the value of our business model

We will establish clear value propositions for future Grand Challenges and implement different funding mechanisms to expand our sources of innovative technology funding.

Identify the key financial gateways and new income streams for the business

We will identify income streams from the exploitation of the new technologies and evaluate to leverage different diversified income streams.

Drive our three year financial growth plan

We will grow our income funding, control out costs to ensure that Medicines Manufacturing Innovation Centre has a sustainable growth plan.

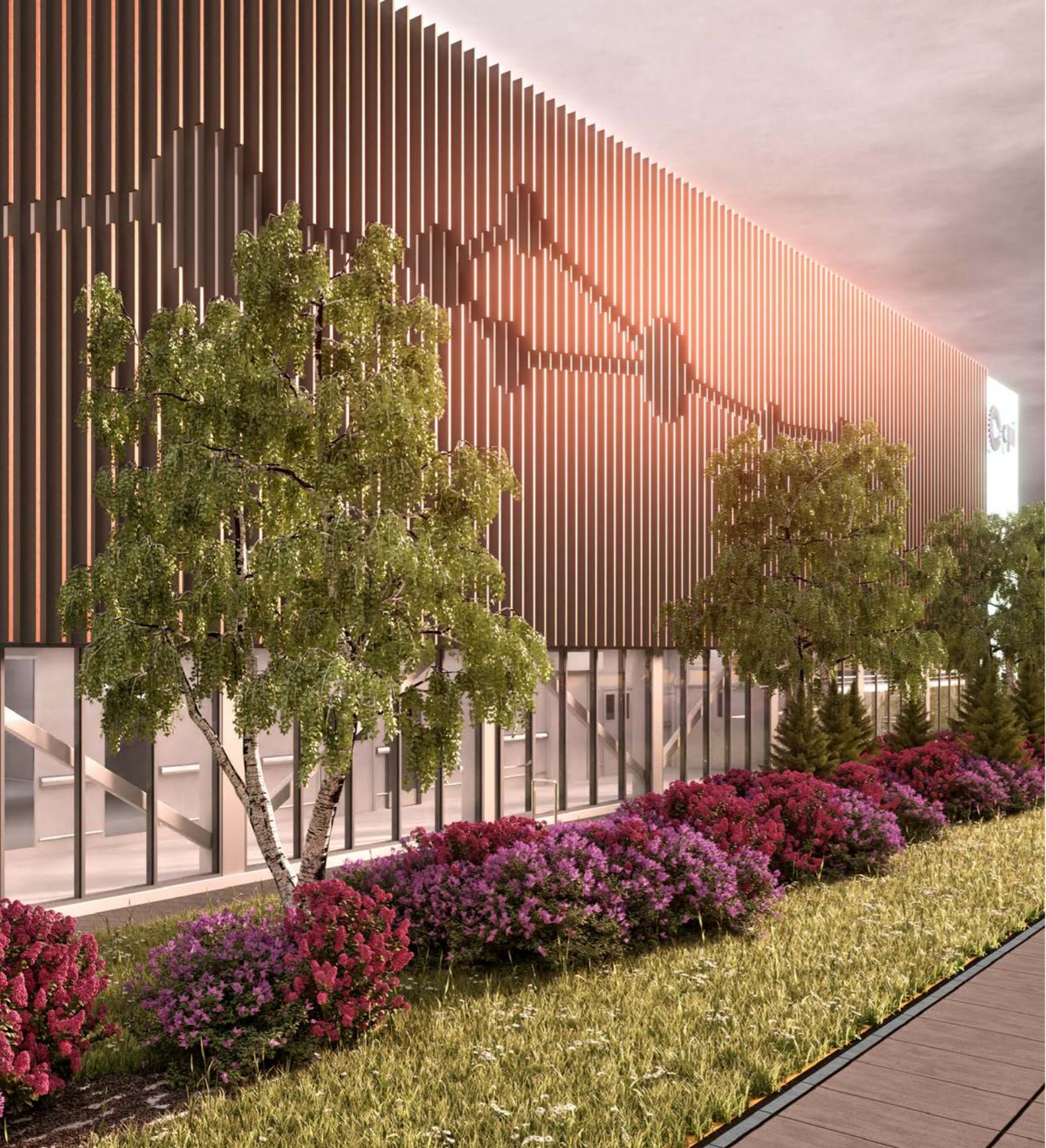
“The need for rapid delivery of new and effective medicines is greater than ever, as the COVID-19 pandemic has underlined. As founding partners in Medicines Manufacturing Innovation Centre, we are delighted to be supporting industry to meet this challenge. Medicines Manufacturing Innovation Centre brings together world-class talent, research capability, innovation skills and technology to create a unique and world-leading facility to accelerate the development of next-generation medicines, and increase technology and innovation opportunities within the medicines supply chain.”

Professor Sir Jim McDonald

Principal and Vice-Chancellor
University of Strathclyde







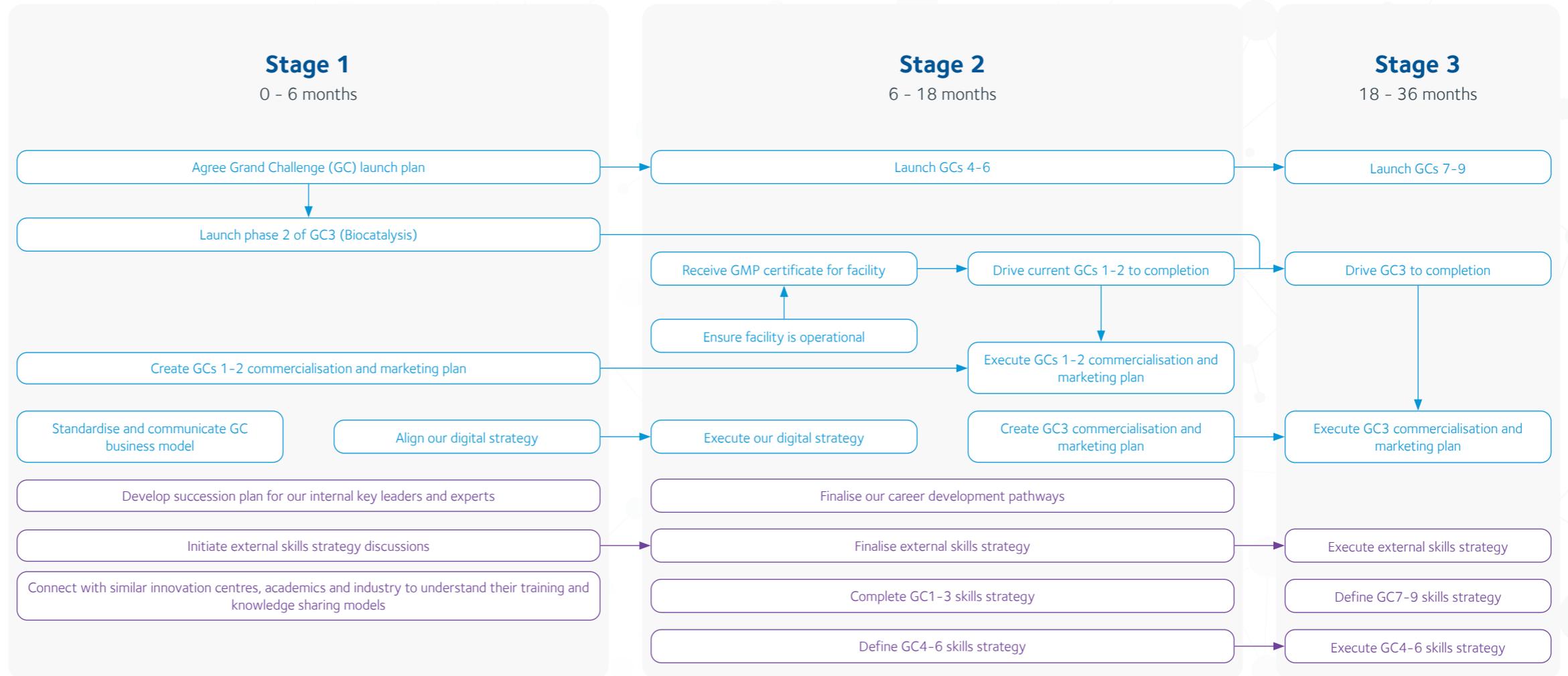
Our roadmap

Phase 0 of the Medicines Manufacturing Innovation Centre ran from 2019-2020, creating a strong platform for future success. The organisation is managed through a strong governance process which includes an independent Supervisory Board, a Technical Advisory Committee and an Executive Leadership Team.

This strategy will be managed through a strategy roadmap and board reporting process. The roadmap defines the actions from each of the five pillars and allocates them into three delivery stages across the short, medium, and longer term.

Commercialisation of advanced technologies

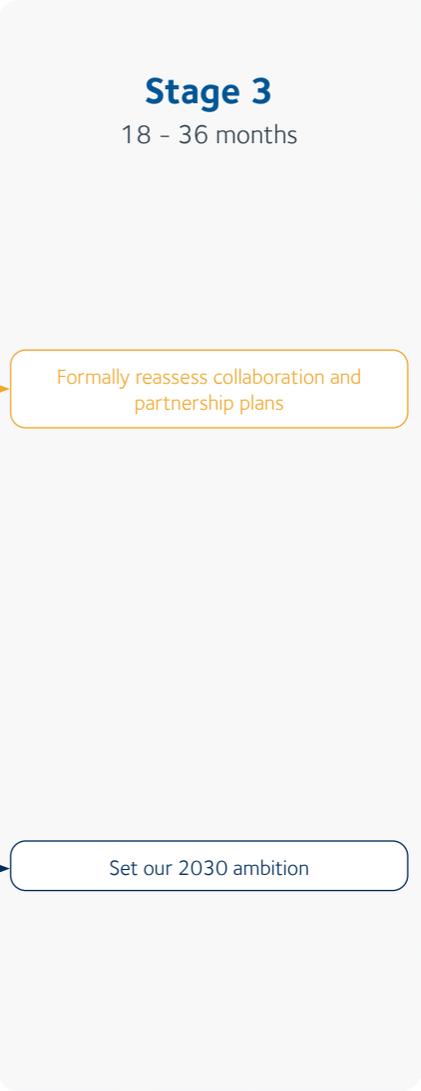
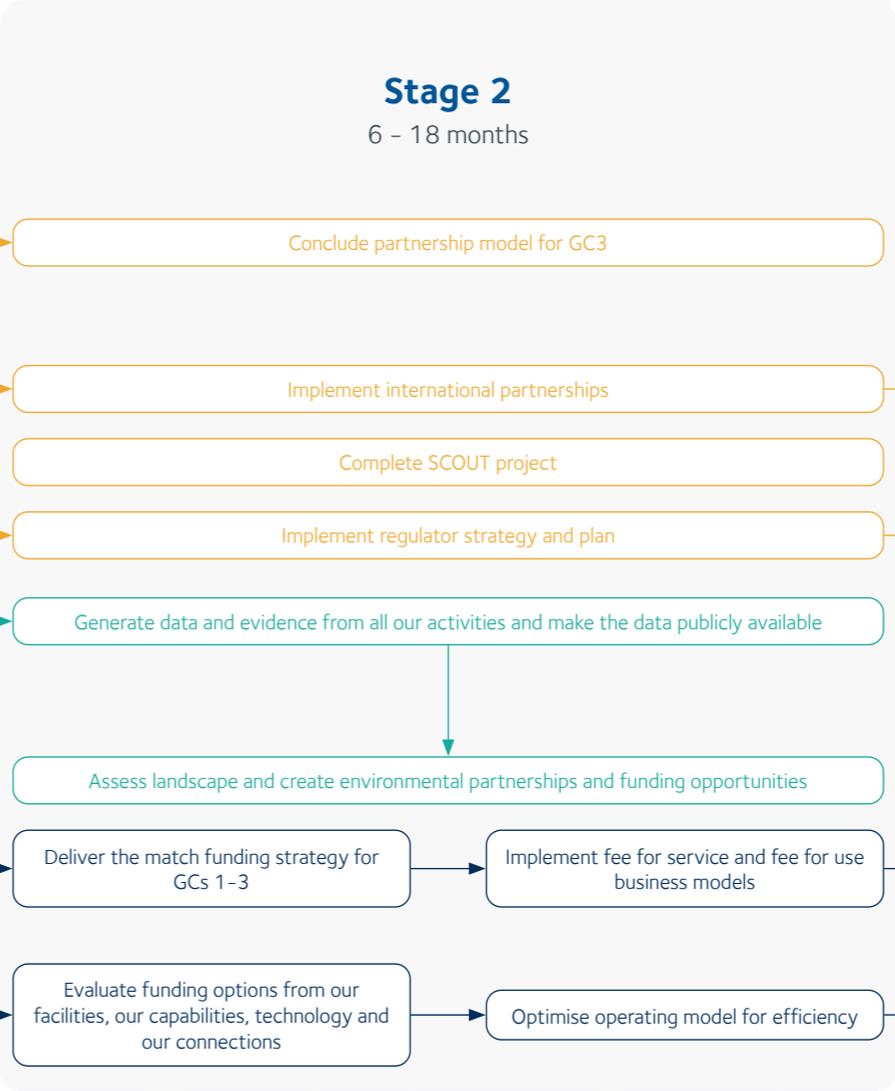
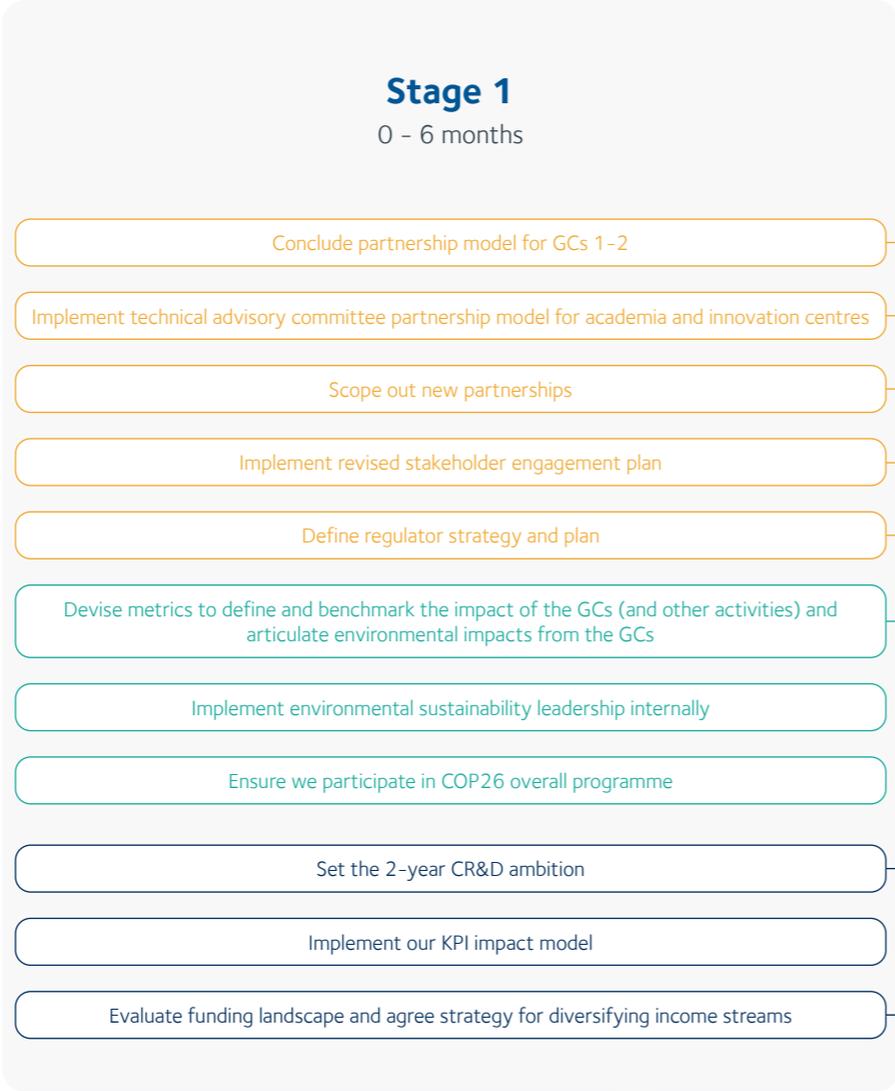
Skills and capabilities



Collaboration and partnerships

Sustainable technology leadership

Business growth





“Our job at UK Research and Innovation is to help good ideas become great businesses delivering products and services which change lives for the better. The Medicines Manufacturing Innovation Centre gives us a national, cutting-edge facility designed to tackle some of society’s greatest current and future healthcare challenges. It will help translate research into commercial success, improving patient care, building on our industrial strengths and sustaining economic prosperity across our communities.”

Andy Jones

Joint Director for UKRI: Medicines Manufacturing Challenge

“Innovation in pharmaceutical manufacturing is not just about great ideas. It requires the ruthless pursuit of robustness and demonstration of real world effectiveness in a relevant environment. For meaningful challenges, this is a risky endeavour. Collaboration enabled by the Medicines Manufacturing Innovation Centre will accelerate implementation of transformative technologies and ensure new medicines reach patients more quickly and sustainably.”

Jon-Paul Sherlock

Senior Director, Innovative Manufacturing Technology, Global Operations
AstraZeneca

Our partners

The Medicines Manufacturing Innovation Centre executive team would like to thank all of our partners for the collaborative, forward-thinking and ambitious approach to delivering this valuable vision and mission for our patients, the economy, and the industry.

Founding partners



Technology partners



Pharmaceutical partners



Business partner



Our team

We work with dedicated and highly capable individuals in collaboration with the wider teams at CPI, University of Strathclyde, UKRI, Scottish Enterprise, AstraZeneca, and GSK to deliver on our strategy.

Each Grand Challenge has a dedicated delivery team working with technology expert groups to deliver disruptive and ambitious solutions for the Pharma industry.

Leading the Medicines Manufacturing Innovation Centre is Dave Tudor, who joined CPI in 2018. Since his appointment he has been building a dedicated team of highly skilled, multi-disciplinary employees to drive this advanced technology partnership forward.

We have an ambitious pipeline of future Grand Challenges. We are all excited and we look forward to sharing them with you.

Let's innovate together

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