

AUGUST
2023

A MANIFESTO

FOR AN INDUSTRIAL SCIENCE & INNOVATION STRATEGY

Supporting the industry of science from start-up to largescale

SCI®



 **SCI**®
where science
meets business

CONTENTS	Executive Summary	4
	The Future	6
	POLICY INTERVENTION 1. Innovation & Science Growth Council	8
	POLICY INTERVENTION 2. R&D Tax Credits and Investments	10
	POLICY INTERVENTION 3. Visa Mobility Scheme	12
	POLICY INTERVENTION 4. Reforming Technology Transfer Offices	13
	POLICY INTERVENTION 5. Venture Capital Flow Through Tax Losses...	14
	POLICY INTERVENTION 6. Pension Fund Reform	15
	POLICY INTERVENTION 7. Science Scaling Investment Incentive	16
	POLICY INTERVENTION 8. Net Zero Tax Credits	17

EXECUTIVE SUMMARY

Supporting the industry of science from start-up to largescale

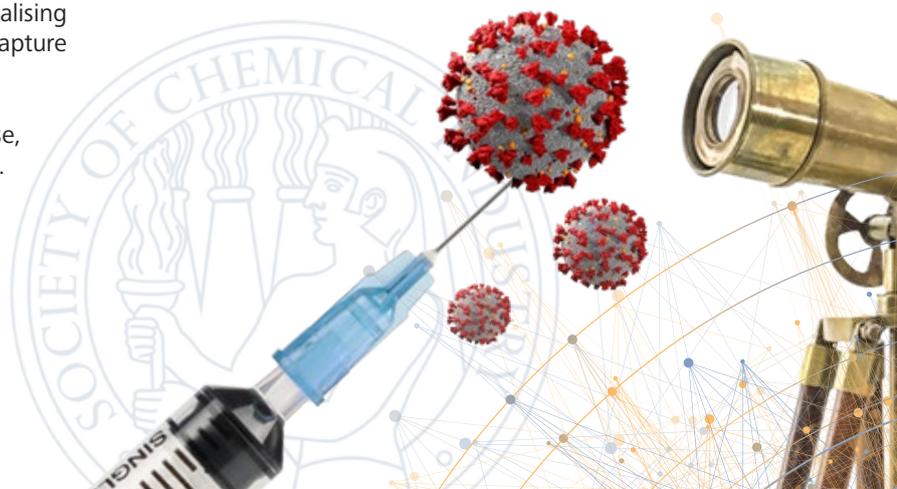
- There is no escaping that the UK is losing the race to becoming a science superpower. There is significant political understanding about our scientific excellence, but the sense of urgency needed to capitalise on our expertise does not exist. Huge investment decisions are being made by our neighbours, attracting capital that would be better placed in the UK. They have few advantages over us but that sense of urgency, which is enough to override any of our advantages in excellence. This manifesto explains what we need as a country to catch up to – and then outspurt – our competitors. Crucially, this manifesto needs to be read in the context that the UK trails science savvy rivals – and drastically so.
- Science and innovation are the bedrocks of British industry. That excellence has been witnessed throughout the centuries, be it the first reflecting telescope or creation of the world wide web, the discovery of penicillin or rolling out the world’s first Covid vaccine.
- The UK retains this reputation as a global leader of science-based industry, particularly regarding the quality and quantity of our researchers and their publications.
- We are not, however, meeting our vast economic potential. Too often we see our start-ups eventually move abroad, where access to capital is more freely available. Similarly, largescale firms ultimately commercialise their research in more attractive tax systems overseas.
- Lacking the commercial resources to grow our early-stage companies and attract the multinationals that can help us deliver growth at scale means revenue is leaking out of the UK. Our R&D spend lags behind our international rivals.
- The UK cannot afford to stand still while other advanced economies are implementing huge industrial strategies to propel their economies, creating jobs while becoming world leaders in green tech. There is no better example than the US’s Inflation Reduction Act, which contains \$500bn in tax breaks and spending for clean energy and to reduce healthcare costs. R&D will be boosted beyond measure, commercialising state-of-the-art technologies, including carbon capture & storage and clean hydrogen .
- By taking commercial advantage of our expertise, the UK’s economy would be turbocharged. According to SCI®-commissioned analysis by LEK

Consulting, this approach could create an additional £230bn in GVA and 240,000 jobs by 2030 in the life sciences and clean tech sectors alone. To achieve that, political parties must agree to an Industrial Science & Innovation Manifesto.

This investment and job creation would take place in diverse areas of the UK, supporting political ambitions to rebalance the economy from its dependence on London and the south-east of England. Across the country, residents will take pride in the medicines, sustainable technologies and digital products that are made in their communities.

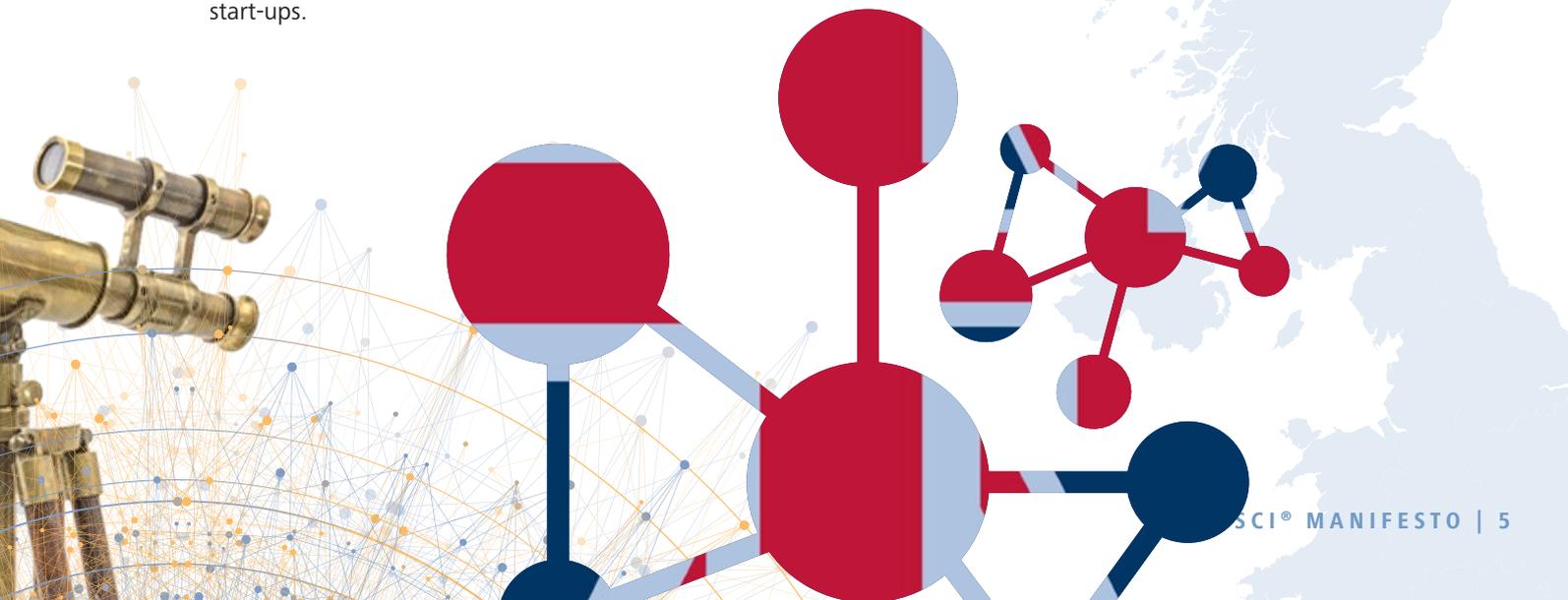
- To achieve those benefits, however, political parties must be as ambitious for science and innovation as we are at the SCI®. They also need to grasp the urgency of the situation – other countries are moving ahead of us.
- That’s why we have developed this Industrial Science & Innovation Manifesto. This document is not a menu of options, but a whole life-cycle strategy. Industry needs every element of this manifesto to be implemented to grow the most dynamic start-ups and make sure revenues stay in the UK once these long-term investments can produce at scale.
- Another way of looking at this is that science industrialisation is an ecosystem. Every policy will create a boost for other parts of the industry. This manifesto needs to be adopted in full, so the benefits are greater than the sum of its parts.
- The words ‘industrial strategy’ are mentioned so often by commentators, expert organisations and politicians. Yet, what should be in such a strategy is rarely articulated. This manifesto provides a structure for an industrial science and innovation strategy, which could then be encapsulated in an Innovation Implementation Act. This could also form part of an overall National Industrial Strategy, with science and innovation recognised as a vital component for its success.

<https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-inflation-reduction-act-heres-whats-in-it>



- Such an act would not be directly modelled on the US's Inflation Reduction Act – our attributes are very different. For example, our island is ideal for offshore wind, while there is understandably far greater focus on solar power across the Atlantic.
- But we can be as ambitious. Our overall proposal is for an Industrial Science & Innovation Strategy, which shows the optimal route to commercialisation throughout the lifecycle of product development. The following proposals are vital throughout that lifecycle:
 - An Innovation & Science Growth Council – with a direct line to the prime minister – which can help the Government select Science Enterprise Zones and develop the Innovation Implementation Act. This council's guidance is crucial to every technology readiness level and during full scale manufacture.
 - Simplifying R&D tax incentive schemes, while widening the scope to target activity that creates more skilled employment. The Government needs to take a lead in increasing investment, which is why ministers should have a duty to invest at least 0.6% of GDP in R&D.
 - A more flexible visa scheme for scientists, who should be able to make their long-term home in the UK while being able to travel for long periods as part of their employment.
- The following proposals are needed during the start-up, scale-up and largescale phases:
 - Reform of technology transfer offices, so that universities are mandated to back a minimum number of spinouts and founders are more likely to accept financial terms.
 - Incentives for venture capital to invest in scientific start-ups.
 - Liberalising pension fund investment rules, so that they are able to back more high-growth science and technology firms. This should include the creation of a growth superfund, in which schemes are mandated to invest.
 - A tax incentive for strategically important projects that ramp up production of scientific products and boost the economy. This would reduce the risk of losing major facilities to other countries, a situation that can be further averted by a competitive, stable rate of corporation tax.
 - Tax credits for largescale projects that can be shown to help the UK reach its net zero targets, aligned with the UK's overall industrial strategy.
- The purpose of our proposals is to make sure that policymakers consider the science and innovation industries from helping to spark creative ideas all the way to full-scale manufacturing. By nurturing and boosting every element of that lifecycle, society will benefit economically, environmentally and educationally.
- This is a process that can take many years and involve significant initial costs. But the ultimate rewards are huge. Time is not on our side, which is why long-term, cross-party commitment is essential and required as a matter of urgency.

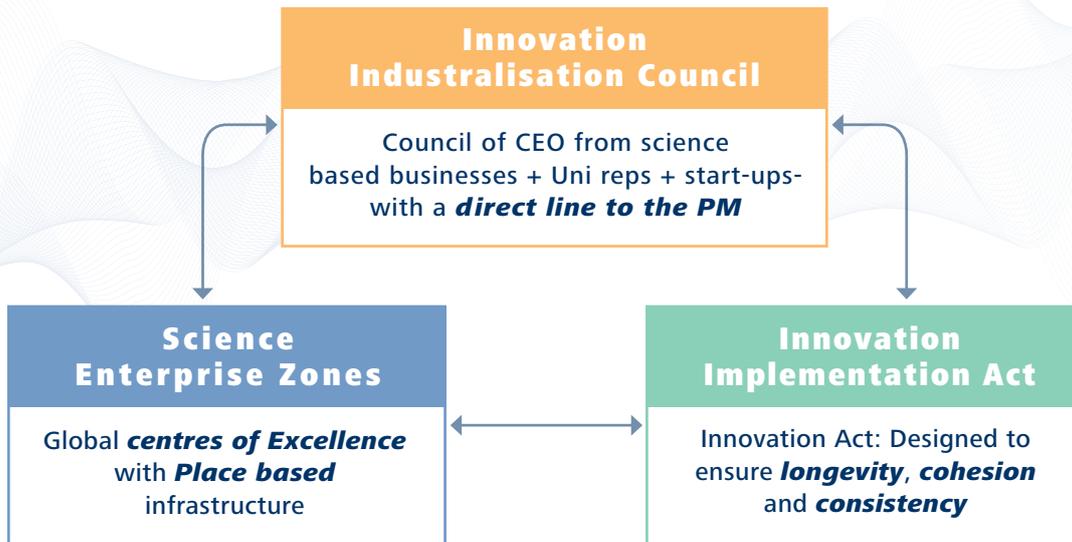
A recent LEK Report has highlighted an additional £230bn in GVA and 240,000 jobs by 2030 in the life sciences and clean tech sectors alone.



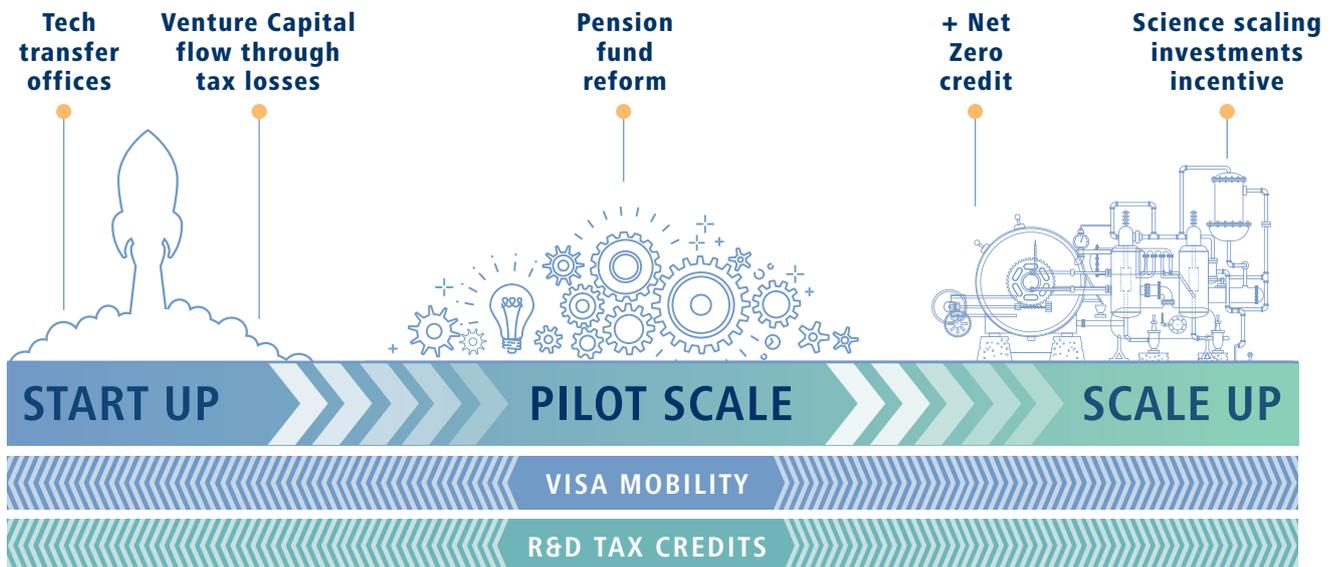
THE FUTURE

Industrialisation landscape at a glance

INTERVENTIONS STRATEGY & INFRASTRUCTURE



INTERVENTIONS POLICY



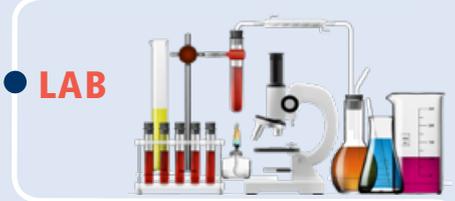
THE INNOVATION PROCESS



IDEA

TECH TRANSFER OFFICES

Government directed overarching structure and policies drive efficiencies and commercial approach - improving launch success. Central facility provide scaling support and advice.



LAB

START-UP

VENTURE CAPITAL

Flow through tax losses facilitate business transfer and continuity through long loss-making periods, facilitating science start-ups to survive through the 'valley of death'.



R&D TAX CREDITS

Essential to support the science through to scale up.



PENSION FUND REFORM

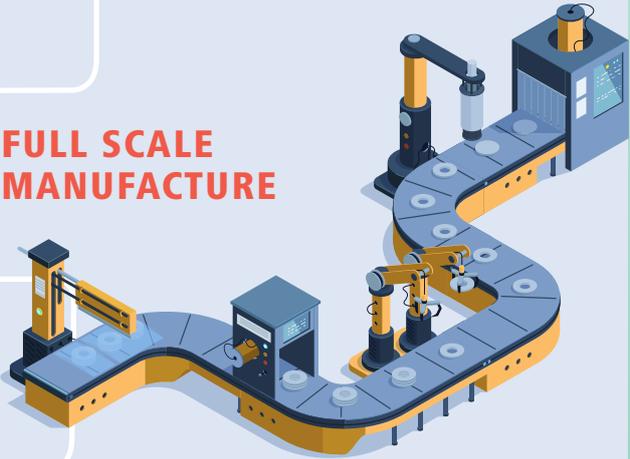
Facilitating pension funds to invest in start-ups to scale up. Unlocking \$Bns of funding.

SCALE-UP

FULL SCALE MANUFACTURE

NET ZERO CREDIT

Additional credit if the investment can prove a significant delivery against UK net zero targets.



SCIENCE SCALING INCENTIVE

Incentive driving investment in science-based manufacturing on scale.



SOCIETY



VISA MOBILITY SCHEME

New scheme facilitates scientists to be mobile through a 5+5 year period. Building knowledge, expertise and collaboration.

POLICY INTERVENTION 1 INNOVATION & SCIENCE GROWTH COUNCIL

CHALLENGE

There are an estimated 70 scientific advisory committees and council across government. This can cause confusion and has served to crowd out the voice of business.

The Prime Minister's Council for Science & Technology is, ultimately, at the heart of policy and guidance. The group nearly entirely comprises of academia, who are ideally placed to advise on objectives like education and skills. Other objectives, such as research capability, innovation and the economy, clearly require guidance from business, be it on the design of investment incentives or gaps in the labour market. Business expertise is

required to meet the UK's big challenge – the commercialisation of our cutting-edge ideas and research.

This means there is a lack of strategic direction from industrial experts, who could help advise the Government about the most effective routes to commercialising the UK's best R&D.

Plans to attract investment into science and clean tech, be they pension reforms or corporation tax, are also handled in a piecemeal fashion. This is similarly true of plans for industrial clusters, which risk neglecting the importance of science-based industries.



WHAT'S HAPPENING ELSEWHERE?



The European Innovation Council was set up by the European Commission in 2017 to promote high risk technologies in the EU. With a budget of more than €10bn, the council supports most of an innovation's lifecycle, including proof of concept and the scale-up of SMEs. In the

three-year pilot phase alone, more than 5,700 SMEs and start-ups raised €5bn in follow-up investments. This represents €3 for every €1 spent². It is no coincidence that the council's ambassadorial team draws heavily from the business world.

European
Innovation
Council



€10bn
BUDGET

5,700
SMEs &
start-ups
raised



€5bn
in follow-up
investments

POLICY RECOMMENDATIONS

- Creation of an Innovation & Science Growth Council, including chief executives of large science-based businesses, university representatives and start-ups. This body would have a direct reporting line to the prime minister, making sure science industrialisation is at the heart of government policy.
- The Council would also meet regularly with the leader of the opposition, to make sure there is a consistency of policy in the event of a change of government.
- Review existing science advisory bodies and cull those that are no longer needed now that science industrial policy is focused within the Council.
- The Council would advise on the development and location of dedicated 'science enterprise zones' as part of the broader industrial science innovation strategy.
- The Council would also support ministers and officials in developing an Innovation Implementation Act, which would encapsulate the proposals in this paper. The Act would formalise the industrial strategy, providing certainty that this cohesive approach remains in place for the long-term.
- Potential topics of concern for the Innovation & Science Growth Council to address include:
 - A more detailed and long-term strategy for renewable energy infrastructure policy to give businesses the stability and visibility needed to commit to investment;
 - An attractive stock exchange is a crucial aspect of a modern, competitive economy. Adopting the full recommendations of Lord Hill's UK Listings Review of domestic incentives for London Stock Exchange listings to encourage UK startups to grow and commercialise here; and
 - Accelerating the adoption of the circular economy of essential materials, such as lithium for batteries, to reduce the financial and environmental costs of material extraction and waste disposal. A strategic plan for recycling refineries, which require significant capital expenditure, would be part of this work, making sure the UK has the materials we need to grow.



GROWTH

**INNOVATION
& SCIENCE
COUNCIL**


Long-term strategy for renewable energy infrastructure policy

²https://eic.ec.europa.eu/about-european-innovation-council_en

POLICY INTERVENTION 2 R&D TAX CREDITS AND INVESTMENTS

CHALLENGE

An economic environment that supports R&D is crucial to stimulating innovation and investment in both the short and long term. While R&D expenditure is broadly in line with the OECD average of 2.6%, the UK is less research-intensive than other comparable advanced economies, lagging behind Japan, the USA and Germany³.

The UK does have an existing programme of R&D tax credits. Companies that invest in developing new products, processes, or services - or enhancing existing ones - are eligible for R&D tax relief. This takes the form of either a cash payment (if the company is loss-making) or a corporation tax reduction (if it is profit making).

The UK's R&D criteria are purposefully broad and have provided enhanced incentives over the years. However, significant changes to R&D tax credits (announced in last year's Autumn Statement) were implemented in April this year - cutting the overall generosity of the scheme for SMEs.



UK is less research-intensive than other comparable advanced economies.

The Government has recently closed a consultation on proposals to simplify the current system of R&D tax credits. Currently, the design of the SME system means that the effective rate of relief is different depending on whether it is applied against corporation tax, claimed as a cash credit, or a mixture of the two. If firms are loss-making, the rate will be up to 33% but if they are liable for corporation tax then the rate of relief will be up to 25%. This complexity makes it difficult for firms to effectively budget their R&D investments. SMEs have reported that it is difficult and time consuming to access some tax incentives⁴.

At the Spring Budget this year, the Government announced a new enhanced tax credit for R&D intensive SMEs, which was praised for reducing the detrimental impact of the April reforms. However, the overall effects of the cuts are still likely to be stark – 97% of respondents to a survey by start-up body Coadec said the cuts would “severely impact” them⁵.

97%
of respondents said recent cuts would “severely impact” them.

WHAT'S HAPPENING ELSEWHERE?

Tax incentives for R&D are used widely across other advanced economies. In the US, the federal government also awards R&D contracts to the private sector as an alternative means of encouraging R&D.

Under the latest changes to the R&D tax credit system announced in the UK's Spring Budget, loss-making businesses that spend more than 40% of their costs on R&D were given an 'enhanced' tax credit. A similar test for R&D intensity in

Australia is set at just 2%⁶. Therefore, whilst the UK approach can support nascent research in science and academia, it does not help sectors like manufacturing, engineering, communications and IT.

The public sphere's commitment to R&D trails most other advanced economies. The Government spends just 0.46% of GDP on R&D against the OECD average, ranking the UK 27th out of the 36 member nations.

POLICY RECOMMENDATIONS

- The Treasury should implement a single R&D tax relief system (with a fixed relief rate regardless of the company's tax position) that is simpler for claimants. This would provide greater certainty over tax relief and therefore make the UK more attractive to investors.
- The changes made by the Government as part of the April 2023 reforms to R&D tax credits have made the UK a less attractive location for R&D. Preliminary evidence has already pointed to R&D activity increasingly moving abroad⁷. The government must reverse these changes and improve the generosity of the R&D tax credit system in the UK.
- The Government widens the scope of existing R&D tax incentives, for example, to target sustainable R&D or activity that creates more skilled employment. More generous incentives could also be offered to R&D activities that match one or both these conditions.
- The government has a target for total R&D spending to reach 2.4% of GDP by 2027, which was the OECD average in 2017. But the onus should be on ministers to take a lead for industry to follow, making sure that government R&D spending catches up with our international rivals. A duty must be placed on ministers to spend 0.6% of GDP on R&D every year, taking annual advice from business about priority sectors for investment.
- The UK should be more ambitious in its target for total R&D spending, aiming for a minimum of 3% of GDP.



³LEK Consulting/SCI research https://www.soci.org/news/2023/7_uk-industrial-strategy-scaling-and-commercializing-uk-science-and-technology

⁴https://labour.org.uk/wp-content/uploads/2022/12/WEB-17247_22-Start-up-review-v12-ALT-2.pdf

⁵<https://www.ft.com/content/c20db112-74d6-45b1-8e1c-65475240d075>

⁶<https://www.ft.com/content/c20db112-74d6-45b1-8e1c-65475240d075>

⁷<https://www.uktech.news/news/government-and-policy/uk-activity-europe-20230126>

POLICY 3 VISA MOBILITY INTERVENTION SCHEME

CHALLENGE

In 2020, a streamlined, fast-track scheme – the Global Talent visa - to attract the world’s top scientists, researchers and mathematicians was introduced. Despite the excellent intentions, the scheme failed in its first year, with only one person granted a UK visa⁸.

SCI[®] members are concerned that the UK is not as attractive a place to work for scientists as rival countries. A more flexible visa system is needed, allowing skilled scientists to work in the UK long-term and build their lives in the country. At present there is a five-year skilled work visa to stay in the country.

Scientists need a flexible system so that they can lay roots in one country, while still working elsewhere for months or even years to learn new skills. This is particularly important for large multinationals, which we want to invest in the UK.

In addition, visa processes are not well promoted, so that employers have greater awareness of the graduate route visa. Our members also suggest that the rhetoric about immigration in recent years needs to change,

because many highly skilled workers are now uncomfortable about moving to the UK. They add that the bureaucratic nature of the system can deter people from applying for visas.

We also need to attract experienced, skilled scientists to support scaling up. Many start-ups struggle to scale-up because they require significant process development work to replicate what is produced in the laboratory at scale. This protracted process requires industrial scientists and engineers with many years of experience of scaling up, whereas many start-ups are largely run by academic scientists.



WHAT'S HAPPENING ELSEWHERE?

New Zealand, Sweden, Switzerland, Australia and Norway are the most attractive OECD countries for highly skilled workers, though the UK has seen improvements⁹.

There is typically a lack of bureaucracy to obtaining visas in these countries.

POLICY RECOMMENDATIONS

- The skilled visa system needs to be reviewed with the aim to make it more flexible, allowing scientists to move around countries freely. A longer-term visa of perhaps 10 years that has a provision for scientists and researchers working abroad for up to half of that period would be a major advance.
- The graduate visa currently lasts just two years – or three for those with a doctorate – and this must be increased

to a minimum of five years. Visa processes should be better promoted, so that employers have greater awareness of the graduate route visa.

- The system needs to be simplified, which will help reduce costs.
- A less bureaucratic system would help make the process become more welcoming and positive.

⁸<https://workpermit.com/news/uk-visa-scheme-top-scientists-flops-20220606#:~:text=A%20UK%20immigration%20scheme%20targeting,was%20launched%20in%20May%202021>

⁹<https://www.oecd.org/migration/mig/What-is-the-best-country-for-global-talents-in-the-OECD-Migration-Policy-Debates-March-2023.pdf>

POLICY INTERVENTION 4 REFORMING TECHNOLOGY TRANSFER OFFICES

CHALLENGE

The UK has world-leading universities, which undertake pioneering scientific research and development. For the commercialisation of this R&D, it is common for universities to partner with company founders. This, in theory, helps an early-stage company to accelerate its growth.

However, university technology transfer offices (TTOs), which negotiate the investment terms with the found-

ers of the spinout company, are not working as they should. A study from Beauhurst found that equity investment in university spinouts increased more than fivefold in the decade to 2021, from £405m to £2.54bn. Yet, only 3% of UK high-growth companies began as university spinouts. Just 0.03% of all companies in the UK have followed this growth path¹⁰.

WHAT'S HAPPENING ELSEWHERE?



UK TTOs typically take a high equity stake at a spinout's early growth stage, investing in exchange for up to about 50% company ownership. By contrast, founders in the US retain a greater proportion of the spinout company equity, with universities often taking as little as 5-10% for tech start-ups. These stakes, however, are not diluted in the US as they can be in the UK, so it is not a like-for-like comparison. In most cases, TTO investment is not sufficient to fully commercialise a new technology. Often, R&D focused start-ups can require 10 to 15 years of funding through losses to become profitable, which a university's initial investment cannot sustain.

An inactive early-stage investor taking up to 50% of a company's equity can demotivate founders, as well as make the potential investment opportunity far less attractive to other investors. Also, some UK business funding programmes are conditional on start-ups having less than 25% ownership by a third party (some programmes do make

exceptions for equity stakes held by universities).

Ultimately, UK TTOs need to work on a longer-term view of returns on investment. By taking a significant proportion of equity at an early stage, TTOs make the future investment opportunity far less attractive to private equity. Without such a source of extensive funding through the losses incurred in long-term commercialisation, spinout companies can struggle to survive into profitability.

Experts among our membership also point to the tendency of universities to only grant exclusive licences. This is because of concerns that intellectual property will end up with creditors in the event of bankruptcy or purchased at a meagre rate by investors. This risk-averse behaviour means there is a lack of certainty for investors about the commitment to release the technology and whether the company would fully own the intellectual property in the future.

POLICY RECOMMENDATIONS

- A requirement for TTOs to support a minimum number of spinouts in a given period, to be accessed as a key performance indicator of the university¹¹. By encouraging universities to make a great number of smaller investments, founders would retain more equity for future funding negotiations.
- A standard agreement structure for all TTOs, allowing the university to hold 10-20% of the company's equity, a small percentage royalty on net sales, or specified percentage of the exit value upon a sale or stock market listing of the company¹².
- A central government facility to advise and oversee TTOs, making sure they collaborate where appropriate and are helped to secure the most suitable commercial terms
- A review of the licencing system to make sure there is greater certainty for investors.

¹⁰The growing tensions around spinouts at British universities, *Financial Times*, January 2023

¹¹Understanding UK Artificial Intelligence R&D commercialisation and the role of standards, *Department of Digital, Media, Culture and Sport and the Office for Artificial Intelligence*, May 2022. P37.

¹²Universities in the UK and Europe have a start-up problem, *Financial Times*, May 2021

POLICY 5 VENTURE CAPITAL FLOW THROUGH TAX LOSSES

INTERVENTION

CHALLENGE

Allowing companies to carry through tax losses helps them to survive the difficult early stages of investment (known amongst venture capitalist practitioners (VCs) as the 'death valley curve') – thus encouraging them to stay put in a location until they reach profitability.

Companies in the UK can already carry trading losses forward to deduct from profits of future accounting periods as long as the trade continues. The UK also has three venture capital schemes which aim to attract investment by offering tax reliefs to individuals who buy and hold new shares, bonds, or assets for a specific period of time. One of these, the Seed Enterprise Investment Scheme (SEIS) specifically targets companies under two years old.

However, we heard from business leaders who form part of SCI®'s membership that the system for carrying through tax losses in the UK is overly complicated. They said qualifications on the rules limit the tax losses that can actually be carried forward. This then acts as a deterrent to early-stage investment by private equity and VCs at a critical time in the investment cycle.

There is also difficulty in finding scale-up capital for science start-ups because the level of funding is much greater than many other sectors. This means there needs to be reform to attract this scale of funding.



Allowing companies to carry through tax losses helps them to survive the difficult early stages of investment.

WHAT'S HAPPENING ELSEWHERE?



In the US, a Net Operating Loss (NOL) Carryforward allows businesses suffering losses in one year to deduct them from future years' profits. Businesses are taxed on average profitability, making their tax code more neutral. NOLs can be carried forward indefinitely but are

limited to 80% of taxable income.

In Canada, businesses can generally carry a non-capital arising loss back three years and forward 20 years.

POLICY RECOMMENDATIONS

- A full review should be conducted into the rules currently governing the carry-through of corporate tax losses in the UK, with a view to simplifying the system. This would encourage companies to take greater advantage of this incentive.



POLICY 6 PENSION FUND INTERVENTION REFORM

CHALLENGE

The UK has the second largest pensions market in the world, yet overseas pension funds invest 16 times more in venture capital and private equity in the UK than domestic funds¹³.

Pension funds are largely prohibited from investing in early and growth stage companies because of limits to schemes that charge more than 0.75% in management fees. There have been some moves to liberalise this structure, including a recent £250m of government support to create new vehicles for schemes to invest in science and technology businesses. This is part of a larger scheme dubbed 'Life Sci for Growth'.

There are also the Chancellor's 'Mansion House reforms', including an agreement between nine of the UK's largest defined contribution pension providers. This commits them to investing 5% of assets in their default funds to unlisted equities by 2030. It is hoped

this will unlock £50bn of investment in high growth companies by the end of the decade. The details of the scheme, however, have been vague thus far.

This work, however, needs to be accelerated – and enlarged – if start-ups are to benefit from the UK's relative strength in pension funds. Virtually the entirety of the UK's £1.1 trillion of defined contribution pension assets are invested in the markets, bonds and equities. This is a low risk, low reward approach that results in a shortfall in growth funding. There is a general sense of reluctance amongst UK pension funds to invest in high-growth companies – which is both a product of the aforementioned regulatory limitations and a broader culture of risk-aversion amongst UK pension funds. We want see greater pooling of the fragmented UK pensions scene, creating new 'super funds' that are more willing and able to invest in early-stage investment opportunities.

WHAT'S HAPPENING ELSEWHERE?



In life sciences, the US is four times more likely to take a start-up to a listing on the stock exchange than the UK. If the UK were to just double this conversion rate, there would be an additional £250m in revenue from newly listed life sciences firms in the UK every year.

Pension funds are able to invest significantly in venture capital in the US, Canada and Australia. In Canada, pension schemes have been known to pool their assets to

access alternative investment options that would be too expensive for them as individual schemes. The 'Canadian Pension Plan', for example, is 1,000 times the size of the average UK private-sector pension fund. Its size enables it to make significant investments in high growth companies. In the UK, the smaller size of pension pots means fund managers tend to favour risk-averse strategies that ultimately yield lower returns.

POLICY RECOMMENDATIONS

- Loosen rules preventing pension funds from investing in start-ups and scale-ups.
- Pool pension fund assets to reduce risk when investing in start-ups.
- Cross-party backing for the proposed £50bn 'Future Growth Fund' for early-stage technology and biotech – with pension funds mandated to invest a proportion of their money in the project.
- As soon as early successes have been established, vastly increase the £250m pot to encourage pension fund investment in promising science and technology companies.
- Expedite proposed reforms to consolidate UK pension schemes to reduce risk and encourage larger funds to invest in high growth, start-up companies and VC.
- Champion pension fund reforms to encourage and facilitate a broader shift in the investment preferences of UK public and private pension funds.
- The Mansion House pension plan must make sure that life sciences, clean technology, sustainable materials and recycling are within the investment specifications.

¹³<https://www.institute.global/insights/politics-and-governance/new-national-purpose-innovation-can-power-future-britain>

POLICY INTERVENTION 7 SCIENCE SCALING INVESTMENT INCENTIVE

CHALLENGE

The UK's existing tax system has been criticised for failing to attract the investment needed to grow the economy and stimulate innovation. The end of the 'super deduction' and the rise in corporation tax from 19 to 25% in April have added to concerns around the UK's attractiveness for companies looking to conduct large-scale, long-term investment. With the super deduction, the UK had the fifth most competitive tax system in the OECD for capital investment but, without it, we sit 30th out of 38¹⁴.

Earlier this year, the chief executive of AstraZeneca blamed the UK's 'discouraging' tax rate for driving the

company to build its \$400m manufacturing facility in Ireland – with a 12.5% corporation tax rate - rather than in the UK¹⁵.

The UK also has a particular problem with attracting companies at the largescale stage. No FTSE 100 top ten UK company has been built or scaled in the last 20 years, in stark contrast to the experience in the US¹⁶. This is the stage when commercialised science provides revenue gains to the country, but the UK's economic framework means we lose these benefits after years of investment during the lossmaking research phase.

WHAT'S HAPPENING ELSEWHERE?



Large-scale investment is incentivised in other countries through tax benefits, cash grants, guarantees and loans. Comparable countries to the UK often offer a combination of these different elements to attract companies to do business with them. Business investment is lower in the UK

than the US and - notably - also in places like Germany and France, where tax burdens are actually higher.

In Ireland, a corporation tax 'holiday' applies to certain start-up companies that start trading between 2009 and 2026.

POLICY RECOMMENDATIONS

- A specific tax incentive for strategically important facilities designed to produce science-based projects or facilities at scale. The Government should set simple criteria to make sure investment qualifies for the incentive. This could include:

a) Job creation, b) Amount already spent on developing the science or technology through earlier phases of research, c) Economic benefit

- The Government recently announced changes to capital expenditure policy that will see the full expensing of capital expenditure for three years. Tax experts say this would give businesses back £25 for every £100 spent¹⁷ and the Office for Budgetary Responsibility expects business investment to be around 3% higher while the scheme is in place¹⁸. However, the OBR also noted that such a scheme would need to be permanent to do more than simply

bring forward investment from later years. This policy should be made permanent, creating a more stable, attractive and long-term tax environment for businesses.

- Many UK tax reliefs are focussed on exit or succession¹⁹. The Government should shift emphasis, encouraging businesses to continue to grow rather than cashing out when further development is needed.

- Reduce corporation tax to internationally competitive levels.

- Other jurisdictions offer low-interest loans to attract investment. There should be a mechanism to allow large investments to be backed by the same rates enjoyed by governments – perhaps underwritten by those very governments. This will help the UK catch-up to those territories that our outpacing us.

¹⁴ <https://www.cbi.org.uk/media-centre/articles/is-the-uk-stuck-in-a-rut-on-growth-speech-by-cbi-director-general-at-university-college-london/>

¹⁵ <https://www.bloomberg.com/news/articles/2023-02-09/astrazeneca-says-uk-tax-rate-discourages-pharma-investment#xj4y7vzkg>

¹⁶ https://labour.org.uk/wp-content/uploads/2022/12/WEB-17247_22-Start-up-review-v12-ALT-2.pdf

¹⁷ <https://www.thetimes.co.uk/article/constant-tax-changes-wont-inspire-business-to-invest-in-britain-7pnvvpjxn>

¹⁸ <https://www.lse.ac.uk/granthaminstitute/news/spring-statement-a-budget-for-green-growth-unfortunately-not-yet/#:~:text=The%20OBR%20expects%20business%20investment,forward%20investment%20from%20later%20years.>

¹⁹ <https://kpmg.com/uk/en/blogs/home/posts/2022/07/can-tax-policy-shape-the-levelling-up-agenda.html>

POLICY INTERVENTION 8 NET ZERO TAX CREDITS

CHALLENGE

At the start of this year, the UK published an Independent Review of Net Zero. More widely known as the 'Skidmore Review', this looked into the ways that the UK could seize the opportunities from transitioning to a green, net zero economy.

The review provided insight into the potential for tax measures to support decarbonisation and the path to net zero. The Skidmore Review²⁰ included a number of recommendations for new incentives for investment in decarbonisation, including via the UK's tax system and capital allowances. This is important at all levels of science industrialisation, but can be levered so that we attract the biggest international companies to invest at scale in the UK.



The 'Skidmore Review' can be levered so that we attract the biggest international companies to invest.

WHAT'S HAPPENING ELSEWHERE?



The US's Inflation Reduction Act and the EU's subsequent Green Deal Industrial Plan have both highlighted the potential for tax incentives aligned with net-zero goals to simultaneously boost investment and help countries reach their climate change targets.

The US's Inflation Reduction Act (IRA) includes numerous targeted tax incentives for the manufacturing of climate-friendly technologies and materials. These include the materials needed for batteries, solar and wind energy,

as well as carbon capture systems and electrolysers for hydrogen.

Given its relative size, the UK would be unable to replicate the scope and scale of the IRA. For example, some measures within the act offer companies as much as \$40 000 in tax credits to buy clean commercial vehicles. However, the UK can take inspiration from some of the incentives for our own industrial strategy, adopting a more targeted approach.

POLICY RECOMMENDATIONS

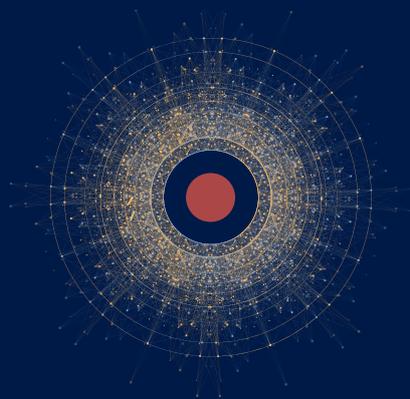
- The Skidmore Review included a recommendation that the UK Government considers introducing a successor to the 'super deduction' – the 130% capital allowance deduction for capital expenditure that ended in March this year. A new form of the super deduction could be targeted specifically at investment in eco-friendly assets. This could see businesses granted additional capital allowances for making 'green' investments or lowering their emissions.

- The UK should adopt tax incentives modelled on those

in the US IRA, supporting a potentially high growth area of science and innovation. This would build on the Skidmore Review recommendation that the Treasury should 'explore the effectiveness of tax reliefs for businesses in encouraging investment'.

- Additional tax credits for any largescale investments that can be shown to help the UK hit its net zero targets.

²⁰<https://www.gov.uk/government/news/net-zero-review-uk-could-do-more-to-reap-economic-benefits-of-green-growth>



SCI® is
a global
organisation -
connecting
science with
business.

Society of Chemical Industry, 14/15 Belgrave Square, SW1X 8PS, London, UK
T: +44 (0)20 7598 1500 E: exec@soci.org www.soci.org

SCI® founded in London 1881 and in New York 1894 | Incorporated by Royal Charter 1907 | Registered as UK Charity 206883
Recognised as a not for profit organisation across the world | SCI® is a trademark of Society of Chemical Industry