Isle of Man – Advanced Engineering and Manufacturing Strategic Review

A proposed Strategy for the Engineering and Manufacturing Sector for the next 10 years

Report commissioned by Business Isle of Man

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Introduction

National strategies and economic studies consistently demonstrate that a well-supported manufacturing sector is a key driver of economic growth, productivity and innovation, as well as regional development and inclusion[1]. Furthermore, manufacturing plays a vital role in strengthening national resilience, industrial and technological sovereignty, and national security. The evidence gathered during the Strategic Review supports the view that, under the right conditions, the Isle of Man's Engineering and Manufacturing (E&M) Sector has a significant role to play in growing the local economy. To enable this, a realistic strategy developed by industry and Business Isle of Man has been proposed to ensure that the full potential of the Island's E&M Sector is realised.

The development of the Strategic Review has been conducted in two distinct phases. Phase One assessed the competitiveness of the Isle of Man's E&M Sector through a detailed policy and economic comparison against similar jurisdictions. To augment this sector level review, a series of detailed diagnostic assessments were conducted on ten prominent local manufacturers. The analysis culminated in an enhanced SWOT of the Island's E&M Sector and was used to generate an initial list of strategic initiatives that could enable its growth.

This report covers Phase Two of this work and builds upon Phase One to articulate a coherent and realistic vision for the E&M Sector to double in value over the next ten years, with a clear ambition to grow beyond that. Using sector vision developed by industry, government and academia in the Isle of Man, six core themes and strategic initiatives were generated. This was achieved via two road-mapping workshops with key stakeholders from industry, government and academia in the Isle of Man. Industry input has been augmented with detailed policy case studies from relevant jurisdictions and complemented by the creation of key short and long-term impact metrics.

Several important findings emerged from both Phase One and Phase Two of the analysis. The bullet points below summarise the most pertinent insights for policy makers and industry to reflect and action:

A well-supported E&M Sector supports the growth of the wider economy: Despite the decreasing contribution to national income and slowly falling job numbers, a properly supported E&M Sector is vital for a thriving local economy. When looking at comparator nations, E&M sectors that are adequately nurtured generate a significant number of spillover jobs in adjacent industries, contribute most to innovation spending and are highly resilient to external shocks.

Leveraging private investment is essential to grow the Sector, underscoring the importance of working with industry to develop vision and initiatives: The successful implementation of a 10-year Strategy rests on whether industry is aligned with initiatives and investment commitments. The vision, initiatives and approximate spending commitments have been created and ratified by key industry stakeholders who are completely aligned with the priorities and initiatives listed in the proposed Strategy.

[1] Anzolin, G; Castaneda Navarrete, J & Ribaudo, D 2023, *Perceptions of Manufacturing: How to make manufacturing charming again?*.

Six themes underpin the proposed 10-year Strategy and are vital for the future of the Island's E&M Sector: Developed via the Phase One findings and industry steering groups, six themes were identified and include: Fostering Innovation; Attracting FDI; Championing Sustainability; Driving Productivity; Developing Skills and Competitive Funding. These themes resonate with global challenges in the E&M Sector, so provide the Isle of Man with a global perspective on maintaining competitiveness.

To achieve the Strategy, 45 separate Isle of Man specific initiatives have been recommended across the short, medium and long term: Underscoring each theme are a series of actionable initiatives that help drive the E&M Sector towards improving its performance. Where applicable, each of these initiatives has a comparator case study as a potential blueprint for how the Isle of Man could enact the initiative.

Depending on the level of ambition, the estimated government funding required between 2025-35 to enact the Strategy ranges from £34.6m to £70.6m. Similarly, the private investment requirement is estimated between £51.2m and £111.77m: The proposed Strategy sets out a minimum and a maximum ambition for achieving the Strategy. The minimum ambition is minimum viable spending level needed to implement an initiative in a pared back form. The maximum ambition matches the spending requirement in a competitor jurisdiction.

The level of government support needed to realise the minimum viable level of investment is consistent with previous FAS allocations: The proposed Strategy intentionally gives two book ends of what could be possible based on the level of ambition. The minimum ambition was mindful that, given the current political and economic constraints in the Isle of Man, it should be politically palatable. Therefore, the minimum ambition represents a reprioritisation of existing funding commitments via the Department for Enterprise's Financial Assistance Scheme (FAS) to other strategic themes that sit comfortably within the spending envelope historically awarded to the E&M Sector by FAS.

Targeted funding programmes will encourage investment in long-term growth and strategic areas for the E&M Sector: The flexibility of what FAS could fund was often a strength highlighted by businesses as it could meet immediate business needs. However, this strength often resulted in businesses prioritising short-term, tactical needs rather than investing in long-term, strategic growth areas. Structuring funding programmes based around the six strategic themes will encourage growth in the medium and long-term.

Set funding programme windows may help generate demand, ease the project assessment process and manage internal resources more effectively: The current Financial Assistance Scheme has an open application process where any business can apply for funding. Changing to targeted funding programmes enables the Isle of Man to set programme funding windows which have multiple benefits. First, it encourages applications within a certain time frame, stimulating the private sector to create bids and generate a pipeline of potential projects. Second, it enables projects to be evaluated at the same time, providing a valuable source of data on the E&M Sector's performance. Finally, a set application window enables the DfE and Treasury to pre-empt resource requirements when evaluating projects, leading to more accurate forecasting of civil service resource demands.

Several pilot initiatives are proposed in the short-term to test the efficacy of the proposed Strategy, with spending becoming more pronounced in the medium and long-term: Following the extensive evidence base and positive engagement from industry, a series of pilot studies and programmes will need to be enacted to test the appetite for certain initiatives. The purpose of this is twofold. Firstly, some of these new initiatives represent a departure from the status quo, so testing them in a trial environment is needed to gain validation from industry and government. Secondly, these pilot initiatives also provide a perfect opportunity to improve impact data collection concerning innovation, productivity, sustainability and FDI that enhances the IOM Government's understanding of the true impact of the E&M Sector.

Aligning funding terms and conditions more closely with competitor regions will maximise investment into the E&M Sector: A common complaint from IOM E&M businesses is that the funding terms for the FAS are uncompetitive and restrict investment. Over reliance on job creation and the grant process awarding funding post completion of work incentivises investment in a narrow set of companies and areas. Aligning more closely with the terms and criteria to access Innovate UK grants would likely encourage more SMEs to engage and enable more productivity, sustainability and innovation investments.

Broadening the assessment criteria for any funding scheme via a "balanced scorecard" approach will ensure valuable projects are supported even if job creation is limited: To enable the DfE and the Treasury to award funding on broader criteria than job creation, alternative impact metrics have been defined for each of the theme areas. These impact metrics are often collected in comparator jurisdictions, with highly tailored funding application forms used to collect and monitor performance on areas like level of capital investments, company profitability, productivity, environmental performance and R&D spending. Collecting this information and structuring it into a balanced scorecard or radar plot will help policy makers understand the comparative merits of projects and inherent trade-offs. It also offers the flexibility to weight certain criteria like job creation more prominently, reflecting its continuing importance, while also allowing other factors to influence final investment decisions.

Some level of internal government resources will be needed to effectively implement the range of initiatives in the proposed Strategy: In an ideal scenario, more resource would be required to ensure a 10-year Strategy is delivered as effectively as possible. In particular, the proposed Strategy highlights the need for a dedicated Innovation and FDI lead alongside the resources to capture a wider array of data across the five areas. However, considering current political and economic constraints, it may be difficult to justify specific hires for the E&M Sector. Therefore, a pragmatic approach could be taken such as these roles covering multiple industries within the Department for Enterprise, or, reallocating existing resources to these initiatives at the expense of current DfE programmes.

To capitalise on the positive momentum, several immediate recommendations have been proposed to bridge the gap between Strategy sign off and implementation: Despite the proposed Strategy outlining the short, medium and long-term initiatives needed to grow the E&M Sector, it was recognised there is a significant 'gearing up' period between the publication of the Strategic Review and the first initiatives being implemented. To bridge this gap, the Strategic view highlights some immediate recommendations for 2025 that industry and government can action to begin developing the final Strategy.

Study overview

The proposed 10-year Strategy aims to build upon the assessment of the Island's current E&M Sector conducted in Phase One. The full Phase One Report can be found here. Using this, a realistic 10-year Growth Strategy has been formulated using extensive feedback from industry, a dedicated Steering Group and detailed case study analysis of initiative financing and implementation. Figure 1 provides an overview of the key steps used to build the E&M Sector Strategy and the evidence base that supports the findings in each step.

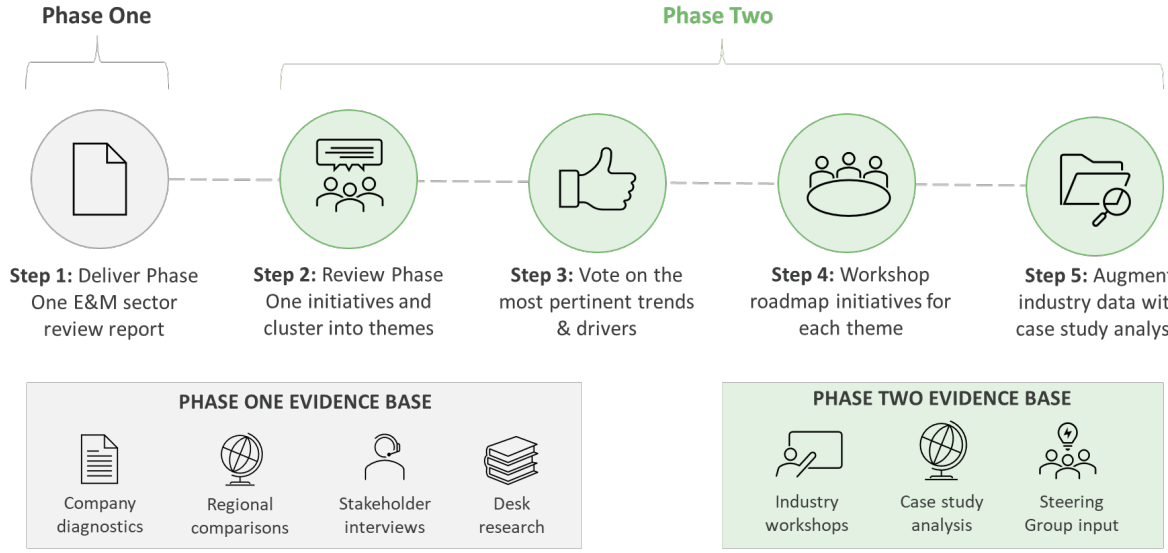


Figure 1 - Engineering and Manufacturing sector Strategy: methodology and approach

This process led to the following deliverables being achieved as part of the Strategic Review:

- Identification of the rationale for a 10-year Strategy for the E&M Sector that underscores its economic potential
- The vision for the E&M Sector, as defined and created by the E&M Steering Group
- A set of initiatives across six themes on a short, medium and long-term horizon
- Government and industry spending implications of pursuing the initiatives, with a minimum and maximum spend scenario provided to detail a range of ambition
- The short, medium and long-term outcomes and impacts of pursuing these initiatives. Both in terms of immediate outcomes of the initiatives and how they influence macroeconomic metrics
- The internal and external resources required to enact the initiatives
- A set of immediate next steps for 2025. These intend to act as a bridge between the publication of the Strategic Review and the Department of Enterprise developing the final Strategy and delivering on selected initiatives.

The Phase Two Strategic Review consists of two parts. The first provides a high-level overview of the proposed Strategy and touches upon the strategic rationale, how the themes were chosen and a broader perspective on the spending allocation. The second contains detailed information on each of the six themes including a narrative on each initiative supported by a relevant case study which describes how similar initiatives have been implemented. Minimum and maximum spending implications are also provided alongside the short and long-term outcomes of pursuing each initiative. The section concludes by illustrating what resources will be needed to enact a strategy and some immediate 2025 actions to bridge the time in between delivery of the Phase Two report and adoption of a final strategy.

SECTION 1: AN OVERVIEW OF THE PROPOSED 10 YEAR ADVANCED ENGINEERING & MANUFACTURING

Articulating the strategic rationale and vision

The strategic rationale for implementing a 10-year strategy for the E&M Sector centres on two key points.

1. **Economic imperative:** a healthy E&M Sector is a strategically important element of current industrial strategies. Most developed economies have advanced engineering and manufacturing as a key pillar of future economic growth. If the sector is well supported and the foundational elements are in place, E&M sectors have a profound impact on export performance, productivity, research[2], as well as regional development and inclusion. Therefore, this 10-year Strategy aims to fully realise the inherent potential of the Island's E&M Sector so the local economy can fully benefit from the spillovers.

2. **Shifting the nature of support:** it has been difficult to quantify the additional benefits that historic support provided to the E&M Sector has delivered in addition to job creation and salary increases. Headline statistics suggest the sector has reduced in size in terms of job numbers and contribution to national income. While the flexibility of the Financial Assistance Scheme (FAS) is a great strength, it has tended to fund short to medium-term priorities rather than encourage the E&M Sector to pursue longer term growth opportunities. Moreover, there is a disconnect between how the IOM Government measures the effectiveness of the E&M Sector and the strategic objectives of the manufacturing businesses. With these points in mind, the 10-year Strategy aims to offer more targeted funding options alongside a broader range of metrics to assess the E&M Sector's impact.

The following section further explores these two points and provides the evidence base.

Macroeconomic rationale for supporting the E&M Sector

When the engineering and manufacturing sector has the right set of conditions to thrive, it has significant direct and indirect impacts on the wider economy. Based on the research produced for the *Isle of Man Engineering and Manufacturing Strategy: Phase One Report*[3] and a wider literature review led by Gemserv, this section highlights four overarching benefits of why nurturing a healthy E&M Sector is strategically important for national economies.

These benefits are only fully realised when government, industry and academia are working collaboratively to maximise the impact of their E&M Sectors. Despite some strong foundations, the Isle of Man's E&M Sector is not reaching its potential in terms of direct and indirect economic impact. Considering this, the creation of a 10-year Strategy is crucial in guiding the E&M Sector so it can achieve a similar level of economic impact as other jurisdictions. Below is a more detailed exploration of each of the four benefits.

[2] Anzolin, G, Castaneda Navarrete, J & Ribaudo, D 2023, *Perceptions of Manufacturing: How to make manufacturing charming again?*.
[3] Gemserv & IfM Engage. 2024. Isle of Man Engineering & Manufacturing Strategy: Phase One Report. Available from here.

Spillover employment benefits from the E&M sector

E&M skillsets are crucial for the current & future economy

The E&M sector drives national innovation spending

Benefits of sector diversity & the resilience of E&M sector

Spillover employment benefits from the E&M Sector: Economists commonly track and evaluate the interdependencies between industries by utilising Input-Output tables. I-O tables allow users to analyse how a unit change in an input in one sector of the economy will have a wider impact on the economic & employment outputs (FTE) of other sectors. Simply put, they capture how the output from one industry is an input to another. In regions where this data is available, these tools can be used to consider how increased output from the E&M Sector supports job creation in the wider economy.

Figure 2 shows that in the UK, manufacturing industries typically have a higher "type 1" employment multiplier than the average across all sectors. In other words, the data suggests that an increase of 1 FTE jobs across the manufacturing sector is expected to support 2.46 new FTE roles across the value chain – which is higher than the economy average and other service sectors present in the IOM. The E&M Sector also has higher spillover benefits than many of the service industries in the Isle of Man, including gambling and betting, information service activities, and accounting, bookkeeping, auditing and tax consultancy. This trend is broadly similar in other nations, even in island nations such as Malta where certain manufacturing product classes possess similar or greater multiplier values than service industries[4]. This suggests that when considering the local economic impact of the E&M Sector the Isle of Man should consider that the sector will often have a greater job creation impact across the economy.

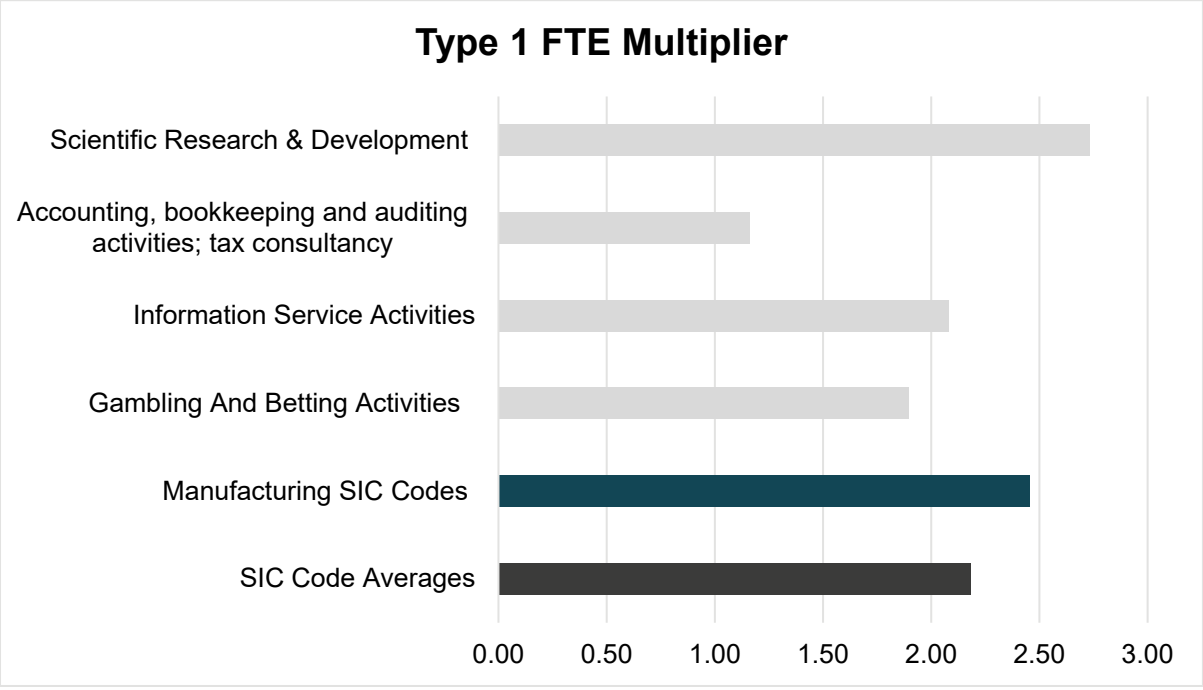


Figure 2 – Type 1 employment multipliers by sector SIC code, England (ONS, 2024)[5]

[4] Central Bank of Malta. 2015. Estimates of Output, Income, Value Added and Employment Multipliers for the Maltese Economy. Available from here.

[5] ONS. 2024. Employment multipliers and effects in the UK. Available from here.

E&M skillsets are crucial for the current & future economy: In 2018 a study published by Engineering UK, the Engineering Council and the Royal Academy of Engineering, articulated a broadened definition of engineering to accurately reflect the impact of engineers. Using UK Standard Industrial Classification (SIC) with 2010 Standard Occupational Classification (SOC) codes, the new classification known as the 'engineering economy' was put forward. This new engineering economy can be split into three categories and include:

- Engineers working in engineering businesses
- Engineers working in non-engineering businesses
- Non engineers working in engineering businesses

Using this new classification, Figure 3 highlights the importance of engineering roles across a broad range of other UK SIC codes. Engineering plays a pivotal role in construction, metals and mining, and utilities. It also makes up almost 80% of the UK information and communication sector, in roles such as software programming and web design, and almost a third of professional, scientific and technical activities, with roles like mechanical and electrical engineers and research and development managers.[6]

As well as providing fundamental skills to a range of existing industries, engineering is also pivotal to grow new sectors. Figure 4 highlights that a broad range of sectors rely on engineering businesses and activity to grow, from advanced manufacturing and quantum technologies to genomics. The prominent takeaway for the Isle of Man is that the digital subsector pulled out from the report has a high proportion of engineering businesses active within artificial intelligence, data infrastructure and geospatial economy. This underscores the importance of retaining a core capability of engineering skills and companies to ensure that other sectors can benefit from engineering talent and business activity.

[6] Royal Academy of Engineering. 2023. Engineering Economy & Place: Understanding the Engineering Economy in places across the UK. Available from here.

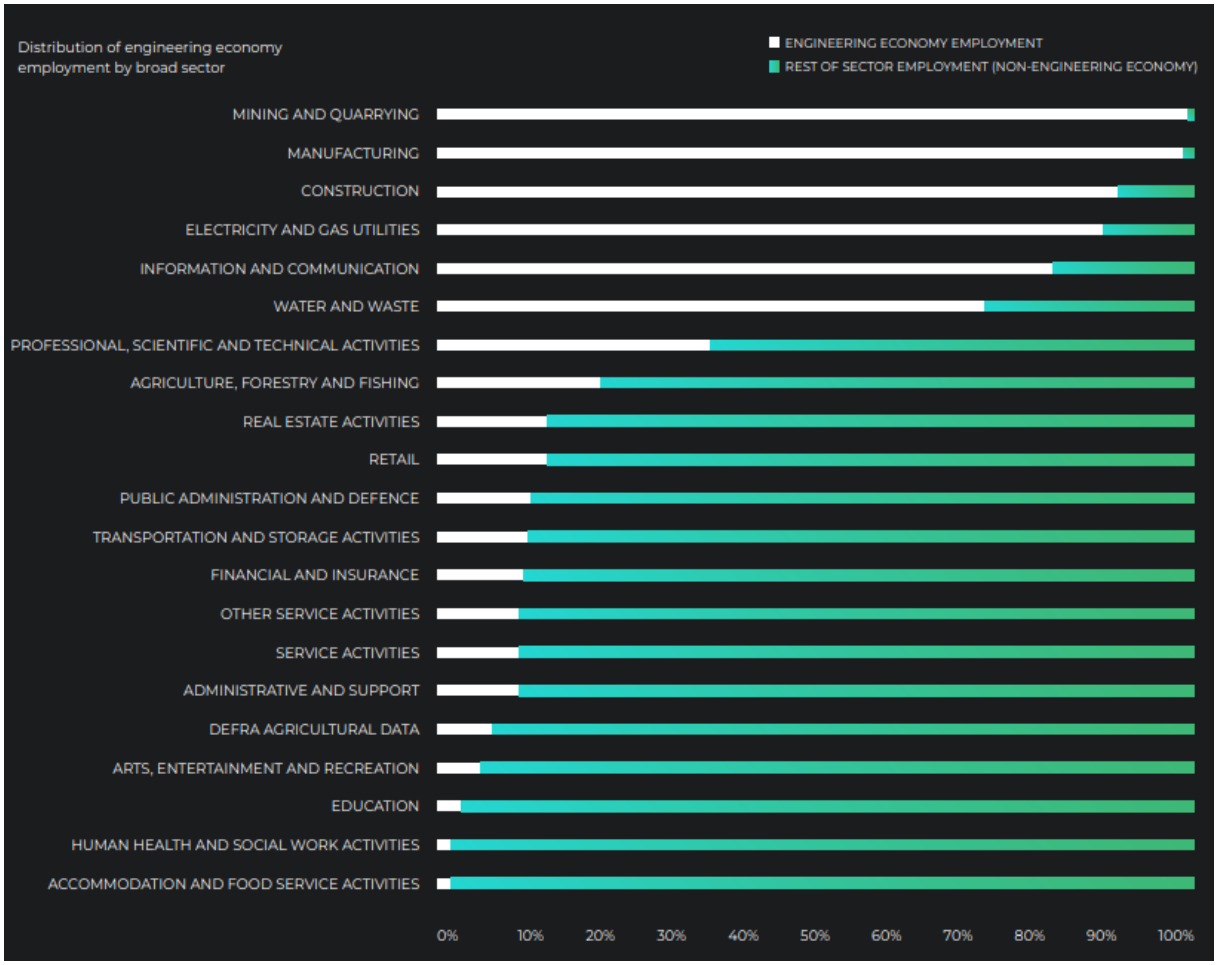


Figure 3 - Distribution of engineering employment by sector (Royal Academy of Engineering, 2023)

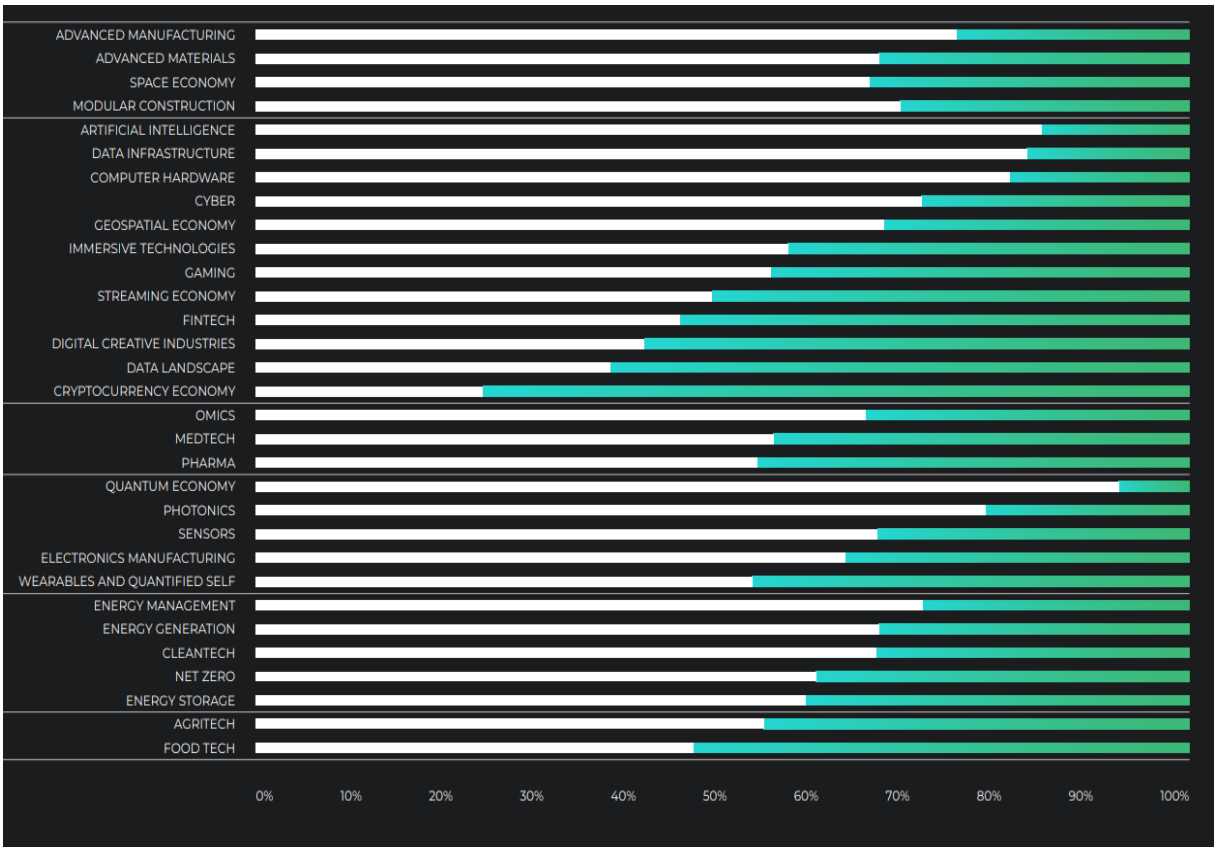


Figure 4 – Proportion of businesses in the emerging economy which offer engineering services (Royal Academy of Engineering, 2023)

The E&M Sector drives national innovation: Governments develop policies to foster innovation to boost economic growth, become more productive and support better paid jobs – which for the Isle of Man is key to increasing income tax receipts. Across many industrialised nations, the manufacturing sector is often the key driver of business R&D. In Germany, for example, the automotive industry, electronics / optical industry (18.5%), mechanical engineering (10.3%), the pharmaceutical (6.7%) and chemical industry (5.9%) make up just under 80% of total private R&D. Even in service dominated economies like the UK, the manufacturing sector represented 43% of business R&D spending which is double that of the service sector.[4] This is especially impressive given that manufacturing represents between 8-10% of GDP of the total UK Economy vs a higher proportion of services. This suggests that even for service dominated economies, like the Isle of Man, there is a strong bedrock of private sector innovation occurring at a greater rate than the service sector.

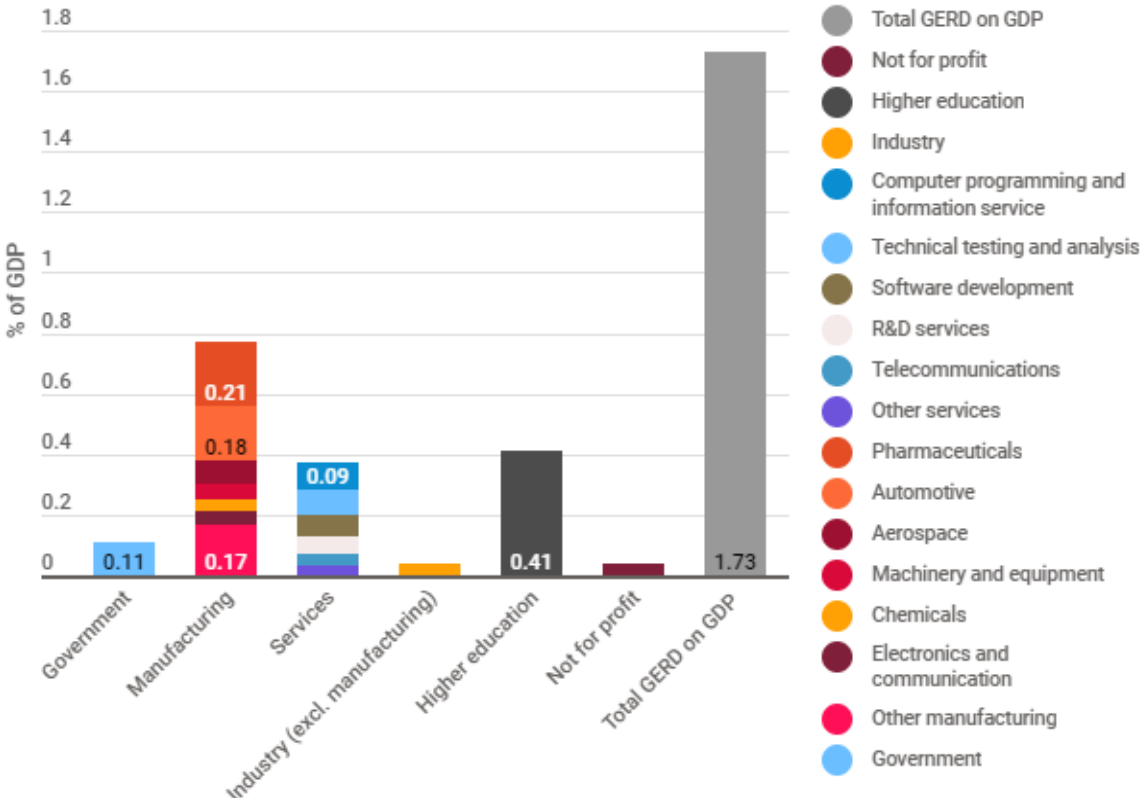


Figure 5 - UK R&D expenditure by sector of performance - gross domestic expenditure on R&D as % of GDP, 2018 (, 2021)

Benefits of sector diversity & the resilience of E&M Sector: Research suggests a strong link between a region's industrial diversity and its economic resilience[7]. Notably, analysis of empirical data indicates that regions which have greater levels of industrial diversity tend to weather unemployment shocks better during economic downturns. Conversely whilst some concentrated economies might enjoy lower levels of unemployment during healthy periods, they tend to experience deeper rates of unemployment during recessions. Figure 6 illustrates the resilience of the global manufacturing sector via the growth rates in value added per worker between 2019-2021. In Germany, Switzerland, the UK and US value added per worker grew strongly in manufacturing. In the UK, aside from information and communication industries, manufacturing experienced the highest growth in labour productivity. While this productivity gain can be partly explained by an overall reduction in sector employment, it also suggests the manufacturing sector is able to quickly react and organise their activities to manage external shocks such as energy shortages or pandemics. For example, many of the engineering companies quickly transitioned to manufacturing PPE or ventilator equipment and recovered manufacturing output relatively quickly. This is made even more apparent compared to other producing and service sectors of the economy, which experienced declines in value added per worker indicating a weaker propensity to adjust to new economic circumstances.

Value added per worker, annual growth rate

Positive - Fastest Productivity growth Negative

Economic activity	France	Germany	Switzerland	UK	US
Manufacturing	-6.7%	4.9%	17.8%	9.7%	8.8%
Financial and insurance activities	5.3%	7.1%	10.2%	0.5%	9.8%
Information and communication	1.1%	3.0%	2.9%	12.2%	13.6%
Professional, scientific and technical activities	-3.9%	4.3%	6.3%	6.5%	15.1%
Mining and quarrying	0.4%	18.4%	11.7%	-19.5%	2.3%
Wholesale and retail trade; repair of motor vehicles and motorcycles	2.0%	0.5%	-3.0%	3.1%	2.1%
Water supply; sewerage, waste management and remediation activities	-0.4%	-9.9%	3.1%	0.6%	9.5%
Agriculture, forestry and fishing	-8.3%	18.4%	-1.7%	-6.1%	-3.9%
Real estate activities	-5.9%	3.1%	-2.3%	-1.2%	2.7%
Human health and social work activities	-2.3%	-1.7%	1.6%	-9.3%	5.4%
Public administration and defence; compulsory social security	0.1%	-0.9%	-1.5%	-8.9%	-0.9%
Administrative and support service activities	-5.6%	-5.1%	-0.5%	-8.1%	7.0%
Construction	-12.2%	-5.5%	1.4%	3.6%	-0.6%
Other service activities	-12.1%	-4.7%	1.6%	-3.5%	-0.1%
Education	-3.4%	-10.3%	-7.3%	-9.9%	3.4%
Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use	1.3%	-3.9%	-17.3%	-29.4%	11.8%
Arts, entertainment and recreation	-29.4%	-19.3%	14.5%	-9.8%	4.2%
Electricity, gas, steam and air conditioning supply	-2.0%	-8.6%	-24.7%	-27.3%	4.5%
Transportation and storage	-16.4%	-6.2%	-21.3%	-25.2%	-8.6%
Accommodation and food service activities	-34.7%	-30.6%	-32.9%	-14.7%	9.0%

Figure 6 - Sectoral labour productivity growth in selected economies, 2019-2021 (Cambridge Industrial Innovation Policy, 2024)

[7] See: Oded, I. and Murphy, K. (2003) The effect of industrial diversity on state - ProQuest and Brown, L. and Greenbaum, R. (2017) The role of industrial diversity in economic resilience: An empirical examination across 35 years An empirical examination across 35 years on JSTOR

Changing the nature of support

Currently, the IOM E&M Sector receives support from the Government through several grant schemes, namely: the Employee Relocation Incentive (ERI), Vocational Training & Assistance Scheme (VTAS), Graduate Role Incentive (GRI) and Financial Assistance Scheme (FAS). While ERI and GRI focus directly on jobs, FAS can be used for a wide range of costs, including first year expenses, first year rental, building projects, plant and machinery (P&M), marketing, training on P&M, and efficiency projects. VTAS is a Department of Education, Sport and Culture Scheme that offers financial assistance to individuals and organisations towards the costs of vocational training.

The current approach to assessing funding applications, which, due to the lack of corporation tax in the IOM, focusses on applications that will create more jobs, and as such, bring higher return to the exchequer through income tax. This is particularly challenging for the E&M Sector as in order to remain competitive businesses need to be productivity driven. It is important to note, however, that there are other, less direct, benefits of growth in the E&M Sector, that can be achieved even in cases of a slowdown in new job growth or a reduction in total number of jobs. Without consideration of this, the E&M Sector is at a disadvantage to other sectors, since innovation required to stay competitive may involve increased automation and high capital spend, and not necessarily more jobs.

Another feature of the standard approach to FAS is that funding is only paid out after the specified results of the investment are achieved by the business. This places the majority of the investment risk on the business instead of the Treasury, which ensures the safety of the investment for IOM Government. However, this discourages businesses from using the funding for innovation/R&D activities that are important to the E&M Sector, which are inherently higher risk, but also have the potential for higher rewards.

The current process does mean, however, that grants provided are inherently well performing since they cannot be claimed if performance criteria are not met. Whilst they can vary, standard assessments of FAS applications use a maximum 5-year payback threshold, in terms of annual exchequer benefit from jobs created or salaries increased because of the investment, in addition to one-off exchequer benefit, e.g. during construction.

	E&M Sector	Digital Sector
Total net approved grants (closed cases) (£)	5,901,043	1,178,803
Total claimed grant amount (closed cases) (£)	4,381,508	704,280
Average % of grant claimed across applications	70%	80%
Overall % of approved grant values claimed	74%	60%
Average assumed payback period for amount claimed (years)	3.3	2.4

Table 1: FAS statistics for E&M and Digital.[8]

Statistics for FAS grants for E&M and Digital sectors since 2018-19 are provided in Table 1, for insights into their respective performance. The statistics given for the E&M sector throughout this section exclude values from food and drink manufacturing; for reference, between financial years 2018-19 and 2023-24, food and drink manufacturing had a total of £2.0m FAS grants approved, while the rest of E&M had £13.3m approved.

[8] Values are provided for closed cases for applications approved in financial years 2018-19 to 2023-24 (accurate as of November-December 2024). Note that this means results are unlikely to be directly comparable with FAS statistics published in annual reports.

Under FAS, for closed grants since 2018-19, E&M Sector businesses were offered £5.9m in total, and £4.4m of this was claimed. The average amount of E&M grant claimed for each application was 70%. In comparison, Digital Sector businesses were offered £1.2m in total, and £700,000 of this was claimed, with an average amount claimed of 80%. Overall, FAS statistics state that the average value of grant claimed is 76%, suggesting E&M is slightly below average, and Digital slightly above average.[9] Interestingly, if the overall figures are considered instead of an average across applications, the amount claimed for E&M grants is 74%, and that for Digital is 60%. Therefore, if grants are considered by sector, E&M outperforms Digital in terms of amount of grant claimed. The difference between these measures shows the influence of different sizes of grants and their respective amounts claimed, e.g., large E&M grants could have, on average, a better rate of claim than large Digital grants.

The average estimated payback period of grants claimed by E&M businesses is 3.3 years, indicating that, on average, the total exchequer benefit exceeds The Treasury's investment beyond this point. The equivalent for Digital Sector grants is 2.4 years.[10, 11] By this measure, and under the current calculation methods, Digital Sector FAS grants perform better than E&M Sector grants. However, this cannot be the only consideration, due to the difference in needs for each sector, and the fact that not all benefits are incorporated in this calculation. A key difference between these sectors likely to be influencing these figures is the E&M Sector's need for high capital cost investment. In terms of uncaptured benefits, the FAS team do already record some additional benefits of projects within applications, including local spend, which are used as part of the case for approving applications instead of in the exchequer benefit calculation. The annual local spend associated with grants claimed since 2018-19 could be more than £12m[12], indicating significant wider benefits to the economy and another route for exchequer benefit. In addition to this, higher level benefits of a strong E&M Sector are identified in the previous section, and the Island's Economic Strategy already identifies the need for support of a wide range of sectors, including E&M.

As a comparison, for the ERI and GRI schemes, the direct benefit to the Treasury associated with funding is easier to see, with an estimated exchequer payback from jobs being 0.6 years for E&M applications. However, support for relocation and graduate roles are just some of many needs faced by E&M businesses.

An alternative funding example available is the emergency FAS funding, termed Appendix 13, that was implemented during the COVID-19 pandemic to retain existing jobs, with a focus on R&D through salary grants, as well as business improvement and training. The grant acceptance criteria were still associated with exchequer benefit through the support of jobs – but on the assumption that the jobs would have otherwise been lost. Funding could have been provided monthly, on receipt of payslip evidence for the R&D grants – a shorter time than for general FAS, reducing the upfront expenditure needed by the businesses. For E&M grants, despite only 30% of the approved value being claimed, annual exchequer benefit for jobs projected through this scheme is estimated to be £370,000, compared to a total provided funding of £740,000. It is difficult to quantify further benefits of this funding with the data currently available, but additional information from participating businesses could provide evidence of the effectiveness of providing funding specifically to enable R&D activities.

[9] https://www.iomdfenterprise.im/media/yunbmdyx/enterprise-act-2021-22.pdf
[10] On the assumption that the amount of exchequer benefit achieved is in line with the proportion of total grant claimed under a given offer. Based on closed cases only.
[11] On the assumption that the amount of exchequer benefit achieved is in line with the proportion of total grant claimed under a given offer. Based on closed cases only. Not including exchequer benefit that is associated with an ERI/GRI application for the same project.
[12] An estimate of resulting local spend is only recorded for some grant applications, and may sometimes include salaries. This £12m figure uses the recorded values, adjusted on the assumption that the amount of annual local spend achieved is in line with the proportion of total grant claimed under a given offer.

Estimated impact on local spend, recorded in grant applications in some cases, is currently considered separately as part of the case for a grant, rather than being included in overall benefit calculations. This could, however, provide an additional starting basis of an alternative approach to assessing FAS applications.

The vision for the Isle of Man E&M Sector

To develop a coherent strategy, a consensus needs to be built between industry, government and other stakeholders regarding a realistic 10-year vision for the Sector. Only once this vision has been established can the range of potential strategic initiatives be fully evaluated, and the most promising selected for further development.

The proposed 10-year Strategy for the Isle of Man's E&M Sector has therefore identified the steps needed to reach a shared vision for the sector's future that has the support of key stakeholders. The development of this vision was undertaken as part of the Phase Two planning stage, together with a steering group consisting of key stakeholders from industry, government and academia. The vision is made up of three distinct layers:

Layer	Content
Value Context	Articulating the value that the E&M Sector will bring to the Island overall
Value Capture	Demonstrating the value the E&M Sector will itself be generating (e.g. goods and services to key markets)
Value Creation	Describing the basis upon which value will be created on the Island

The '2035 vision' that has emerged from this work is described below:

The advanced Engineering & Manufacturing (E&M) Sector is a highly productive key part of the Island's Economic Strategy in that it diversifies our economy, attracts highly skilled people and ambitious new businesses to meet a growing global demand for high value, high quality products. Our vision is therefore to create and support a diverse and sustainable environment for the advanced E&M Sector to double in value by 2035 with a clear ambition to grow towards five times current levels beyond 2035.

The advanced E&M Sector will be contributing substantially higher than average economic growth (GVA) and intellectual property (IP) generated per employee through the provision of design, manufacture, supply, maintenance and service for high quality, innovative products and services to a range of key emerging and growth sectors along with their associated supply chains.

We will achieve this by:

- Building on past and current government and private sector investment, encouraging local growth, new businesses and additional inward investment.
- Continuously supporting and building upon our critical mass of highly skilled, ambitious, and loyal E&M working population by nurturing interest in the sector early; attracting graduates back to the IOM via incentives and actively supporting relocation.
- Actively engaging with our STEM community with skills recruitment, development and retention via targeted funding streams.

- Consolidating and building upon domestic and international research and education establishment links.
- Actively encouraging innovation through intellectual property rights (IPR) generation, together with technology identification, selection acquisition and exploitation.
- Shifting the mindset to drive increases in the efficiency and productivity of our manufacturing operations. These advances are necessary to stay competitive.
- Improving the Isle of Man (IOM) Government's agility and responsiveness with the provision of funding mechanisms / resources, to enable E&M capabilities and infrastructure to be developed at a pace to maintain competitiveness in changing global markets; all within the realistic affordable envelope and financial plans.
- Actively encouraging the sector to support the Island's transition towards net zero by supporting businesses' Environmental, Social & Governance (ESG) journeys, whilst also enabling the timely realisation of clean technology development and deployment opportunities.
- Attracting new businesses to the Isle of Man to increase the output of the sector and to increase the economy's diversity and resilience.
- Timely, effective and sustained stakeholder engagement e.g. Planning (DEFA); Immigration (Treasury); Energy Supply (MUA).
- Encourage businesses to increase their presence for non-manufacturing activities e.g. marketing, HR, Finance, R&D.

Defining the themes for the 10-year Strategy

The Phase One report identified 34 potential initiatives based on extensive stakeholder engagement and desk research. The first task of Phase Two was to thematically group and rank these initiatives based on an opportunity-feasibility framework and cross reference it with the 2035 E&M Sector vision. A short list of six strategic themes were selected and roadmaps were developed for each of these in a facilitated workshop. These sessions involved key stakeholders from industry, academia and government, with each theme having a dedicated workshop. The outputs from the workshops were then analysed, alongside the evidence from Phase One, to create a proposed E&M Sector Strategy. An overview of these strategic themes is provided in Figure 7. These include three themes that actively support the generation of additional value from the sector (e.g. Driving Productivity, Fostering Innovation and Championing Sustainability) as well as 'enabling' themes (such as Developing Skills, Attracting FDI and Competitive Funding).

Figure 7 - Six strategic themes for the 2035 E&M Sector vision

Mapping the themes against the high priority drivers

To ensure the roadmap themes reflected the most pressing issues facing the E&M Sector, they were checked against high priority trends and drivers alongside the E&M Sector vision. These higher priority trends and drivers emerged from a series of workshop sessions where participants voted on the most pertinent drivers impacting the E&M Sector.[13] The set of trends and drivers were picked from a range of data sources and were presented to participants to vote on. The sources used to collate the drivers for the workshop were:

Isle of Man Economic Strategy 'Our Island, Our Future': To ensure that the E&M Strategy is consistent with the wider economic strategy for the Isle of Man, the team highlighted themes from the recent 10-15 Year Economic Strategy report[14].

Individual business diagnostics: The individual diagnostic reports of 10 Isle of Man E&M businesses highlighted a range of order winning criteria and potential constraints. Each of these metrics and average scorings were provided.

[13] The Workshop Votes column shows the number of delegate votes allocated to that driver after posing the question, 'Which of these drivers do you think will have the greatest impact on the E&M sector on the Isle of Man?' The higher the number, the more pertinent the driver was assessed to be by the delegates.
[14] Isle of Man Government. 2022. Our Island, Our Future. Available from here.

Phase One report SWOT: The Phase One report conducted a strategic SWOT of the Isle of Man E&M Sector.[15] All the SWOT elements were listed for participants to vote on.

Manufacturing grand challenges: The World Economic Forum and IfM Engage defined five grand manufacturing challenges that are facing the global engineering sector. These challenges were provided to anchor the Island's E&M Sector in a wider global context.

Table 2 clearly demonstrates there is a clear alignment between the strategic initiatives selected for development, and the most pertinent drivers as perceived by industry and government stakeholders.

Workshop Votes	Higher priority strategic trends and drivers identified via the study **IP** = Our Island, Our Future **ID** = Individual Diagnostic **PO** = Phase One Report SWOT **GC** = Grand Challenges	Innovation	FDI	Sustainability	Productivity	Skills	Funding
16	**IP1:** Increase business innovation and investment	■	■		■		■
13	**ID1**: Increasing energy cost hurting IOM E&M international competitiveness			■	■		
10	**PO1:** Understand how digitalisation, data and AI could enhance performance	■		■	■	■	
10	**IP2**: Increase in business productivity	■	■	■	■		■
10	**PO2**: Costs in the IOM higher vs UK which strains profitability			■	■		■
9	**GC1**: Securing the future of the manufacturing workforce	■	■			■	■
8	**ID2**: Unique value & innovation as winning order criteria for the E&M Sector	■				■	
7	**IP3:** Maintain healthy government finances over the long term		■				■
6	**PO3**: Cultivating and attracting the right talent	■	■			■	
6	**GC2**: Accelerating and scaling up the adoption of novel industrial technologies	■	■	■	■	■	
6	**IP4:** Grow new sectors of the economy	■	■	■			■
6	**PO4**: Lack of university or innovation centre hinders spin outs and talent retention	■				■	
5	**GC3:** Decarbonising manufacturing operations, products and supply chains	■		■	■		
5	**ID3**: Quality as winning order criteria for the E&M Sector	■			■	■	
5	**IP5:** Improve quality and grow size of the workforce	■	■		■	■	
5	**PO5**: Strong capabilities in digital technologies and sectors	■			■	■	
		13	**8**	**7**	**10**	**9**	**6**

Table 2 – High priority strategic trends and drivers identified throughout the research for this Strategy

[15] Gemserv. 2024. Isle of Man Engineering & Manufacturing Strategy: Phase One Report. Available from here.

Cross-cutting nature of initiatives

Despite each initiative being assigned a primary theme, it became apparent that most initiatives cut across multiple themes. For example, many of the initiatives have funding implications and the sustainability and productivity initiatives are mutually reinforcing. To illustrate this, the table below maps each initiative to the six themes. What becomes evident is that regardless of the priorities and how the initiatives are enacted, it is likely that each of the six themes will be touched upon whatever combination of initiatives are pursued.

	List of initiatives and their linkages to other highlighted themes	Innovation	FDI	Sustainability	Productivity	Skills	Funding
INNOVATION	Ensure the IOM Chamber of Commerce's Advanced Engineering & Manufacturing Forum (formerly the STEM Forum) acts as a cross sector, intra-Island innovation exchange	✓					✓
	Forge strategic partnerships with overseas innovation networks and communities (e.g. UKRI Business Connect; regional / sector innovation clusters)	✓	✓				✓
	Map out future innovation needs & assets the E&M industry require for key sub-sectors	✓		✓	✓		
	Decide to leverage off-Island centres or invest in local assets (e.g. rent Catapult space vs invest in open-source assets on Island)	✓	✓		✓		
	Foster closer ties with the UKIPO & host regular workshops for the E&M Sector	✓					✓
	Develop a hands-on IP advisory service that facilitates technology licensing opportunities that maximise value of IP generated on the Island	✓					✓
FDI	Devise an engagement plan with established E&M business' parent companies		✓				
	Schedule recurring touch points with E&M parent companies to share technology / investment plans & how IOM can actively facilitate these plans		✓				
	Define target markets, locations & company types (e.g. HNWI, luxury goods)		✓				
	Actively target high priority companies, sub-sectors and markets to support new FDI (via targeted prospectuses, sector trade shows, IOM pavilions, online events)		✓				
	Establish a cross-department team to identify and fast track suitable E&M facilities		✓				
	Leverage the Island Infrastructure Scheme to create internationally competitive, soft-landing facilities for FDI targets and domestic businesses		✓				✓

SUSTAINABILITY	Establish a E&M Sector and company level assessment of Scope 1-3 emissions			✓			✓
	Trial life cycle impact assessments of E&M Sector (e.g. water, waste, air, land)			✓			✓
	Mandated monitoring and disclosure of full environmental impact			✓			✓
	Promote & encourage the E&M Sector to access the improved BESS funding			✓	✓		✓
	Enhance E&M sustainability by running an organisational engagement programme focused on wider sustainability improvements (e.g. Sustain 8)			✓	✓		✓
	E&M value chain analysis to understand cleantech supply chain opportunities	✓		✓			✓
	Support to help E&M Sector pursue short term cleantech supply opps (e.g. renewables, EVs)	✓		✓			✓
	Review scheme efficacy & continue for long term opps (aero, CCS, H2)	✓		✓			✓
PRODUCTIVITY	Define productivity metrics at company & sector level that demonstrate economic value of E&M				✓		
	Collect data on baseline performance, set realistic productivity targets and create support programmes to achieve the targets				✓		
	Mentorship that identifies low-cost, low-risk methods to quickly implement digital technologies using affordable off-the-shelf kit				✓		✓
	Implement advanced digital technologies that enable the IOM to be regionally competitive in digital engineering				✓		✓
	Develop a joint strategy with digital Isle of Man to identify future growth areas that cut across digital and E&M				✓		
	Establish joint Digital & Business IOM programmes across identified opportunity (e.g. gamification, digital twins)	✓			✓		✓
	Co-funded resource to help businesses optimise current facilities (e.g. reconfiguration, relocation, rationalisation, automation)				✓		✓

SKILLS	Establish a sector level skills matrix for the S, M & L term					✓	
	Update matrix regularly to predict and respond to the skills need (at least on a 3-year rolling basis)					✓	
	E&M Sector & UCM decide on the remit & scale of a skills centre of excellence (CoE)					✓	
	Establish a joint industry-academia CoE that is tailored to foster innovation, attract FDI, enhance sustainability & improve productivity	✓	✓	✓	✓	✓	✓
	Increase engagement with schools via ACE to increase uptake in E&M courses					✓	
	Work closely with Locate Isle of Man on targeted campaigns that attract prospective E&M talent to the Island (e.g. young families, university placements, STEM returners)					✓	
	Targeted training and specialised company accreditation to improve competitiveness (e.g. an executive education programmes, ISO accreditation)	✓		✓	✓	✓	✓
FUNDING	Review the terms, accessibility and ease of which businesses can access IOM funding & support						✓
	Define and collect funding impact data for E&M to understand the ROI (e.g. GVA)						✓
	Streamlined funding process awarded based on modified KPIs and metrics that align with growing the E&M Sector and IOM economy						✓
	Run a pilot SME support scheme, tailored for the E&M Sector and test uptake & efficacy	✓			✓		✓
	Initial commitment to an SME support programme for the E&M Sector	✓			✓		✓
	Commitment to a long term, holistic SME support scheme for E&M Sector	✓			✓		✓
	Stakeholder mapping & relationship building with UK Government and private investors						✓
	Forge partnerships and funding programmes with private sector investors / UKRI to help bolster funding for established E&M companies and start ups	✓	✓				✓

Table 3 - List of initiatives and their linkages to other highlighted them

Spending implications of the six roadmap themes

Gemserv and IfM Engage have costed each initiative for 2025-2035 inclusive. Alongside the prioritisation, milestone identification, responsibility assignment, and suggested next steps, this provides the core elements of an implementation plan. The assumptions on the cost emerge from:

- discussions with the Business Isle of Man team on funding for similar initiatives across different sectors (i.e. food, digital)
- extensive case study research using UK examples and costs as a representative baseline
- expertise from Gemserv and IfM Engage based on our experiences of delivering similar support programmes or schemes of work.

Costs were also given a minimum and maximum range. This is to provide the 10-year Strategy with a degree of flexibility given the current budget cuts across the Isle of Man Government. Minimum ranges were estimated from relevant case study examples where less funding was offered. In cases where only one relevant case study was found, a scaled down version of a relevant UK programme was used to estimate IOM costs. Under the maximum scenario, the spending values reflect the amounts needed to enact the initiatives, irrespective of any political spending constraints.

Figure 8 shows that the total government funding requirement from 2025-2035 in the minimum and maximum scenarios is **£34.6m** and **£70.6m** respectively.

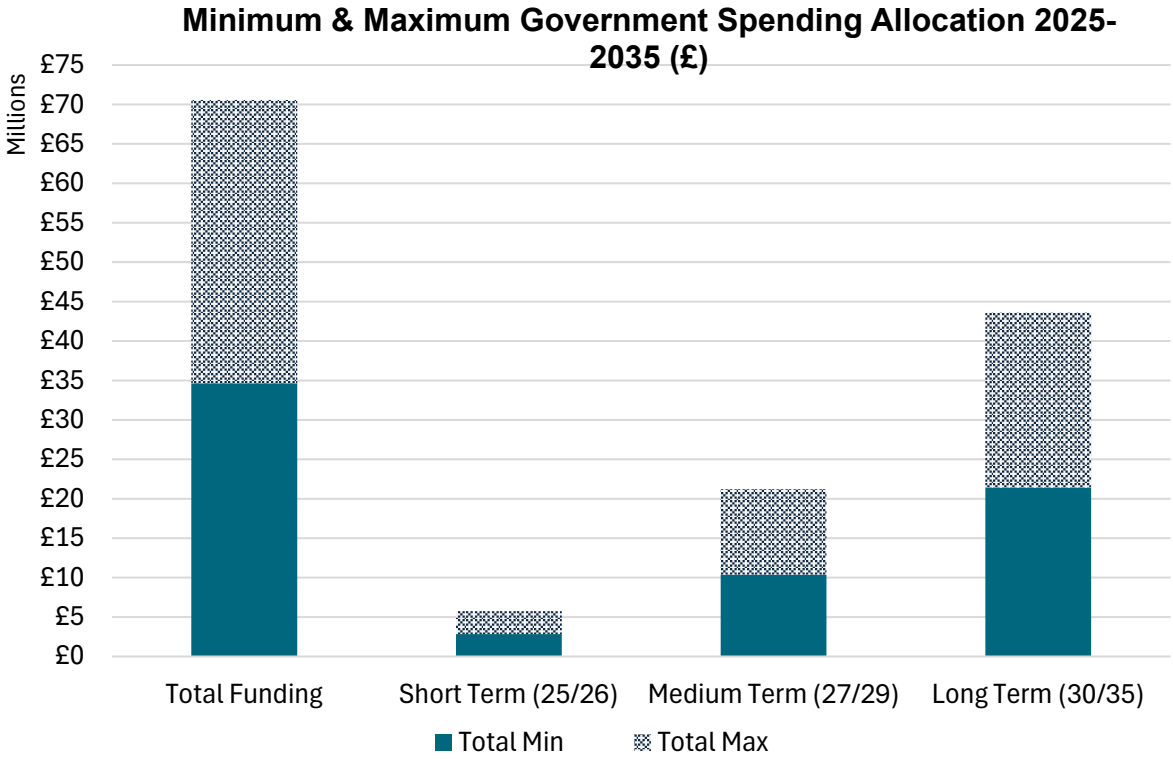


Figure 8 - Minimum & maximum government spending allocation for the proposed Strategy 2025-2035

To help secure buy-in from the Treasury, spending has been intentionally structured to ramp up over time. This is to enable Business Isle of Man to pilot initiatives and test what is working to provide the chance to pivot away from programmes if they fail to achieve the desired impact. As a result, the short-term (25/26) total government spending is **£2.9m** and **£5.7m** in the minimum and maximum scenarios respectively. In the medium term (27/29) spending increases to **£10.4m** and **£21.2m** in the minimum and maximum scenarios. The rapid jump in spending represents pilot schemes and evidence gathering being replaced by full initiatives. The long term (30/35) spending implications are **£21.2m** and **£43.6m** in the minimum and maximum scenarios respectively. The increased expenditure is primarily due to the longer 6-year period. However, some new initiatives that build on the success of medium-term initiatives are introduced while a handful of medium-term initiatives will come to a close.

Figure 9 compares the minimum and maximum spending outlined in the proposed 10-year Strategy vs a business-as-usual FAS minimum and maximum. The business-as-usual minimum and maximum are representative of typical annual funds awarded to the E&M Sector based on data analysed by Gemserv. The minimum annual FAS spend has been set at £1m, whereas the maximum annual spend was set at £4m per year. This results in a total baseline spend of **£11m** in the minimum and **£44m** in the maximum scenario.

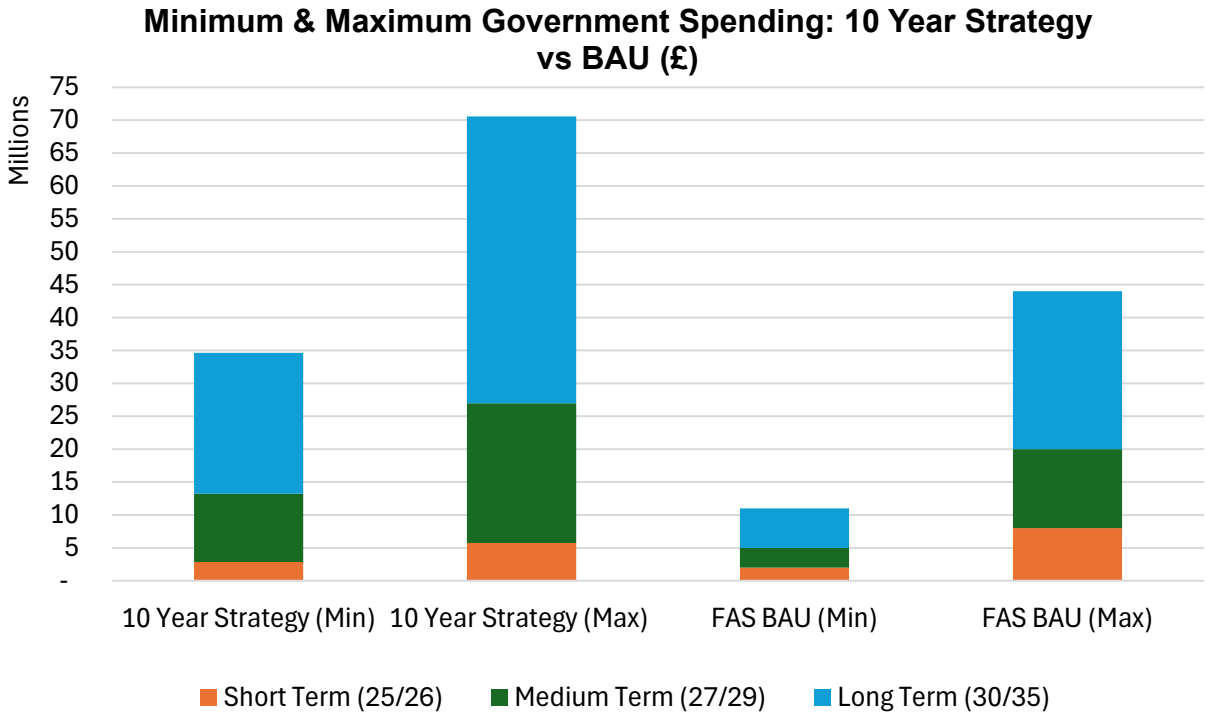


Figure 9 - Comparing the maximum & minimum government spending in the proposed 10-year Strategy vs BAU

Table 4 provides a granular comparison of the expected IOM Government spend under the proposed 10-year Strategy vs the FAS business-as-usual scenarios. In the short term, the difference in spending between the FAS BAU and proposed 10-year Strategy is less pronounced in the minimum scenario while the FAS BAU maximum is higher than the proposed 10-year Strategy maximum. This reflects that the 10-year Strategy aims to slowly introduce new initiatives to test their efficacy / viability with industry via pilots and in-depth engagement. In fact, the early stages require minimal additional funding beyond what has historically been demanded under FAS and is primarily a smart reallocation of existing funds.

Though in the medium and long term, the average annual spend jumps considerably the crucial point is that the proposed minimum viable spending profile fits comfortably within the historic spending on the E&M Sector via FAS.

Government Funding (£ millions)	**Total**		***Short Term (25/26)***		***Medium Term (27/29)***		***Long Term (30/35)***	
	Total	**Per Year**	***Total***	***Per Year***	***Total***	***Per Year***	***Total***	***Per Year***
10 Year Strategy (Min)	**34.6**	**3.1**	*2.9*	*1.4*	*10.4*	*3.5*	*21.4*	*3.6*
FAS BAU (Min)	**11**	**1**	*2*	*1*	*3*	*1*	*6*	*1*
10 Year Strategy (Max)	**70.6**	**6.4**	*5.7*	*2.9*	*21.2*	*7.1*	*43.6*	*7.3*
FAS BAU (Max)	**44**	**4**	*8*	*4*	*12*	*4*	*24*	*4*

Table 4 - Expected government spending delivering this 10-year Strategy compared with business-as-usual spending (FAS BAU)

The primary reason for the increased spending in the proposed Strategy scenarios are the wider range of spending categories and areas the proposed Strategy directs investment to. Most of the spending in the E&M Sector under FAS was dedicated to upgrading capital machinery and facilities. Under the new categorisation, the historic FAS spending would be classed as productivity-based funding captured under the theme “optimising existing facilities” (PRO7). But as Figure 10 shows, more spending has been allocated to other areas such as funding, sustainability and FDI.[16]

[16] In this case the largest spending category under funding would be a new SME support scheme. See Funding sub-section for more information.

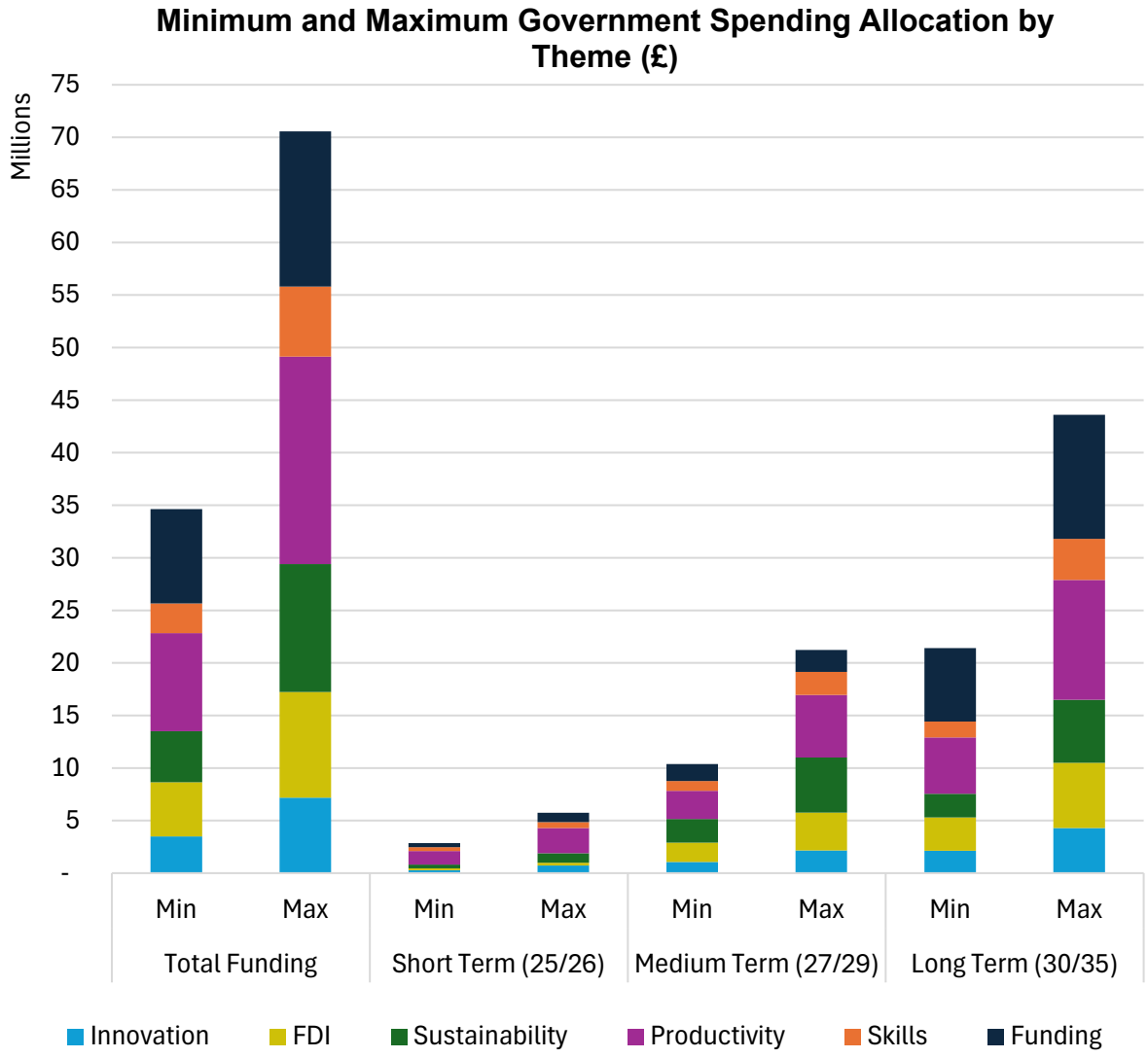


Figure 10 - Minimum & maximum spending allocation by theme over the proposed 10-year Strategy

Figure 11 captures the total private sector and government spend across the proposed Strategy's themes and initiatives. Spend is summed over the full 10 years of the proposed Strategy by theme, and both the minimum and maximum scenarios are shown in the stacked bars. The chart illustrates the scale of investment required to deliver on each theme's set of initiatives, with spend concentrated towards delivering productivity, FDI, funding and sustainability activities. The private sector noticeably provides greater levels of upfront investment to leverage the Island Infrastructure Scheme (FDI7), a capital investment scheme, and FAS-type spending to deliver the optimisation of current E&M facilities (PRO7) (both assumed at a 75%/25% split between private/Govt. spend). Capex spend by the private sector in pursuing clean technology opportunities drives sustainability investment in the maximum scenario (SUS7).

Whilst many of the R&D initiatives identified in the proposed Strategy are assumed to be match funded (50/50), the IOM Government will likely provide greater funding than industry to drive innovation and skills initiatives – given the identified need to hire new resources (e.g. an 'Innovation Lead' role - IN1); complete research reports and strategies (e.g. mapping future

innovation needs and completing the E&M Sector's skills matrix – IN4 and SKI1/2); and deliver communication campaigns (e.g. SKI6).

The analysis can be thought of as representing a conservative estimate of the scale of private sector investment over time, as the figures only capture the initial investment required to kick-start each initiative. Spillovers and multiplier effects which might flow from initial spend are therefore not included. For instance, it is expected that the initial seed funding for the skills Centre of Excellence and investment in facility optimisation would drive further growth and spill into additional investment over time.

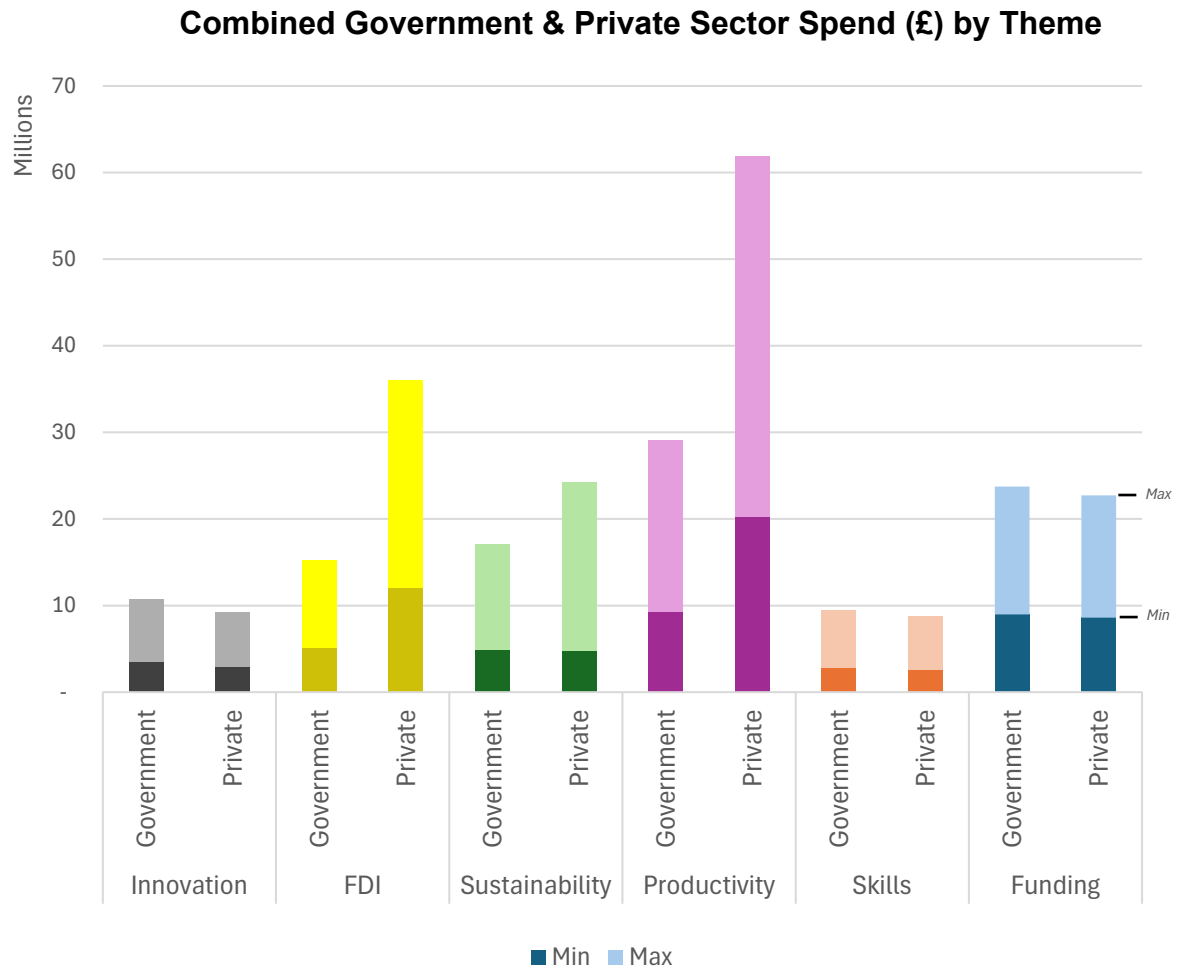


Figure 11 - Total government & private sector spend per theme, summed over the proposed 10-year Strategy (£)

Figure 12 shows that the types of initiatives funded shift as the time horizons progress. So, in the short term, FAS-type spending has a stronger presence to reflect the period of transition and ambition to keep existing funding routes open. Information gathering also has a higher % of spending as most of the follow-on strategic reports, strategies and external consultancy is committed in the early stages. The role for newly funded programmes is also low in both the minimum and maximum scenarios to reflect the focus on piloting new, cheaper programmes and strengthening existing policies to create simpler initiatives to implement. As time progresses however, newly funded programmes make up a higher proportion of total spending, indicating a strategic shift has taken place.

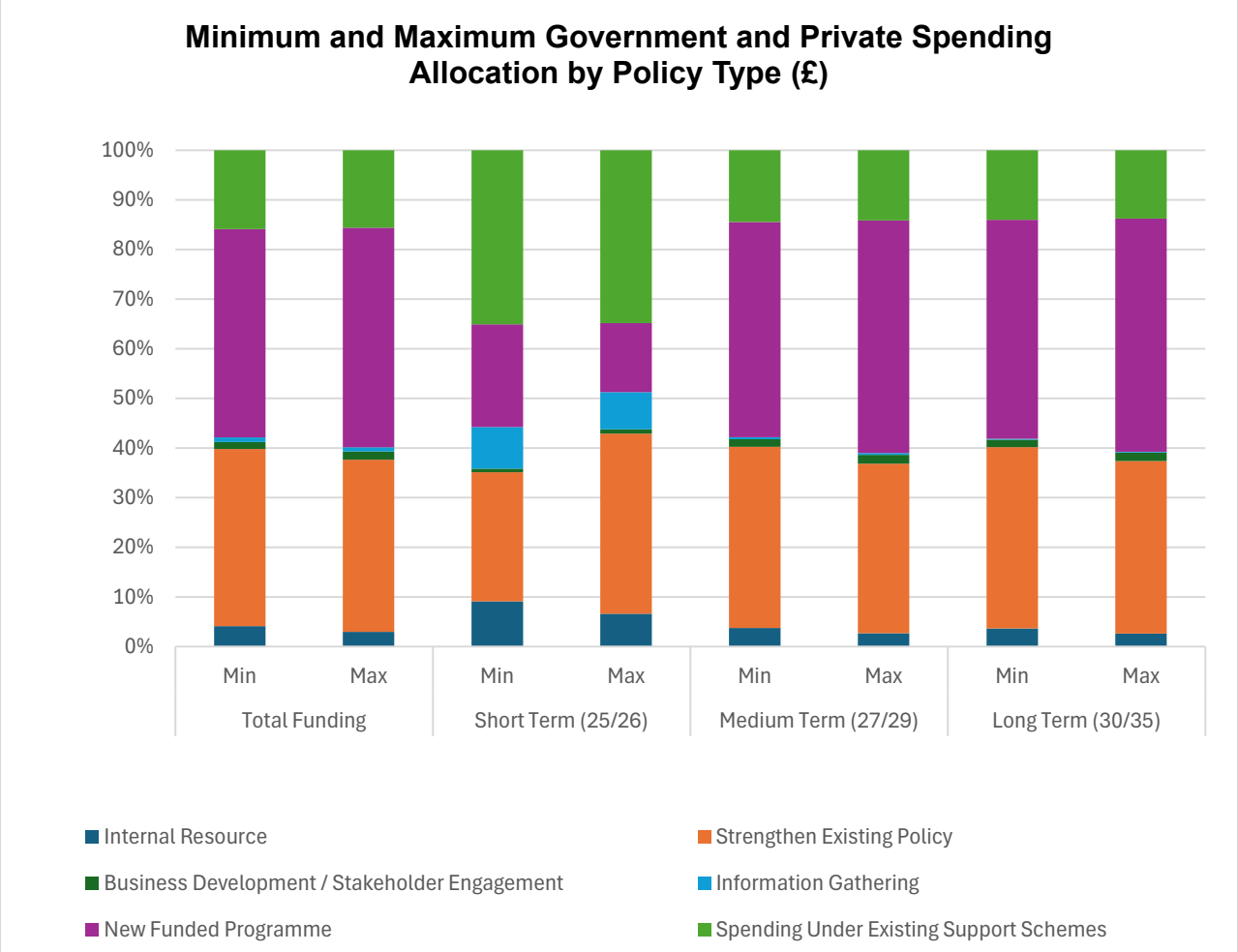
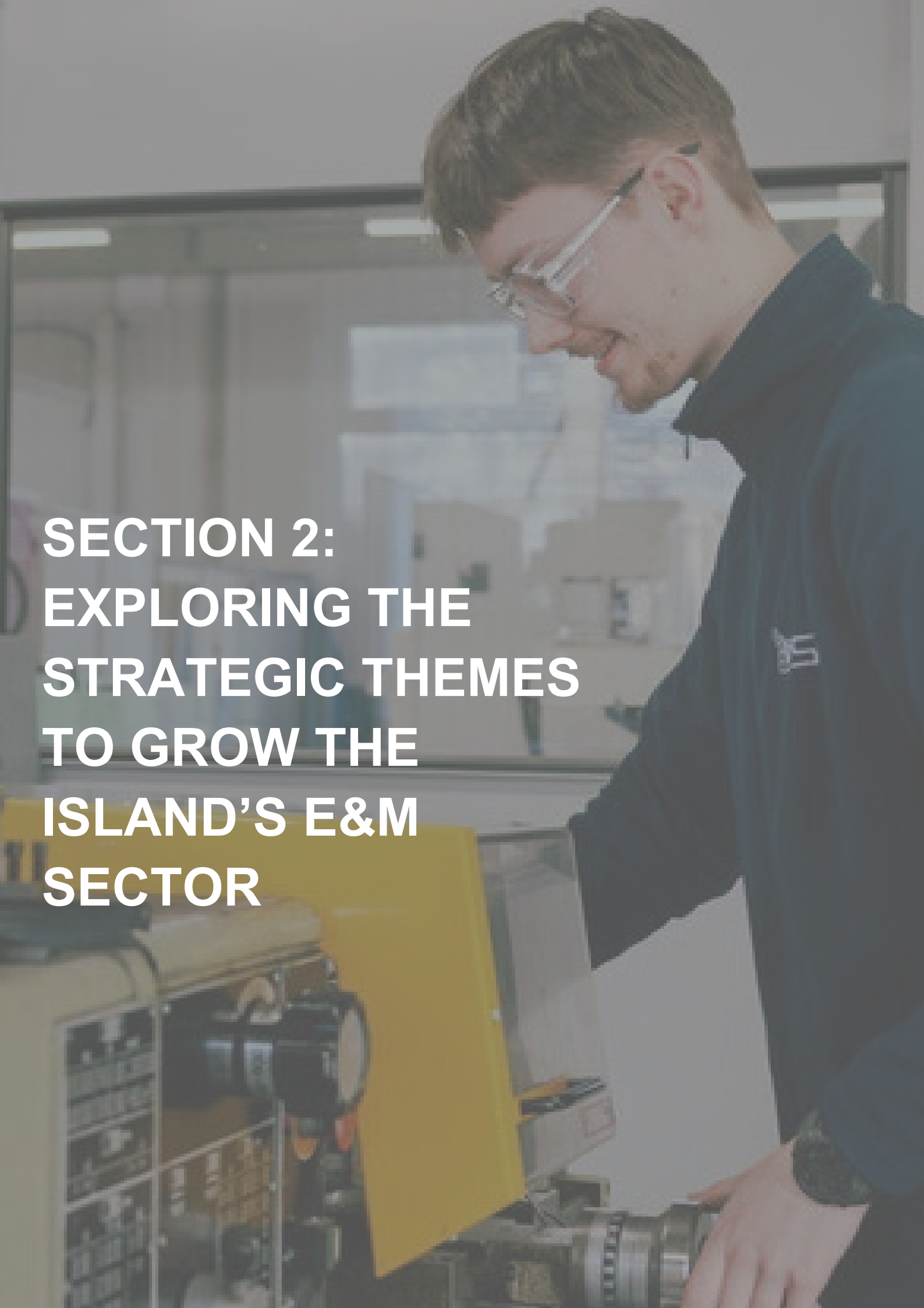


Figure 12 - Minimum & maximum spending allocation by policy type over the proposed 10-year Strategy

Category of spend	Description
Spending Under Existing Support Schemes	Spending that has been allocated to growing/expanding existing facilities that represents typical FAS spending. The Min and Max assumed spends for this category total £0.5-1m annually; indicating likely feasibility when compared to the £1-4m per year assumed in the FAS BAU scenarios above (see Figure 9).
Information Gathering	A category used to capture spending on strategic reports, consultancy and plans that inform future decision making.
Strengthen Existing Policy	A similar policy exists in the Isle of Man but the proposed 10-year Strategy augments / updates it leading to increased spending.
New Funded Programme	New programmes that represent a departure from what the IOM is used to delivering and is additional.
Business Development / Stakeholder Engagement	Initiatives that are internal activities such as international business trips, events and forging innovation partnerships.
Internal Resource	Initiatives that require employing a dedicated person to enact the initiatives. This occurs in Innovation, FDI and Funding.



SECTION 2: EXPLORING THE STRATEGIC THEMES TO GROW THE ISLAND'S E&M SECTOR

Exploring the six themes that enable the 10-year vision

The following chapters explore each theme in more detail providing a snapshot of the key narrative points. Each chapter will aim to answer:

- why the theme is important from a macroeconomic perspective
- why the theme is important for the Isle of Man E&M Sector
- which initiatives are required in that theme to support the E&M Sector
- how much spending is needed to implement the theme initiatives
- the short-and long-term impact of achieving the theme initiatives

Figure 13 – A snapshot of each theme

A high-level overview of the themes and strategic initiatives is provided below. The left-hand side shows the broad theme. The chevrons in the centre represent the specific initiatives needed to realise the vision, with some chevrons developing to show a maturation of policy mechanisms. The right-hand side illustrates some example macro-economic metrics that could gauge the effectiveness of the initiatives in achieving the policy objectives and E&M Sector vision.

Figure 14 – Proposed E&M Strategy captured as a 10-year roadmap


MAX. 116KG PER SHELF

1. Fostering Innovation

WHY		WHAT			HOW	OUTCOMES	
Vision	**Trends & Drivers**	**Sub-theme**	**Initiatives**	**Examples**	**Resources**	**Short Term**	**Long Term**
INNOVATION VISION  **Actively encourage innovation through IPR generation, alongside technology identification, selection, acquisition and exploitation**	**Lack of innovation funding on the Island vs competitors** **Unique value and quality are the main order winning criteria for the Isle of Man** **Higher cost of manufacturing on the Isle of Man should incentivise more knowledge-based E&M activity** **R&D jobs are higher value and more attractive for the Government to anchor** **The Island relies on the private sector for knowledge generation / innovation in the absence of universities**	**Creating innovation networks and forums**	**IN2**: Ensure the IOM Chamber of Commerce's Advanced Engineering & Manufacturing Forum acts as a cross sector, intra-island innovation exchange	Innovation Exchange Open Innovation Forum	Innovation Lead Website development Network management Provide standardised NDAs / collaboration agreements for innovation consortia	# of intra-business collaborations # of international R&D collaborations # of innovation challenges posted	Sector R&D expenditure increases £ value of follow-on contracts Increase R&D head count / high skilled roles Higher average wages
			IN3: Forge strategic partnerships with overseas innovation networks and communities (e.g. UKRI Business Connect; regional / sector innovation clusters)	Global Innovation Networks UK Science & Innovation Network			
		Leveraging innovation assets	**IN4:** Map out future innovation needs & assets the E&M industry require for key sub-sectors	EINA CHIP INA	Third party innovation consultant Mechanism to monitor innovation spend with a centre Innovation Lead Sourcing capital equipment OR building relationships with Catapults / UK STFC	Industry aligned on innovation needs and asset requirements Decision on whether to have physical IOM asset or leverage UK assets	Proportion of total E&M Sector conducting R&D R&D spend as proportion of total company spend £ sales in new growth markets / products Utilisation of Government CAPEX funded assets such as plant/machinery
			IN5: Decide to leverage off-Island centres or invest in local assets (e.g. rent Catapult space vs invest in open-source assets on Island)	Renting of Catapult space Island of Excellence - opening E&M facilities to create a hub Build a dedicated innovation facility			
		Exploiting the full value from the Island's innovative businesses	**IN6**: Foster closer ties with the UKIPO & host regular workshops for the E&M Sector	Annual IPO Workshops Virtual Drop-in IPO Sessions Specialist sessions dedicated to E&M Sector	UKIPO staff Network of IP experts with E&M background	# of IP audits conducted # of IP Management reports Aggregated sector view on value of IP	# of technology startups created Increased revenue from technology licensing # of patents filed from Isle of Man based businesses £ of VC funding in start-ups
			IN7: Develop a hands-on IP advisory service that facilitates technology licensing opportunities that maximise value of IP generated on the Island	Replicate IP Advance Innovate UK Fast Start Innovation Grants			

IN1 (Hire an innovation lead) has been omitted from this summary table as it is a resourcing measure that drives the other initiatives

This chapter explores:

- why innovation is important from a macroeconomic perspective
- why innovation is important for the Isle of Man E&M sector
- what initiatives are required to foster innovation in the E&M sector
- how much spending is needed to implement the innovation initiatives
- the short-and long-term impact of achieving the innovation initiatives

Why innovation is important

As a developed economy, the Isle of Man will be reliant on innovation to maintain growth and living standards. By mapping GDP per capita against the Global Innovation Index score, it becomes apparent that high levels of innovation correspond to a greater level of GDP per capita (see Figure 15)[17].

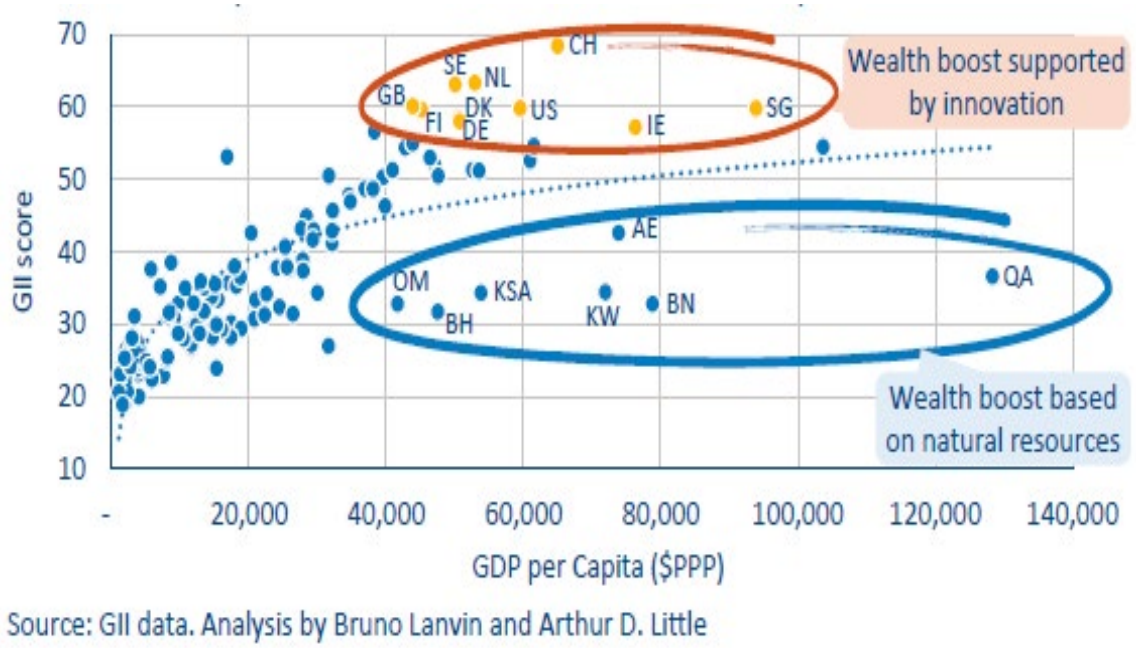


Figure 15 - GDP per capita against Global Innovation Index score (Arthur D Little, 2020)

As previously discussed, E&M sectors are often the largest contributors to national innovation spending so are vital to the continued growth of developed economies. To highlight the importance of innovation, below are the most relevant macroeconomic reasons nations should prioritise innovation:

[17] Arthur Little. 2020. *The National Innovation Ecosystem*. Available from here.

Economic growth and competitiveness: Innovation leads to the development of new technologies, processes, and business models, which increase productivity. Greater productivity typically results in greater output using the same or fewer resources, boosting GDP. By prioritising innovation, the Isle of Man would enable the E&M Sector to maintain the high quality and unique value of their products which was identified as a key winning order criterion for the Island within the in-depth company assessments completed by IfM Engage as part of the Phase One report.

Job creation: Innovation fosters the creation of entirely new industries (e.g. cleantech, biotech, fintech), generating new employment opportunities. It also promotes the need for higher-skilled jobs, leading to an upskilled workforce and higher salaries.

Attracting investment: Innovative economies tend to attract both domestic and foreign investment. Investors seek regions where new ideas are being developed, commercialized, and scaled. This also attracts other forms of private capital such as angel and private equity investors who support the growth of startups, further stimulating economic activity.

Resilience & adaptability: By encouraging innovation in the E&M Sector, the Isle of Man's dependence on any single sector can be reduced, making the local economy more resilient to shocks. In recent years it has become more important that nations are better equipped to address shocks and challenges such as climate change, energy shortages, and pandemics.

The importance of innovation to the Isle of Man

In addition to macroeconomic rationale for prioritising innovation, several specific trends and drivers emerged from the Phase One report and the Phase Two process:

Lack of innovation funding on the Island vs competitors: The Phase One report highlighted that the Isle of Man's innovation funding vs UK regions and other international comparators was low. New historical data from the Financial Assistance Scheme reinforces this and anecdotal evidence from the roadmap workshops highlighted the lack of investment in innovation in the Isle of Man.

Unique value and quality are the main order winning criteria for the Isle of Man: The company diagnostics conducted by IfM Engage highlighted unique value and quality as a key order winning criterion for the E&M Sector. This underscores the importance of innovation and maintaining high quality to outperform international competitors.

Higher cost of manufacturing in the Isle of Man should incentivise more knowledge-based E&M activity: While manufacturing occurs in the Isle of Man, many respondents in Phase Two steering groups and workshops commented on the cost differential between the UK and Isle of Man. Successful products manufactured in the Isle of Man are typically sold as higher value (/ niche) products that are more IP intensive to produce.

R&D jobs are higher value and more attractive for the Government to anchor: Data from the Engineer Salary Survey suggests that specialised sector R&D roles tend to have higher salaries than manufacturing roles[18]. For the Isle of Man economy, this is a key source of revenue generation so incentivising high paying R&D roles should be encouraged.

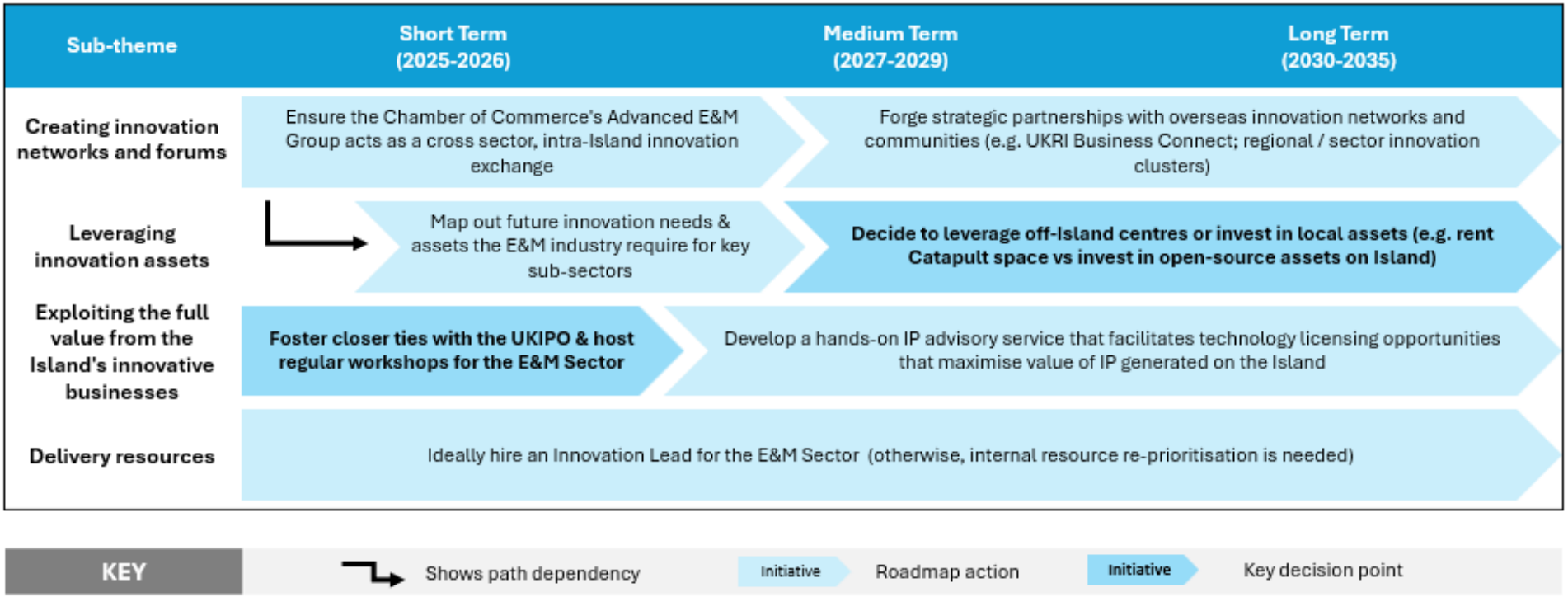
The Island relies on the private sector for knowledge generation / innovation: In the absence of universities or an innovation centre, the knowledge generation and dissemination capability in the E&M Sector comes from the private sector. The Isle of Man Government should therefore be playing a more active role in trying to facilitate innovation partnerships in the private sector.

[18] The Engineer. 2024. *Salary Survey*. Available from here.

How to achieve progress – key innovation initiatives

The innovation theme has three subcategories. The following section provides a commentary on the evidence underpinning these initiatives and the relevant case studies that suggest how the IOM could enact these initiatives.

Where the Isle of Man is now	Vision: what success will look like
A strong desire to make the Isle of Man an innovation-friendly environment, but there is a tendency to incentivise businesses that are already well-funded rather than those with good ideas. Grants are predominately geared towards job creation, but the new Sustainable Finance Initiative from FIOM will support innovation in the green economy.	*Actively encouraging innovation through IPR generation, alongside technology identification, selection, acquisition and exploitation.*



Creating innovation networks and forums

A consistent theme throughout the Phase One summary report was the recognition of the Island's lack of institutions that generate and disseminate knowledge. This was further reinforced during the roadmap workshops in Phase Two where participants articulated the need to build an enabling environment for innovation via communities, networks and hubs. Moreover, as a jurisdiction that is better suited to lower volume, higher quality products, creating an environment that promotes innovation is essential.

A short-term tactic to foster innovation in the IOM would be to use existing E&M forums and networks to start sharing cross-sector R&D challenges. Using an established forum like the Advanced Engineering & Manufacturing Forum could be an ideal starting point to trial such an approach. This would not only encourage collaboration within the E&M Sector but also to adjacent sectors such as digital, construction, and food and drink. This has been a successful model in the UK, where Innovate UK Business Connect has created the Innovation Exchange (iX) to help communities connect (see Case Study 1).[19] To help incentivise uptake and foster collaboration, the Department for Enterprise could attach a small grant fund to help de-risk the collaboration.

Case Study 1: Innovate UK Business Connect's Innovation Exchange

Innovate UK Business Connect (formerly the Knowledge Transfer Network) helps to foster cross-sector innovation with a focus on accelerating the growth of SMEs. A practical way Business Connect promotes innovation is through hosting an online innovation exchange platform. The Innovation Exchange (iX) fast-tracks knowledge transfer nationwide by matching "challenges holders" with trailblazing "solution providers" across different sectors. To help encourage use of the online network, Business Connect provide grant funding and bespoke mentorship support to solution providers. To date, 180 challenges have been delivered resulting in 928 business collaborations and 65 follow-on contracts being generated.

As the Island's capacity to foster and support innovation becomes established, a longer-term initiative to forge strategic partnerships with overseas innovation networks would be desirable. There are multiple avenues to achieve this. One approach could be engaging with UK / Irish institutions like the UK Science & Innovation Network or more regional institutions with similar sector strengths such as Innovate Lancashire. Another option could be to form strategic partnerships with sector centres of excellence aligned with the Island's capabilities. This could include the Aerospace Technology Institute for aviation, the Compound Semiconductor Applications Catapult for the optics sector, or the North Sea Transition Authority for the oil and gas sector. As a starting point, Business Isle of Man could engage with Innovate UK's Global Innovation Network, for both collaboration opportunities and as a potential blueprint for engaging with international partners (see Case Study 2).[20]

Case Study 2: Global Innovation Network as a model for engagement

Innovate UK's Global Innovation Network programme aims to bring together innovators, industry and academics to solve common challenges across borders. With dedicated challenge themes across several African countries, the Global Innovation Network offers an opportunity to test and refine innovative products in diverse environments and share best practices. Current activities include sector-based networks, technology road mapping, joint funding activities and knowledge dissemination.

[19] Innovate UK Business Connect. 2024. *Innovation Exchange*. Available from here.
[20] Innovate UK Business Connect. 2024. *Global Innovation Networks*. Available from here.

Leveraging innovation assets

Once the appropriate innovation forums and government capacity have been established, the innovation network can steer Business Isle of Man on the E&M Sector's innovation priorities.[21] While the Strategic Review has suggested certain types of industries and potential sub-sectors, a more detailed innovation needs assessment is required to help pinpoint promising areas of the value chain in key sub-sectors. Therefore, developing an innovation needs assessment, looking at both the current and future sub-sectors, could help Business Isle of Man prioritise innovation funding and provide a steer for Isle of Man based companies looking for new growth markets. The UK government has adopted and published innovation needs assessments as well as regular technology forecasts across multiple sectors. A prominent example of this is in the energy sector via the Energy Innovation Needs Assessment, a project that has proved effective at prioritising innovation funding in sustainable energy supply chains (see case Study 3).[22]

Case Study 3: The UK's Energy Innovation Needs Assessments

In 2018 the then UK Department for Business commissioned a detailed study on the UK's future energy innovation needs. The suite of reports published is referred to as the Energy Innovation Needs Assessments (EINAs). Taking a whole-system view of the energy sector, the EINAs aim to provide the UK government evidence and analysis on:

- the role of different technologies in the UK's future energy system
- the potential domestic and export growth opportunities
- where innovation support and investment for those technologies could deliver the greatest benefits

The EINAs were successful in highlighting UK strengths and opportunity areas across multiple technology sub-sectors. It proved influential in prioritising innovation funding across multiple sub-sectors and provided a baseline to build innovation assets in. In 2023, the UK Department for Energy Security and Net Zero committed to updating the 2019 EINAs with the findings expected to be published in Q4 2024.

Once an innovation needs assessment has taken place, government and industry can make an informed decision on the assets needed to action innovation priorities. If the innovation needs are likely to be sporadic and highly varied across the E&M Sector, one option could be to partly fund innovation space at UK facilities. This provides a flexible way to assist the sector that reduces the need to invest in physical assets that could be underutilised.

Another potential avenue could be to pool different manufacturer's capital machinery, R&D and lab space together to create an "innovation Island of excellence". Similarly to an innovation or science park, manufacturers could be awarded grant funding to invest in higher risk tooling, R&D equipment and lab space for their own business needs. However, a condition of the grant could be for a proportion of the equipment to open access, or leased, to other manufacturers to maximise the spill over benefits. This could form part of a pilot initiative to trial whether an "innovation as-a-service" business model could work in the Isle of Man.[23] If the innovation

[21] Hence the arrow emerging from *Creating innovation networks and forums* sub theme into *Building innovation assets* to show the interdependency of the innovation needs assessment and establishing a network who can guide the work.
[22] Department for Energy and Net Zero. 2019. Energy Innovation Needs Assessments. Available from here.
[23] Care would have to be taken to protect sensitive IP. Some costs to manufacturers would also be incurred to ensure grant funded "shared equipment" is isolated from a business's core manufacturing & R&D activity.

needs assessment identifies a critical mass of future needs, in which most businesses in the area would utilise and benefit from innovation-oriented assets, then a dedicated innovation centre could be desirable. In Torbay for example, the local government identified a cluster of photonics and electronics companies. To turbocharge the growth of this sector, the region invested in a dedicated open access innovation facility to support both existing businesses and crowd in foreign direct investment (see case study 4).[24]

Case Study 4: Torbay's Electronics and Photonics Innovation Centre (EPIC)

Torbay is considered a growing centre of expertise and engineering skill in photonics and electronics. Torbay's Electronics and Photonics Innovation Centre (EPIC) is an £8m facility funded by the European Regional Development Fund and Coastal Communities Fund. Services on offer by EPIC include:

- Access to >£2M worth of microelectronics prototyping equipment
- Ability to tap into a growing pipeline of engineering expertise
- Financial incentives to relocate
- Rent-free periods
- Links to local universities and colleges
- Access to a classified cleanroom
- Exposure from joint marketing campaigns and exhibition stands.

Since its 2019 launch, EPIC has become a hub for European and North American companies, many establishing R&D and UK headquarters in Torbay. EPIC has enhanced Torbay's global profile by forming the Torbay Hi-Tech Cluster and participating in major international events or joining prestigious global associations.

Exploiting the full value from the Island's innovative businesses

Another finding that emerged from Phase One that was reinforced during the Phase Two roadmap workshops was the Isle of Man's ability to fully exploit innovation from its businesses. As innovation is solely driven by the private sector on the Island, one immediate initiative could be to host workshops run by the UK Intellectual Property Office (UKIPO) on IP management and exploitation. This could be an important enabling initiative as many of the smaller businesses interviewed in Phase One expressed a desire to license their capabilities to other companies or set up joint manufacturing partnerships. For this operating model to succeed, the smaller, IP-rich, businesses on the Island need to have strong knowledge of IP alongside access to advice on IP protection and exploitation. Fortunately, as the Isle of Man sits within the UKIPO's jurisdiction, Isle of Man based businesses are entitled to both online support via online support tools as well as hands-on support. [25] Workshop participants during Phase Two also highlighted that before COVID-19 the UKIPO ran workshops for E&M businesses that have since stopped. Given this, resuming these sessions could be a fast process. However, marketing these workshops effectively will be crucial to raise awareness and uptake as some members of industry were unaware that they had been available.

Based on the level of interest and demand for greater IP management and exploitation, there could be scope for a more advanced IP service. This could include a grant that subsidises the cost of an IP Audit delivered by a qualified IP professional to provide a more detailed status report than that available from UKIPO's free tools. Further support could also include grant funding for an IP professional to implement findings from the audit and progress the IP

[24] Torbay Council. 2024. *EPIC*. Available from here.
[25] UK Intellectual Property Office. 2024. *Welcome to IPO's online support tools. These have been designed to help you*. Available from here.

management strategy. Rather than implement a separate programme, the Isle of Man could aim to become involved in the UKIPO's IP Advance Programme which was launched as a pilot in July 2024 (see Case Study 5).[26]

Case Study 5: The UK Intellectual Property Office IP Advance Programme

The UKIPO announced their new financial support scheme, IP Advance as a pilot in July 2024. Delivered via regional partners, this scheme is aimed at supporting SMEs (small and medium-sized enterprises and offers a two-stage system of grants towards IP audits and IP-related activities. Two tiers of funding support are available:

Tier 1: IP Audit
Funding towards the costs of an IP audit conducted by a qualified IP professional. IP Audit provides funding of £2,250 (inc. VAT), provided that the business contributes £750 (inc. VAT) towards the overall audit cost.

Tier 2: IP Access
Funding towards professional advice to progress IP strategy or implement audit recommendations. This may include anything from the filing of new properties, through to commercialisation and protection of existing IP. IP Access matches the business's contributions towards IP services, up to a maximum of £2,250 (inc. VAT).

Resource to manage innovation initiatives

Ideally, an Innovation Lead would be hired for the E&M Sector /Business Isle of Man to manage the initiatives highlighted in this chapter. Alternatively, re-prioritising existing resources to focus on the above activities is needed to drive forward the steps identified in this proposed Strategy.

Spending required to enact the innovation initiatives

The following section outlines the expected public and private spending required to deliver the innovation initiatives and includes the indicative minimum and maximum spending implications for their implementation. Data on the minimum and maximum spending for the innovation initiatives has been collected from a range of sources. This includes IfM Engage and Gemserv case studies, examples of best practice from the UK and abroad, as well as discussions with Business Isle of Man.

Figure 16 details funding allocated to innovation by source (government or private) split into the short, medium and long term. From 2025 to 2035, the total funding allocated to innovation is **£6.45m** in the minimum scenario and **£13.53m** in the maximum scenario. Of this, the Government would spend between **£3.49m** and **£7.18m**, and the private sector would spend the remaining **£2.96m** to **£6.35m** for minimum and maximum inititive ambition respectively.The majority of spending is allocated to the cross-sector innovation network (IN2) and supporting E&M companies using cutting-edge innovation assets (IN5), both of which represent new innovation programmes.

[26] The Chartered Institute of Patent Attorneys. 2024. *UK IPO launches new SME financial support scheme, IP Advance.* Available from here.

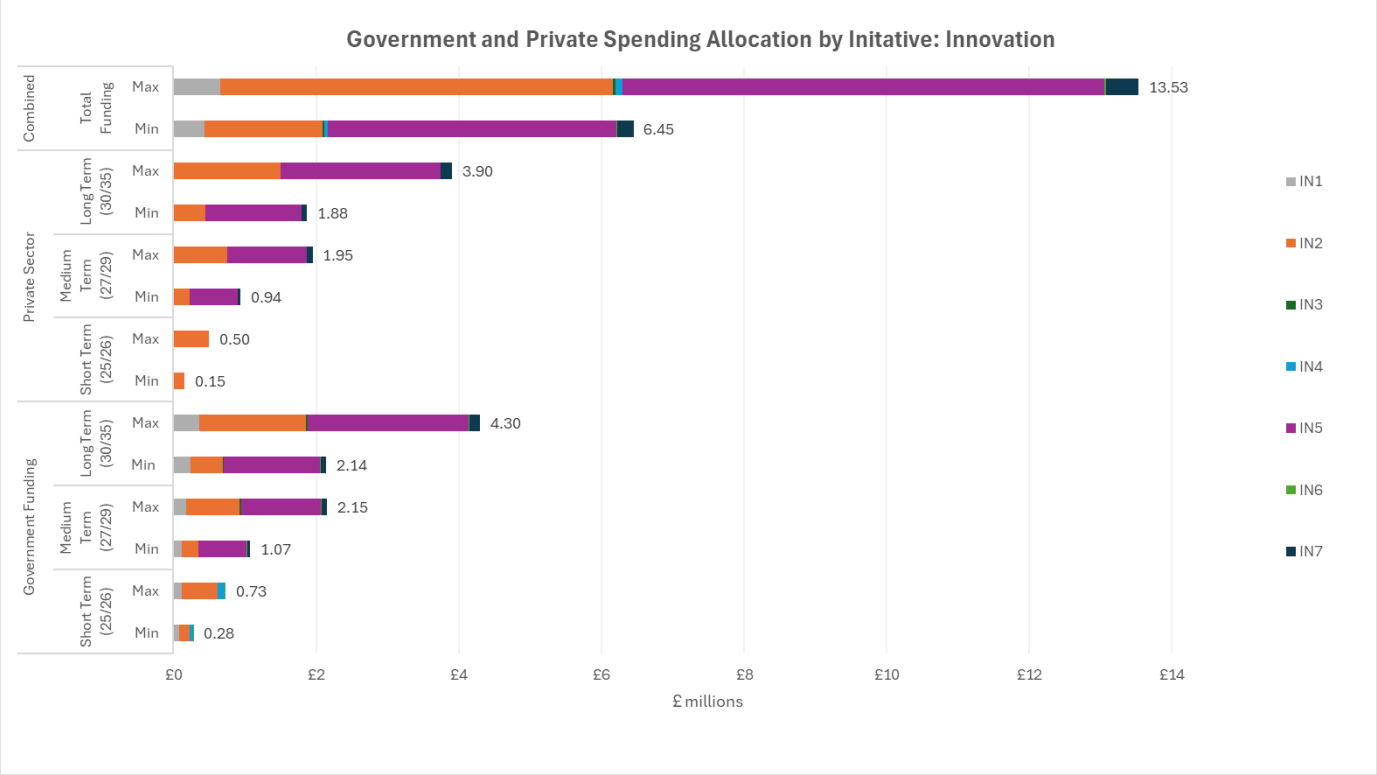


Figure 16 - Spending allocation by innovation initiative

Sub theme	ID	Initiative action
Internal resources to action innovation initiatives	**IN1**	Ideally hire a dedicated Innovation Lead for the E&M Sector, or, for Business Isle of Man. Otherwise existing internal resources would need to prioritise innovation initiatives.
Creating innovation networks & forums	**IN2**	Ensure the Chamber of Commerce's Advanced E&M Group acts as a cross sector, intra-Island innovation exchange
	IN3	Forge partnerships and networks with overseas innovation networks and communities (e.g. UKRI Business Connect; regional / sector innovation clusters)
Building innovation assets	**IN4**	Map out future innovation needs & assets the E&M industry require for key sub-sectors
	IN5	Decide to leverage off-Island centres or invest in local assets (e.g. rent Catapult space vs invest in open-source assets on Island)
Exploiting the full value from the Island's innovative businesses	**IN6**	Foster closer ties with the UKIPO & host regular workshops for the E&M Sector
	IN7	Develop a hands-on IP advisory service that facilitates technology licensing opportunities that maximise value of IP generated on the Island

Table 6 - Initiative actions grouped by sub theme

Metrics for measuring the impact of innovation initiatives

This section briefly highlights the short and long-term metrics used to measure the impact of the innovation initiatives. Short term impacts can be categorised as the immediate outcomes and tend to be linked to specific initiatives. In most cases short term metrics measure an outcome that should positively impact a long-term metric. For example, the number of intra-business collaborations incentivised by the intra-island innovation forum should have the longer-term impact of increasing R&D spending on the Isle of Man. Therefore, the longer-term metrics are directly related to macroeconomic performance of the E&M Sector.

Sub theme	Short Term Metric	Rationale
Creating innovation networks and forums	# of intra-business collaborations # of international R&D collaborations # of innovation challenges published by DfE/BIOM/Industry	Measuring the number of business collaborations and challenges posted provides an immediate snapshot of the effectiveness of the forum. Limited take up will suggest the forum isn't working and alternative methods will be needed to incentivise intra-Island collaboration. Or it could be decided that intra-Island collaboration shouldn't be actively supported after a certain time.
Leveraging innovation assets	Industry aligned on innovation needs and asset requirements Decision made as to whether to have on-Island centre of excellence or to leverage UK assets	For this sub theme, more information gathering is required in the short term to plan for the long term. A good outcome would be for industry to align on its innovation needs and commit to R&D in these areas. Then a decision will need to be made on how best The Government can support the Island's innovation ambitions.
Exploiting the full value from the Island's innovative businesses	# of IP audits conducted # of IP Management reports Aggregated sector view on value of IP	Licensing revenue and patent applications take time to trickle through, especially for smaller businesses. Monitoring the number of company IP audits and management reports conducted under the IN6 scheme will gauge the E&M Sector's need for the service. Collating an aggregated view on the value of E&M IP in the IOM would also provide good baseline data.

Table 7 - Short term metrics to assess progress against sub themes

Nine longer term metrics were identified for the Department for Enterprise to measure for innovation. They are listed below with the rationale for including them stated below.

Longer Term Metrics	Rationale
Sector R&D spend (£ / % of GDP)	Common metric used internationally to compare how committed industry and government are to innovation
Total R&D headcount (#)	Assessing the number of jobs in R&D roles could indicate the level of innovation occurring over time
Proportion E&M employment in R&D (%)	An increasing level of R&D employment as a proportion of total E&M jobs would indicate a shift towards innovation
Sales in new growth markets / products (£)	Tracking sales of new products (ideally linked to innovation funding provided by IOM) would show the future value of innovation
E&M technology startups created (#)	Gives an indication of how many new E&M businesses are entering / being created on the Island
E&M Sector revenue from licensing (£)	Metric to capture how many businesses generate revenue via licensing their tech / innovations
Patents from E&M Sector (#)	Measure to indicate the level of IP being generated
£ of VC / PE funding in startups / SMEs	Would track how much private capital is flowing into the sector and indicate the health of E&M start ups
Number of R&D projects (#)	Tracking the number of purely private R&D projects and those that are being part-funded by IOM would enable government to track innovation levels

Table 8 - Longer term metrics to track innovation progress

2. Attracting Foreign Direct Investment (FDI)

WHY		WHAT			HOW	OUTCOMES	
Vision	**Trends & Drivers**	**Sub-theme**	**Initiatives**	**Examples**	**Resources**	**Short Term**	**Long Term**
FDI VISION  **Attracting new investments to the Isle of Man to increase the GDP of the E&M Sector and to bolster diversity and resilience.**	**4-5 larger firms make up a big proportion of employment / output** **Very few E&M companies established on the IOM in the last decade** **Evidence suggests FDI increases overall sector productivity and wages** **Competitive tax environment which makes investment from companies & HNWI attractive** **High quality of life for employees and business owners driving investment**	**Securing further investment from established E&M businesses**	**FDI2:** Devise an engagement plan with established E&M businesses' parent companies	Lancashire FDI Engagement Plan Humber Industrial Cluster Plan Inward Investment	Dedicated business development activity Events management / co-ordination Dedicated resource allocated to existing FDI	# meetings with international HQ of E&M businesses # of pavilions attended # of visits from international HQ to Isle of Man	FDI stock / flow from existing businesses (£ and #) FDI as % of GDP FDI by source country (stock & flow) Greenfield / Brownfield ratio E&M Sector % of total FDI
			FDI3: Schedule recurring touch points with E&M parent companies to share technology / investment plans & how IOM can actively facilitate these plans	Regular IOM pavilions / representatives at specific international trade shows International Investment Summit			
		Understanding target markets to attract new FDI opportunities	**FDI4**: Define target markets, locations & company types (e.g. HNWI, luxury goods)	Midlands Engine Industrial Strategy Greater Manchester International Strategy	Third party strategy consultant Dedicated resource allocated to new FDI activity Marketing and communications (prospectus) Events management / co-ordination	Understand 3-5 key target markets and countries # of relevant sector events attended E&M investment prospectus created # of online events / showcases # of total and new leads for investment	FDI stock / flow from new investors FDI by source country # of FDI projects from new businesses Time taken from facility query to build
			FDI5: Actively target high priority companies, sub-sectors and markets to support new FDI (via targeted prospectuses, sector trade shows, IOM pavilions, online events)	Torbay EPIC Centre investment prospectus Lincolnshire Advanced Manufacturing & Engineering Investment Opportunity			
		Providing suitable facilities promptly for the E&M Sector	**FDI6:** Establish a cross-department team to identify and fast track suitable E&M facilities	Torbay database of commercial facilities National Infrastructure and Service Transformation Authority (NISTA)	Assistance from Department for Infrastructure Website development / management Stakeholder engagement (construction industry, property owners)	Roundtable with Construction IOM on barriers for manufacturing facilities Establish an online commercial property finder tool Consortia aligned for IIS bid	Time taken from facility query to build % of planning applications approved within 8 weeks increases # of facilities built / repurposed dedicated for commercial / E&M
			FDI7: Leverage the Island Infrastructure Scheme to create internationally competitive, soft-landing facilities for FDI targets and domestic businesses	WMCA and Segro £2bn to develop facilities Manufacturing Property Challenge Programme (Scottish Enterprise)			

FDI1 (Hire a FDI Lead) has been omitted from this summary table as it is a resourcing measure that drives the other initiatives

This section explores:

- why FDI is important from a macroeconomic perspective
- why FDI is important for the Isle of Man E&M sector
- what initiatives are required to attract FDI in the E&M sector
- what resources are required to implement the FDI initiatives
- the short-and long-term impact of achieving the FDI initiatives

Why FDI is important

In the context of a highly developed economy like the Isle of Man, the rationale for attracting foreign direct investment (FDI) is to enhance certain competitive advantages and sustain economic leadership. In an increasingly globalised world, E&M businesses often establish R&D and manufacturing footprints to serve regional markets. For many companies, the Isle of Man is a prime location due to its proximity to both the UK, Ireland and by extension the European Union.

In terms of the benefits of FDI, a range of evidence exists to support promoting inward investment. Recent analysis conducted by the UK's Department for International trade found that inward FDI has a net positive effect on Great Britain's economy.[27] At a national level, a 1% increase in FDI was found to positively impact GVA, employment, annual wages and labour productivity. The UK Annual Business Survey assessed further evidence of productivity differences between domestic and FDI based firms.[28] Table 9 highlights that both the median and mean labour productivity values for Non-FDI and FDI firms differ considerably. While the data sample is smaller for FDI companies, it reinforces the common assumption that FDI companies are generally more productive, which is required in order to compete within an international market.

£, 000 per worker per year

	Median		Mean		Of which mean of:	
	No FDI	FDI	No FDI	FDI	Inward FDI	Outward FDI
2012	25.3	61.6	44.3	123.0	125.5	119.2
2013	26.5	53.4	47.5	156.8	159.2	161.7
2014	27.1	63.3	48.6	153.4	165.7	109.0
2015	27.7	59.3	48.3	172.7	185.6	140.3

Table 9 - Median and mean value of workers in No FDI and FDI firms

Figure 17 shows the productivity distribution of both FDI and non-FDI firms. The distribution for non-FDI firms is relatively smooth with a high density of workers adding around £10,000 to £20,000 of value. On the other hand, while the productivity distribution of FDI firms is less smooth, reflecting the smaller sample size, the data indicates more firms operating at a higher level of productivity.

[27] Department for International Trade. 2021. *Understanding FDI and its impact in the United Kingdom for DIT's investment promotion activities and services*. Available from here.
[28] Office for National Statistics. 2017. *Foreign direct investment and labour productivity, a micro-data perspective: 2012 to 2015*. Available from here.

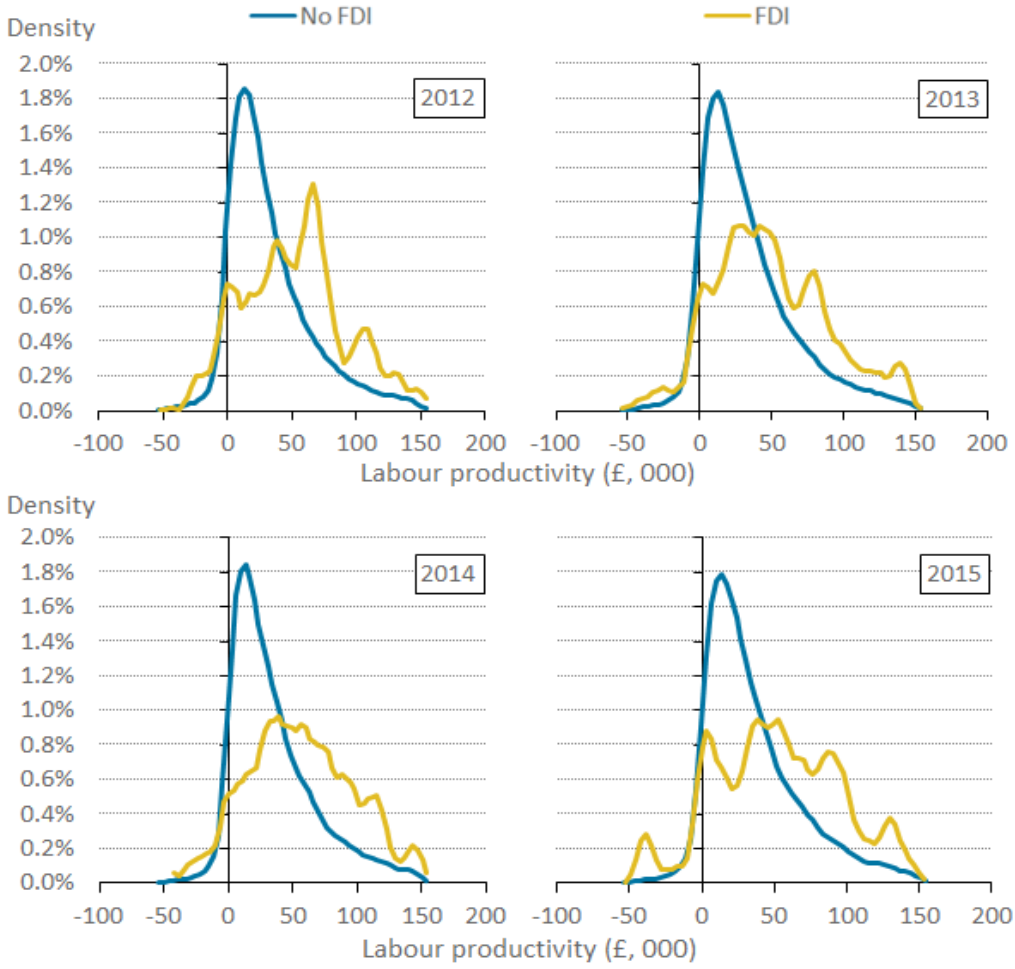


Figure 17 – Labour productivity distribution of firms in GB which received FDI and those that did not, between 2012-2015 (ONS, 2017)

In addition to higher productivity levels observed in FDI companies, a range of other benefits emerge from encouraging FDI into an economy. These include:

Enhancing innovation and technology capabilities: In a developed economy such as the Isle of Man, FDI plays a key role in growing innovation capability. Larger firms often possess a broad network of academics, research institutions and other R&D and manufacturing facilities. These companies often attract cutting-edge technologies, R&D capabilities and financial capital that ensure high-value sectors like pharmaceuticals, fintech, and advanced manufacturing.

Access to global markets and supply chains: Being open to FDI can strengthen a country's integration into global value chains. Multinational corporations could use the Isle of Man as a base for exporting goods and services to Europe, the U.S., and other global markets. For an economy like the Isle of Man, there should be a focus on turning the Island into a beacon for investment and the export of high value, niche manufacturing products.

Job creation in highly skilled sectors: While the Isle of Man already has a highly skilled labour force, FDI helps create jobs in knowledge-intensive industries. For example, foreign investments in cleantech, digital manufacturing, medical and defence industries provide opportunities for high-paying, specialized roles that further enhance the UK's human capital.

Economic resilience in an uncertain world: FDI in certain sectors can help nations mitigate the risks associated with external shocks such as supply chain shortages and trade barriers. By attracting investment from a diverse range of regions (e.g. the U.S., Japan, and Africa), the Island can diversify its trading and investment partners and maintain its economic resilience.

The importance of FDI to the Isle of Man

In addition to macroeconomic rationale for prioritising FDI, several specific trends and drivers emerged from the Phase One report and the Phase Two process:

4-5 larger firms make up a large proportion of employment / output: As detailed in the Phase One report, a large proportion of economic activity and job creation is concentrated in 4-5 E&M firms.[29] On the one hand, this means that the Government can focus their efforts on a handful of firms to secure future investments, but this also creates the concern that any future growth of the E&M Sector is highly dependent on the success of a handful of businesses. As a result, attracting new FDI is vital for the Isle of Man to enhance the E&M Sector's diversity and resilience.

Very few E&M companies have been established in the IOM in the last decade: Growth in the sector has overwhelmingly come from existing companies, the Island rarely attracts new companies within E&M. In the last decade for example, only one new company has relocated / invested in the IOM. Greater focus should be on securing investment from new E&M companies.

Competitive tax environment makes investment from companies & HNWI attractive: The Island's status as a Crown Dependency enables the Island to set a separate tax and policy regime that is often more competitive than that of the UK or EU. In fact, a key strength highlighted in the Phase One report was the Island's low levels of personal and corporate taxation. This means the FDI strategy pursued by the Island should highlight its competitive tax regime to attract entrepreneurial and high net worth individuals.

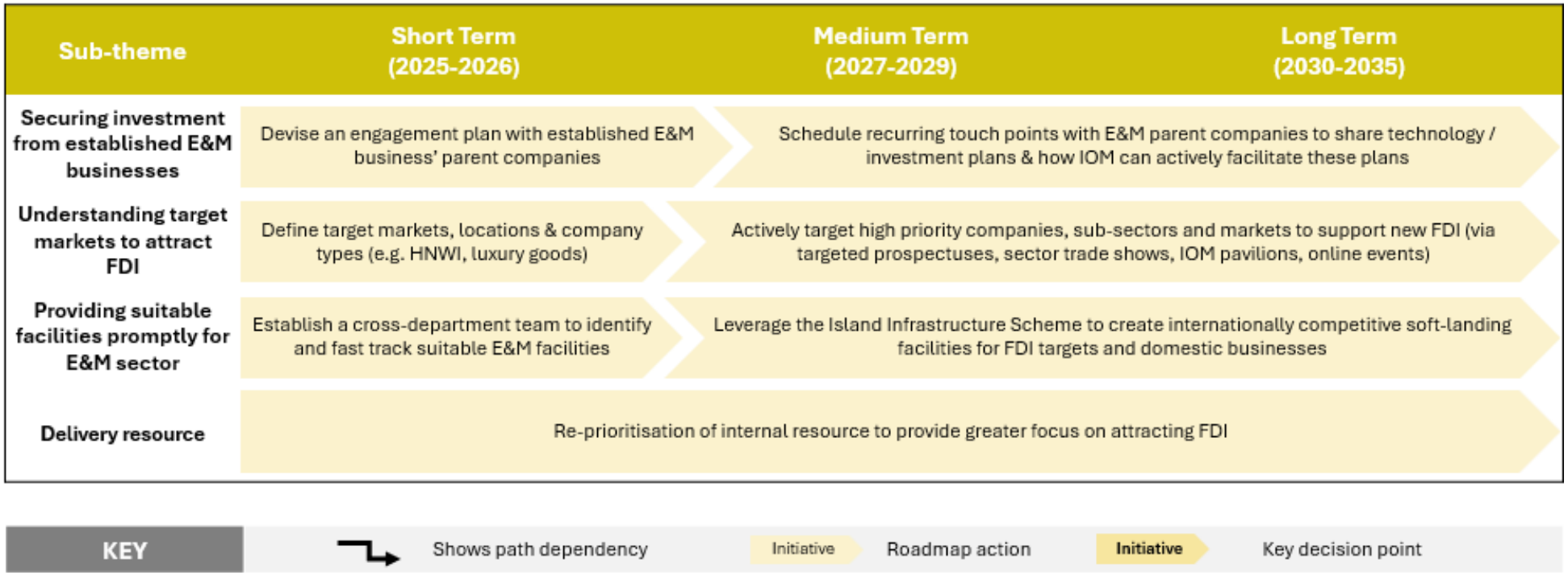
High quality of life for employees and business owners driving investment: The Isle of Man consistently ranks highly for quality of life compared to the UK and Ireland.[30] The Island boasts one of the lowest crime rates in Europe and easy access to coastline and natural landscapes promote a healthy work life balance. These inherent strengths should be leveraged to promote additional FDI.

[29] Gemserv. 2024. Isle of Man Engineering & Manufacturing Strategy: Phase One Report. Available from here.
[30] Locate Isle of Man. 2020. *Isle of Man ranked 'best place to live for expats' in the British Isles.* Available from here.

How to achieve progress – key FDI initiatives

The FDI theme has four subcategories. The following section provides a commentary on the evidence underpinning these initiatives and the relevant case studies that suggest how the IOM enact these initiatives.

Where the Isle of Man is now	Vision: what success will look like
Currently, job numbers are decreasing with the region possessing limited global recognition beyond existing businesses. There have been a limited number of new companies in the last ten years although existing firms have grown through investment and diversification. The 0% Corporation Tax, low-income tax rates, as well as high quality of life and security make the Island attractive to HNW individuals. There is a strong desire to reduce the income inequality gap and increase business innovation as well as the quality and size of the workforce.	*Attracting new investments to the Isle of Man to increase the GDP of the E&M Sector and to bolster diversity and resilience in both existing and new businesses.*



Securing further investment from established E&M businesses

As many of the existing E&M businesses in the Isle of Man are owned by international firms, securing investment from existing businesses should remain a high priority. While the Isle of Man Government does not collect statistics on FDI inflows, 2023 / 24 data from the UK Department for Business and Trade shows that 60% of FDI emanated from existing investors.[31] Similarly, local regions with similar sectors such as Lancashire experience higher levels of existing investor FDI (over 80%).[32] This underscores the importance of maintaining strong relationships with existing Isle of Man companies.

An initial step to achieve this would be to create a series of bespoke engagement plans for the major internal FDI targets. These plans would provide details on where current investment decisions are made globally, who the key personnel are and initial ideas on how the Isle of Man could be part of a group's manufacturing or R&D strategy. Developing these in collaboration with the Isle of Man senior management teams would maximise the likelihood of successfully engaging with relevant overseas decision makers. As time progresses, interactions with international decision makers should turn into regular touch points. These meetings should discuss future technology and product roadmaps, the parent company's perspective on Isle of Man facilities, barriers to further growth and future opportunities for collaboration. In the UK, the Advanced Propulsion Centre used annual international pavilions (e.g. Japan, Germany, US, India) to engage with global vehicle manufacturers and suppliers.[33] The pavilions prioritised by the APC were often hosted in locations where key decision makers for the UK automotive industry were. Another activity could be to host an Isle of Man-wide Investment Summit. This would help promote and celebrate committed FDI and domestic investment projects as well as provide a forum to help stimulate the pipeline of future investments (see case study 6).[34]

Case Study 6: International Investment Summit

The UK International Investment Summit (IIS) is a premier event aimed at fostering global investment in the United Kingdom. Organized by the UK government in partnership with key industry stakeholders, this summit serves as a platform for showcasing the UK's investment opportunities, strategic industries, and innovative ecosystem. The summit is designed to address several key objectives:

- attracting FDI
- showcasing strategic sectors
- strengthening economic ties
- driving innovation and sustainability

In the latest IIS in October 2024, almost 38,000 UK jobs were set to be created and a total of £63 billion of investment was announced.

[31] Department for Business and Trade. 2024. *DBT inward investment results 2023 to 2024*. Available from here.
[32] Lancashire Enterprise Partnership. 2022. *Foreign Direct Investment Action Plan 2022 – 2025.* Available from here.
[33] Advanced Propulsion Centre. 2019. *UK government Pavilions help automotive technology SMEs secure international orders worth millions*. Available from here.
[34] The Department for Business and Trade. 2024. *Record-breaking International Investment Summit secures £63 billion and nearly 38,000 jobs for the UK*. Available from here.

Understanding target markets to attract new FDI opportunities

The diverse nature of the Isle of Man's E&M Sector is a core strength and suggests many types of businesses can flourish in the IOM. The Phase One review suggested that businesses that manufacture low-volume, high-value products and are not overly reliant on 'Just in Time' principles were often best suited to the Island. Moreover, preliminary analysis also identified initial opportunity sectors such as cleantech, defence and health. These were identified based on assessing existing capabilities, how future markets were evolving and interviews undertaken with manufacturers regarding their plans. Though these insights provide a strong foundation, more bottom-up work is required to refine the Isle of Man's FDI target sectors, markets and offer – especially to new companies. First, understanding how existing FDI flows into the Island in terms of sectors and location would provide a firm understanding of core sectors and regions to target. This will enable Business Isle of Man to set realistic FDI targets. This will need to be sense checked alongside the plans of the existing E&M base to capitalise on any existing industrial synergies. Lancashire's Foreign Direct Investment Action Plan is an excellent example of a well-structured and costed foreign direct investment plan and could be replicated by the Isle of Man (see case study 7).[35]

Case Study 7: Lancashire Local Enterprise Partnerships FDI Strategy

In 2022 the Lancashire Enterprise Partnership published its 3-year Foreign Direct Investment Action Plan covering the years 2022-2025. Despite the UK's Local Enterprise Partnership now being disbanded, the insights from the report have been absorbed into the local council's FDI strategy. The report first outlined the region's future ambition for FDI. It aimed to generate 200 FDI projects up to 2030 with a 3-year ambition to generate 2,500 jobs with 15% of the total projects linked to innovation. With the vision outlined, the Action Plan highlighted 5 priority sub sectors which included Digital, Advanced Manufacturing, Energy & Low Carbon, Food & Drink and Aerospace. The evidence for selecting these sectors was also provided alongside the potential opportunities for FDI. To provide even more focus for the region, both core and emerging target markets were identified for the region using company data mapping to understand the HQs of the existing company base and the fastest growing FDI regions in Lancashire. The Action Plan concluded with four broad initiatives which included: leveraging relationships, defining the offer, events & missions, and targeted lead generation. Each of these initiatives was costed and took into consideration the internal resource, third party resource and specific actions required to achieve the vision.

Once a FDI action plan has been drafted and agreed by industry and government, targeted campaigns aimed at priority sub-sectors and markets should be initiated. This involves tailored investment prospectuses highlighting the needs of different sectors, promoting different benefits of the Isle of Man to different sectors. Keeping a repository of international sector trade shows and leveraging relationships via innovation networks will also prove useful. The Greater Lincolnshire LEP's Advanced Engineering and Manufacturing Investment Opportunity prospectus is a good example of a prospectus that uses targeted data to highlight specific benefits of the region for the E&M Sector (see case study 8).[36]

Case Study 8: Lincolnshire's Advanced Engineering & Manufacturing Investment Opportunity Report

Published in May 2023, Lincolnshire's Advanced Engineering & Manufacturing Investment Opportunity prospectus succinctly articulates the region's key benefits to potential investors. It uses selected data from ONS on key metrics such as skills, facility costs, and access to logistics and promotes companies already manufacturing in the region to demonstrate its capabilities. It also provides a sectoral analysis to help adjacent organisations immediately understand the strengths of the region. This is helpful in enabling others to promote their capabilities, such as the Department for Trade and other regional investment bodies.

[35] Lancashire Enterprise Partnership. 2022. *Foreign Direct Investment Action Plan 2022 – 2025.* Available from here.
[36] Greater Lincolnshire Local Enterprise Partnership. 2023. *Advanced Engineering & Manufacturing Investment Opportunity*. Available from here.

Providing suitable facilities promptly for the E&M Sector

A range of issues regarding facilities emerged during both Phase One and Phase Two which often differed based on the type of business. Existing firms with a manufacturing or R&D facility in the Isle of Man often found expanding or rationalising their existing facilities difficult. Similarly, those businesses with a sales office, or new businesses with no major footprint, had trouble acquiring suitable facilities. However, both groups found IOM Government responsiveness regarding facilities to be slow. In fact, inaction from government combined with lack of availability led to some SMEs looking elsewhere to set up their manufacturing and R&D facilities. To alleviate this issue, an initial step could be to set up a cross-government department group to fast-track suitable commercial properties for the E&M Sector. This could highlight early measures to help E&M businesses locate facilities, validate their suitability and accelerate their refurbishment for manufacturing or R&D purposes. This group could also investigate policy areas to help accelerate commercial facilities suitable for manufacturing. This could include exploring legislation around property unit trusts or incentivising landowners to build new commercial units. One example of good practice in this area is Torbay Council, which hosts a commercial property database with key parameters to help businesses shortlist a range of suitable premises (see case study 9).[37]

Case Study 9: Torbay Council's Property Database

Torbay Council actively manages a database of commercial properties available for rent through its 'Invest in Torbay' website. This platform streamlines the process for businesses seeking facilities in the region. The council plays a proactive role in assisting companies with facility acquisition, providing support throughout the process. By using a trusted, council backed service, businesses can access competitively priced properties with greater confidence, ensuring that they find facilities suited to their needs.

Once the easier to implement actions have been completed and the task force has momentum, a long-term plan could be to use the Island Infrastructure Scheme to build new facilities, or renovate existing building stock, for the E&M Sector. This could address the Isle of Man's shortage of quality, speculative, mid-size industrial buildings that are suitable for manufacturing companies. Evidence from Phase One suggested that the Isle of Man's construction industry is heavily geared towards building storage units and residential housing due to its profitability. Moreover, the Island has limited capability in developing bespoke manufacturing properties and often relies on UK contractors resulting in higher prices and reduced profitability. Therefore, the Department for Enterprise should monitor the uptake of the Island Infrastructure Scheme and decide whether a dedicated manufacturing facilities fund is required to incentivise the creation of suitable E&M facilities. In Scotland, a separate fund dedicated to providing manufacturing facilities was launched in July 2024 (see case study 10).[38] The Isle of Man team could contact Scottish Enterprise to understand the uptake, quality and type of projects submitted in the first round.

[37] Invest Torbay. 2024. *Business in Torbay*. Available from here.
[38] Scottish Enterprise. 2024. *Manufacturing Property Challenge Programme – Call 1 now closed*. Available from here.

Case Study 10: Scotland's Manufacturing Property Challenge Programme

The Manufacturing Property Challenge Programme supports companies that develop property for manufacturing purposes. The grant support is expected to cover up to 20% of eligible costs per project, up to a maximum of £2 million. As part of the first competitive call, Scottish Enterprise dedicated £15 million to target mid-size industrial buildings (around 15,000 square feet) that are suitable for a variety of manufacturing occupiers. To be eligible for the fund, the project must:

- Be able to demonstrate which manufacturing industries your project will target
- Offer good value for money
- Be able to demonstrate that the project is deliverable within two years after receipt of a grant offer
- Be completed to high sustainability standards (either an 'excellent' BREEAM rating, EPC 'A' for new builds or EPC 'B' rating for refurbished properties)
- Be located on a site designated for industrial use in the relevant local development plan
- Be able to provide details of the projected operating profit

Like the Isle of Man's Island Infrastructure Scheme, the eligible costs are the capital build costs of a project including professional fees incurred after the project approval date.

Internal resource to action FDI initiatives

To action and manage the FDI initiatives highlighted in this section of the proposed Strategy, Business Isle of Man should either look to hire an Investment Officer or otherwise re-prioritise existing internal resources.

Spending required to enact the FDI initiatives

The following section outlines the expected public and private sector spending required to deliver the foreign direct investment initiatives and includes the indicative minimum and maximum spending implications for implementing the initiatives. Data on the minimum and maximum spending for the foreign direct investment initiatives has been collected from a range of sources. This includes IfM Engage and Gemserv case studies, examples of best practice from other jurisdictions as well as discussions with Business Isle of Man. Figure 18 details funding allocated to foreign direct investment by initiative.

From 2025 to 2035, the total public and private funding allocated to foreign direct investment is **£17.16m** and **£34.06m** for the minimum and maximum scenario respectively. Of this, the Government would spend between **£5.16m** and **£10.06m**, and the private sector would spend the remaining **£12m** to **£24m** for minimum and maximum inititive ambition respectively. A high proportion of spending is dedicated to supporting the refurbishment and creation of suitable facilities for E&M businesses (**FDI7**). This initiative has a significant capital outlay in the medium and long term. Investment in a marketing / engagement campaign to target high priority companies, sub-sectors and markets (**FDI5**) accounts for the next highest proportion of spend in the medium and long term across this area of the proposed Strategy.

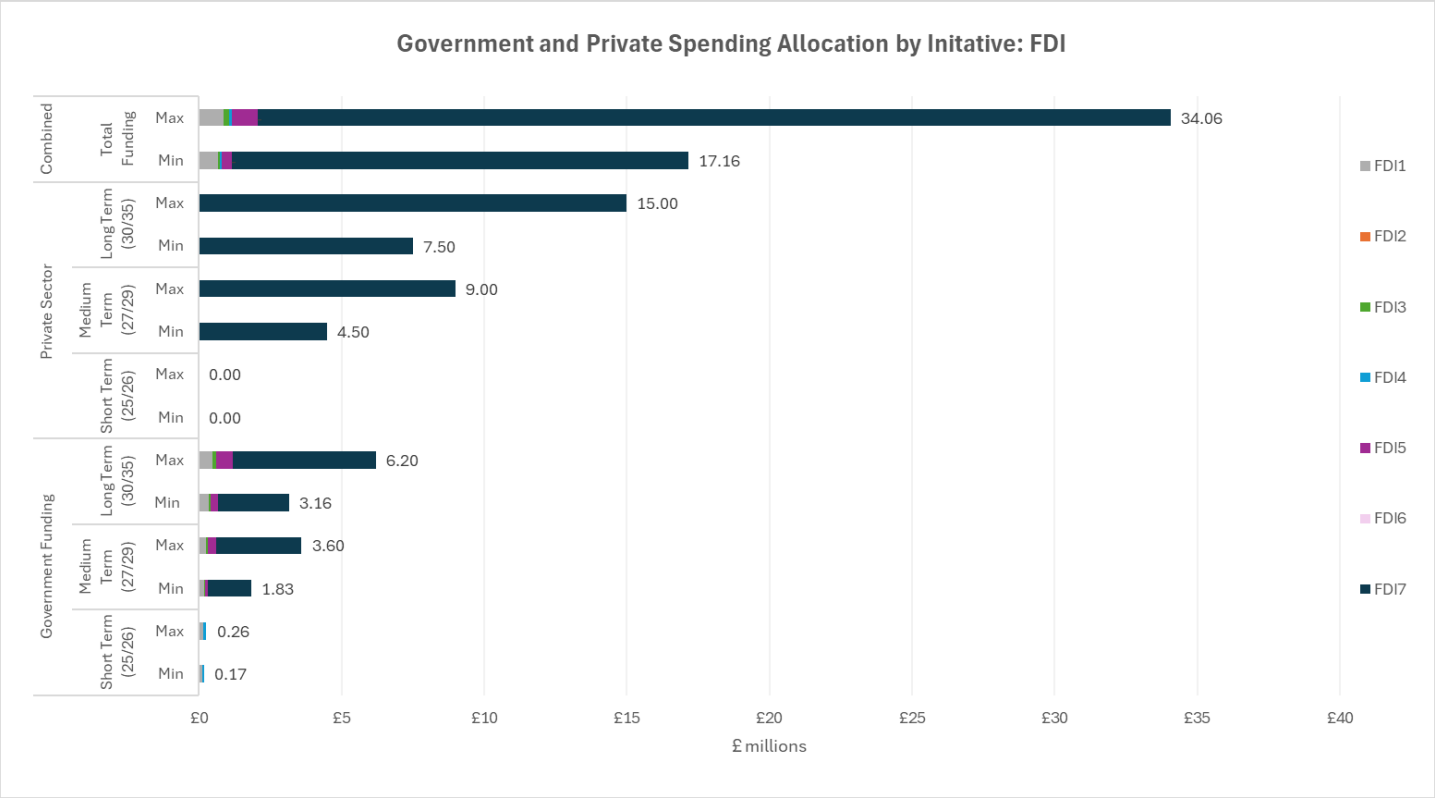


Figure 18 - FDI spending allocation by initiative

Sub theme	ID	Initiative action
Internal resources to action FDI initiatives	**FDI1**	Ideally hire an Investment Officer for the E&M Sector or for Business Isle of Man. Otherwise existing internal resources would need to prioritise FDI initiatives
Securing further investment from established E&M businesses	**FDI2**	Devise an engagement plan with established E&M businesses' parent companies
	FDI3	Schedule recurring touch points with E&M parent companies to share technology / investment plans & how IOM can actively facilitate these plans
Understanding target markets to attract new FDI opportunities	**FDI4**	Define target markets, locations & company types (e.g. HNWI, luxury goods)
	FDI5	Actively target high priority companies, sub-sectors and markets to support new FDI (via targeted prospectuses, sector trade shows, IOM pavilions, online events)
Providing suitable facilities promptly for the E&M Sector	**FDI6**	Establish a cross-department team to identify and fast track suitable E&M facilities
	FDI7	Leverage the Island Infrastructure Scheme to create internationally competitive, soft-landing facilities for FDI targets and domestic businesses

Table 10 - Initiative action for sub themes

Metrics for measuring the impact of FDI initiatives

This section briefly highlights the short and long-term metrics used to measure the impact of the FDI initiatives. Short-term impacts can be categorised as the immediate outcomes and tend to be linked to specific initiatives. In most cases, short-term metrics measure an outcome that should positively impact a long-term metric. For example, the number of visits to the Isle of Man from parent companies would indicate a level of interest in investing and could lead to increased FDI levels from existing companies. Longer-term metrics are directly related to the macroeconomic performance of the E&M Sector.

Sub theme	Short Term Metric	Rationale
Securing further investment from established E&M businesses	# meetings with international HQ of E&M businesses # of pavilions attended # of visits from international HQ to Isle of Man	Measuring the number of interactions with businesses for the purpose of attracting FDI will help provide a baseline for current activity levels. Tracking initial and continued engagement can also help Business Isle of Man estimate an average duration from initial contact to investment decision.
Understanding target markets to attract new FDI opportunities	Understand 3-5 key target markets and countries # of relevant sector events attended E&M investment prospectus created # of online events / showcases # of total and new leads for investment	Early metrics to track success would be the Island clearly articulating the sub sectors and countries they are focusing on as part of a new FDI strategy. Flowing from this would be the publication of an E&M inward investment prospectus highlighting the strengths and targeted at those 3-5 sectors. Tracking the number of relevant online events / showcases, sector events and new leads would give an indication how much effort and success is being made in attracting new companies.
Providing suitable facilities promptly for the E&M Sector	Roundtable with Construction IOM on barriers for manufacturing facilities Establish an online commercial property finder tool Consortia aligned for IIS bid	Early metrics describe the progress of facilitating networks to help the E&M industry successfully bid into the Island Infrastructure Scheme. For example, conducting a roundtable or regular discussion with Construction Isle of Man on how to provide adequate facilities for the E&M Sector is a positive short-term step. Creating an online commercial property database and tracking its usage can highlight the latent demand for different types of facilities

Table 10 – Key FDI initiative sub-themes and short-term metrics to monitor progress

Ten longer term metrics were identified for the Department for Enterprise to measure for the strength of FDI. They are listed below with the rationale for including them stated below.

Longer Term Metrics	Rationale
FDI intensity (% GDP and £)	Indicates the total FDI flow as well as reliance on FDI to sustain the E&M Sector, thereby revealing the importance of prioritising FDI
FDI by source country (stock & flow)	Highlights which countries are primarily investing in the Isle of Man to help refine the inward investment strategy
Greenfield / Brownfield ratio	Provides a ratio of how much FDI is completely new build sites or an upgrade of an existing brownfield site
E&M Sector portion of total FDI (%)	Highlights the proportion of FDI that comes from the E&M Sector to highlight how much it contributes to growth
FDI stock / flow from new investors (£)	Enables the Island to understand the contribution of new E&M businesses vs existing businesses
# of FDI projects from new businesses	Counts the number of projects to understand whether the Sector is reliant on multiple small investments or a handful of large investments
Time taken from facility query to build	A qualitative metric to time and map the initial contact of a business to upgrade / enquire about a new facility to the business legally owning / renting the space. This will help the Island target areas of improvement
% of planning applications approved within 8 weeks	Currently compiled by Statistics Isle of Man. Should set a target that is considerably higher than current existing rate and break the data down based on different use cases / regions to add granularity
Facilities built / repurposed for E&M (# & % of total)	A sub-set of currently held data on the number and proportion of planning applications that are dedicated for E&M facility upgrades or new builds

Table 11 – Long term metrics to track FDI progress

3. Championing Sustainability

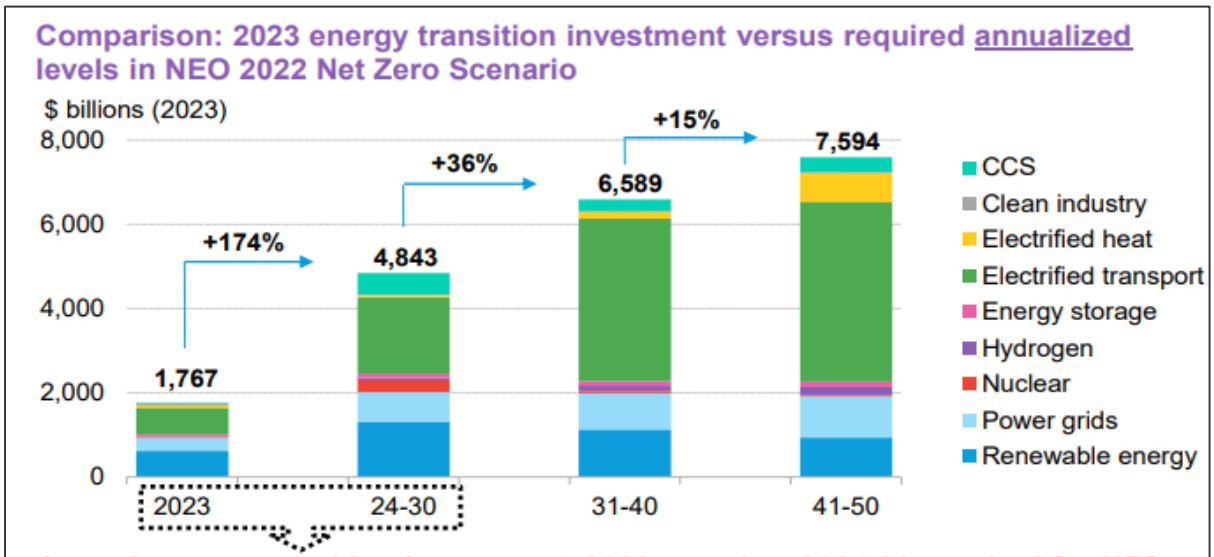
WHY		WHAT			HOW	OUTCOMES	
Vision	**Trends & Drivers**	**Sub-theme**	**Initiatives**	**Examples**	**Resources**	**Short Term**	**Long Term**
SUSTAINABILITY VISION  **A well-publicised and utilised support programme that aligns IOM sustainability objectives with the needs & ambitions of E&M Sector businesses**	**Significant opportunity for the E&M Sector to support the growth of the cleantech sector** **Pursuing sustainability aligns with the UNESCO Biosphere status** **Pursuing sustainability measures can reduce costs and improve productivity** **Sustainable manufacturing practices will become a prerequisite for competing globally** **Improves economic resilience and reliance on imported / critical resources**	**Defining and measuring E&M Sector sustainability**	**SUS1:** Establish an E&M Sector and company level assessment of Scope 1-3 emissions	Worcestershire Decarbonisation Portal HVMC Carbon Chain	Forge partnerships with accredited LCA / Scope 1-3 provider Work with DEFA on future legislation Understand the baseline energy / CO2 emissions from E&M Sector	# of Scope 1-3 impact assessments conducted Credible sustainability plans mentioned in a number of business plans Metrics agreed to define sustainability	% sector level reduction in CO2 & pollutant emissions % sector level reduction in water consumption % sector level reduction in waste % sector level reduction in energy use
			SUS2: Trial life cycle impact assessments of E&M Sector (e.g. water, waste, air, land)	Third party assessments LCARSIN network for E&M Sector			
			SUS3: Mandated monitoring and disclosure of full environmental impact	Ecodesign for Sustainable Products Regulation			
		Sustainable manufacturing programmes	**SUS4:** Promote & encourage the E&M Sector to access the improved BESS funding	Targeted awareness campaign	Awareness campaign to drive uptake of BESS funding Form a collaboration network to share best practice	# of E&M businesses applying for BESS funding # of businesses granted funding for sustainable manufacturing programme	% company reduction of: CO2 & pollutants Water Waste Energy use per unit production
			SUS5: Enhance E&M sustainability by running an organisational engagement programme focused on wider sustainability improvements (e.g. Sustain 8)	Sustain 8 programme (IfM Engage) HVMC Energy Toolkit MTC Sustainable Manufacturing Programme			
		Enable E&M businesses entering the cleantech supply chain	**SUS6:** E&M value chain analysis to understand cleantech supply chain opps	APC supply chain study HUK supply chain study	Conduct an IOM cleantech opportunity assessment Pilot a dedicated cleantech capital and R&D fund Pilot a supply chain transition programme	# of cleantech projects funded # of companies to successfully complete a supply chain readiness programme Publication of a cleantech supply chain strategy	# of cleantech businesses on the Isle of Man % of revenue from cleantech side of businesses # of IOM E&M businesses supporting domestic / international roll out of cleantech
			SUS7: Support E&M Sector pursue short term cleantech supply opps (e.g. renewables, EVs)	Automotive Transformation Fund Faraday Battery Challenge			
			SUS8: Review scheme (SUS7) efficacy & continue for long term opps (aero, CCS, H2)	Fit 4 Hydrogen Programme Aerospace Technology Institute			

This section explores:

- why sustainability is important from a macroeconomic perspective
- why sustainability is important for the Isle of Man E&M sector
- what initiatives are required to improve sustainability in the E&M sector
- what resources are required to implement the sustainability initiatives
- the short and long-term impact of achieving the sustainability initiatives

Why is sustainability important?

Pursuing sustainability is crucial for the Isle of Man's future economic health as it promotes long-term economic stability, resource efficiency and improves global competitiveness. Research from Bloomberg New Energy Finance also highlights that the global shift towards cleantech represents a significant economic opportunity.[39] According to the latest Energy Investment Trends report, cleantech investments in 2023 totalled $1,767 billion. However, for the world to become Paris compliant by 2050, investments between 2024-30 need to reach $4,843 billion per year. The investment requirement increases decade on decade with numerous industries witnessing sharp increases in spending, especially in areas such as electrified transport, renewable energy, grids, and carbon capture and storage (CCS).



Annual energy transition investment, 2023 actual vs 2024-30 required for NZS

$ billion (2023)	2023 actual	2024-30 annualized	Multiplier
Clean industry	49	21	*x0.4*
Electrified heat	63	50	*x0.8*
Renewable energy	623	1,317	*x2.1*
Grids	310	700	*x2.3*
Energy storage	36	93	*x2.6*
Electrified transport	632	1,805	*X2.9*
Hydrogen	10	62	*x6.0*
Nuclear	33	284	*x8.7*
CCS	11	510	*X45.9*

Figure 19 - 2023 energy transition investment vs required annualised levels in NEO 2022 Net Zero Scenarios (BNEF, 2024)

[39] Bloomberg New Energy Finance. 2024. Energy Transition Investment Trends 2024. Available from here.

These headline investments trickle down into the wider E&M supply chain where many of the existing E&M businesses operate and present an enormous opportunity if capitalised on properly. In addition to the economic opportunities of pursuing clean technologies, other benefits arise from the E&M Sector adopting sustainability practices. These include:

Improving the productivity of companies and the Island: Businesses that adopt sustainable practices, such as energy efficiency or waste reduction, can lower their operational costs, improve profitability and enhance overall economic performance. More generally, reduced pollution and environmental degradation also leads to better public health outcomes, increasing workforce productivity and reducing healthcare costs.

A key requirement for attracting investment: Sustainability initiatives can attract investment through green bonds, ESG funds, and international financing for sustainable development projects. As consumers and businesses promote ESG concerns more forcefully, a focus on sustainability provides greater stability and confidence for investors.

Promoting economic resilience: Sustainability promotes the efficient use of finite natural resources, reducing the risk of resource depletion that could disrupt industries like energy, manufacturing, and agriculture. As a small island that is heavily reliant on importing goods and energy, frugal resource use with minimum impact on the landscape and local environment is a greater consideration for the Isle of Man compared to other, larger, jurisdictions.

Aligning with international regulations and best practices: Many international trade agreements and regulations now emphasize sustainability, with the European Union leading on carbon border adjustment mechanism (CBAM) and product life cycle declarations. Compliance with these standards will become necessary for the Isle of Man to maintain access to global markets and avoid trade penalties.

The importance of sustainability to the Isle of Man

In addition to the macroeconomic rationale for promoting sustainability, several specific trends and drivers emerged from the Phase One report and the Phase Two process:

A network of sustainable / cleantech businesses in the IOM: During the Phase One interviews several entrepreneurs and small businesses in cleantech or with sustainability as a key unique selling point were discovered. Nurturing this strength and the existing relationship with Cambridge Cleantech indicates that this should be a priority area for the E&M Sector.

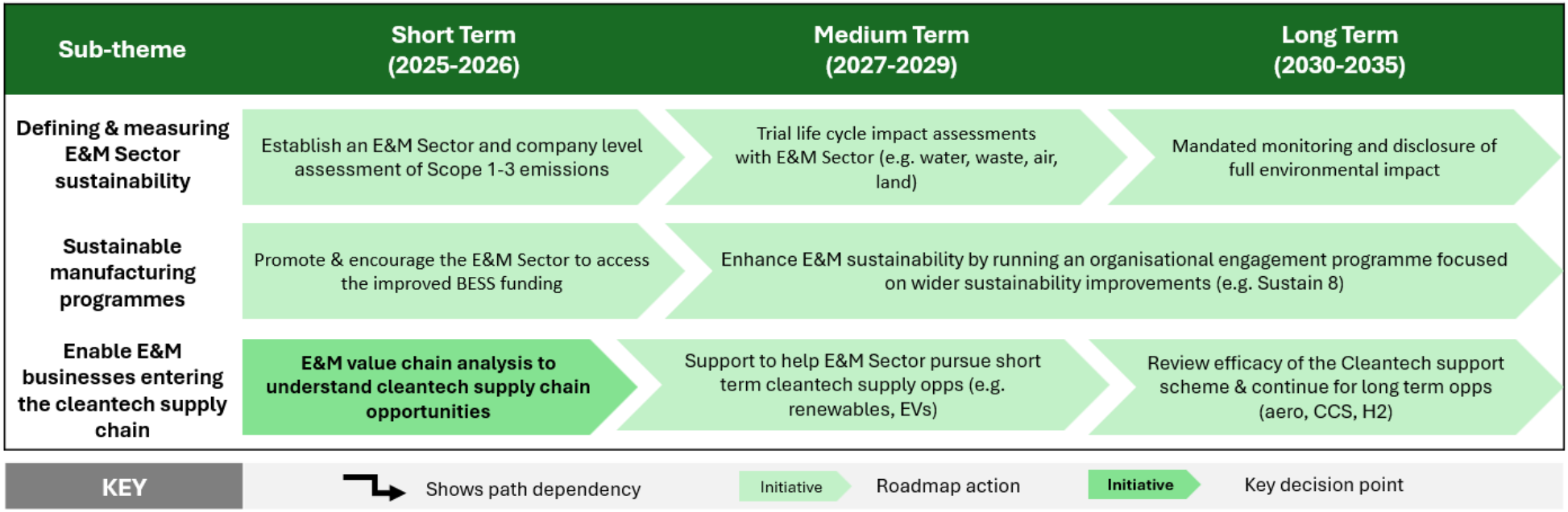
Alignment with the UNESCO Biosphere status: In 2016 the UN designated the entire Isle of Man as a UNESCO Biosphere area, the first entire nation to be designated a Biosphere. This means that the Island has a heightened responsibility to protect and enhance its natural environment while also improving the quality of life for its community. Given this commitment, the Island is better suited to attracting businesses who possess sustainable growth models. These are often focused on inclusive development, reducing economic disparities and fostering social cohesion, which support a stable economic environment.

Elevated costs associated with energy and processing waste: A key theme throughout the Phase One report was that the generic business costs on the Isle of Man were higher than in competitor regions in the UK. For example, energy was cited as increasingly expensive and waste product processing was deemed expensive and difficult due to limited specialisation in the Isle of Man. Pursuing initiatives that lower energy and water consumption and minimise waste can help mitigate some of the inherent weaknesses of the Isle of Man.

How to achieve progress – key sustainability initiatives

The sustainability theme has three subcategories. The following section provides a commentary on the evidence underpinning these initiatives and the relevant case studies that suggest how the IOM can enact these initiatives.

Where the Isle of Man is now	Vision: what success will look like
Climate Change Plan 2022-2027 *National inventory data is now available for the whole Island, but the E&M Sector baseline data does not currently exist. A generous Business Energy Saving Scheme is available, but the scheme is not well known throughout the sector due to improvements being made only recently in September 2024. Offshore and onshore wind development is promising for local supply chain opportunities, but the projects are complex in their nature and therefore progress is slow.*	*A well-publicised and utilised support programme that aligns IOM sustainability objectives with the needs & ambitions of E&M Sector businesses.*



Defining and measuring E&M Sector sustainability

The Isle of Man's Greenhouse Gas Inventory is collected as part of the UK's reporting to the UNFCCC.[40] While CO_2 emissions for the E&M Sector are captured under the business category, a dedicated CO_2 emission baseline for the E&M Sector doesn't yet exist. An immediate priority would be to establish a baseline view on the sector's Scope 1 CO_2 emissions to inform its overall contribution. Part of this activity should also include Scope 2 and 3 emissions baselining as E&M sectors often have larger Scope 2 and 3 emissions. Conducting top-down Scope 1-3 emissions benchmarking can be conducted relatively cost-effectively by local governments. Moreover, some larger manufacturers indicated they have conducted sustainability and CO_2 emission accounting via their group companies. To enable smaller companies to assess their emissions data, the Department for Enterprise could assist SMEs via grants to access expert consultancy services and emission software analytics to establish a baseline, which could be considered through the Department's existing Business Emissions Saving Scheme (BESS). One approach championed by Worcestershire County Council was to give one free year's membership to a Scope 1-3 online platform to enable businesses to collate and analyse data regarding energy, transport, waste, and supply chain emissions (see case study 11).[41]

In the longer term, international legislation will mandate life cycle analysis for companies who sell into major markets. The European Union, for example, is in the early stages of implementing the Ecodesign for Sustainable Products Regulation (ESPR). Initially aimed at larger companies, this regulation will mandate life cycle analysis of certain product categories from 2026 onwards (see case study 12).[42] Moreover, as consumers become increasingly aware of product sustainability, they will expect lower-impact products and will influence medium sized and smaller businesses. Despite this legislation impacting major markets, businesses in the Isle of Man are part of international supply chains and form part of the environmental footprint of larger companies' products. In short, if the Isle of Man doesn't address the full life cycle impact of its E&M Sector, international customers of the Isle of Man's E&M Sector may find it more profitable to reshore their supply chains to locations with better ESG credentials (also known as green reshoring).[43] In addition to business pressures, conducting a full life cycle analysis lso align with the principles of being a UNESCO Biosphere Island that aims to live sustainably and minimise resource use. To pre-empt this trend and stay ahead of international competition, the Department for Enterprise should look to help businesses align with EU legislation such as CBAM and ESPR. CBAM and ESPR.

Case Study 11: Worcestershire Decarbonisation Portal

In a bid to help local businesses understand their carbon footprint, Worcestershire County Council partnered with Climate Essentials to offer free access to their carbon management platform for one year. This included onboarding sessions to help Worcestershire-based organisations use the platform to highlight where emission hotspots are. From the data that has been analysed, the team are working on rolling out new targeted support packages based on business needs.

[40] Net Zero Isle of Man. 2024. *Emissions data*. Available from here.
[41] Local government Association. 2023. *Worcestershire's Decarbonisation Portal*. Available from here.
[42] European Commission. 2024. *Ecodesign for Sustainable Products Regulation*. Available from here.
[43] Porsche Consulting. 2023. Greenshoring: Location Decisions in Reverse. Available from here.

Case Study 12: European Union Ecodesign for Sustainable Products Regulation

The Ecodesign for Sustainable Products Regulation (ESPR) is an EU regulation designed to improve the circularity and sustainability of products. The ESPR establishes a framework allowing for a wider range of eco-design requirements, including on:

- Product repairability, reusability, upgradability and durability
- Presence of substances that inhibit circularity
- Energy and resource efficiency, recycled contents, remanufacturing and recycling
- Environmental and carbon footprints
- Information requirements, including a 'Digital Product Passport'

Liable companies must also disclose the amount of unsold consumer products discarded and provide reasoning behind this. All these requirements represent a step change from previous product sustainability legislation and will have a profound effect on manufacturers globally, including the Isle of Man.

Supporting sustainable manufacturing programmes

In September 2024 the Isle of Man launched a modified Business Emissions Saving Scheme (BESS). This new programme, which was formerly the Business Energy Saving Scheme, is aimed at businesses seeking to make their operations more energy efficient, reduce carbon emissions and lower energy costs. The modified scheme includes the requirement for businesses to undertake an energy audit before applying for the Scheme to determine the improvements required, with a grant of 75% of the audit costs available. The maximum loan value has also been increased from £20,000 to £100,000 depending on business size, along with a wider range of energy efficiency projects available. This scheme, that launched as the E&M Sector Strategic Review was being undertaken, represents a positive development. Energy prices were consistently mentioned as uncompetitive during the workshop, which is backed by cost analysis detailed within the Phase One Report. There was also limited knowledge on what support was available. In the short term, Business Isle of Man should be actively promoting the scheme to E&M businesses to help reduce the greater burden of energy costs and reduce their Scope 1 emissions.

Longer term, however, BESS should evolve to take a holistic approach to supporting E&M Sector sustainability. First, a truly sustainable manufacturing facility looks beyond CO_2 emissions and considers other pollutants such as volatile organic compounds and particulate matter, water usage, waste management,

Case Study 13: Institute for Manufacturing's Sustain 8 Programme

Sustain 8 is an organisational engagement programme developed by the Institute for Manufacturing (IfM) – a division of the University of Cambridge's Department of Engineering. This behavioural change programme focuses on making significant sustainability improvements with minimal investment. Developed at IfM, it adheres to three core principles:

- Aligns sustainability with business success
- Engages the factory workforce & leadership
- Delivers in 12 months without big investments

This programme has been implemented in multiple engineering and manufacturing disciplines across many different geographies with impacts recognised within 12 months.

land use / soil erosion and other factors. Second, to promote long-term change within a manufacturing organisation, further support is often needed beyond an audit and access to capital for upgrades. Engaging the entire workforce is often crucial in promoting change. While factory workers are often concerned about the environment, they often view sustainability as a big, complex task to be added to the list of the many other problems involved in running a successful operation. Therefore, Business Isle of Man should consider running a pilot sustainable manufacturing programme, aimed at aligning company sustainability objectives with the reality of factory floor (see case study 13).[44] In some cases, this pilot programme could also assist SMEs in the E&M Sector develop their sustainability strategies, with the main programme initially aimed at companies who have sustainability strategies already in place.

Enable E&M businesses to enter the cleantech supply chain

The cleantech sector is a key priority for the Isle of Man to grow the economy. In the Isle of Man's latest Innovation Challenge, cleantech is even highlighted as a core sector alongside fintech and artificial intelligence.[45] This is reinforced by the findings from Phase One and Phase Two workshops where the E&M Sector signalled an appetite to explore opportunities in this field. The first step would be to conduct a value chain assessment to understand what cleantech markets the E&M Sector could enter and how well positioned existing capabilities are. This approach has been well established in both the UK automotive and hydrogen sector, leading to greater focus on a smaller set of priority industries and products (see case study 14).[46, 47]

Once the opportunities within cleantech have been narrowed down, strategic programmes can be created to help transition existing E&M businesses into cleantech supply chains and attract FDI. Many intervention options could be enacted to help support the growth of a cleantech sector, these include:

- dedicated R&D grants for priority cleantech areas
- capital grants to scale up manufacturing of cleantech products
- subsidised feasibility studies / business cases that assess the viability of an organisation transitioning their capabilities to serve a new cleantech market
- supply chain readiness programmes aimed at mentoring companies to supply into a certain sector
- funding to acquire the relevant certifications needed to supply into the cleantech sector (e.g. ISO26262 for functional safety in electric vehicles)
- soft landing packages to attract priority sectors to the Island[48]

Case Study 14: Hydrogen UK supply chain study

In 2024 Hydrogen UK published the first phase of its supply chain strategy. With the UK setting ambitious targets for hydrogen deployment, the Department for Energy Security and Net Zero wanted to maximise the local economic benefit of funding UK hydrogen projects. Hydrogen UK, working with industry and the Hydrogen Delivery Council, published a strategy identifying the areas of the supply chain that would generate the most impact in anchoring. It provided a strategic rationale for why anchoring certain value chain elements would be impactful and the relative positioning of the UK vs competitor nations. What emerged was a clear set of priority investment targets and a concrete set of actions to ensure the manufacturing supply chain is built in the UK to support deployment.

[44] IfM Engage. 2024. *Cambridge Sustain 8: Eight steps to sustainable, continuous business improvement*. Available from here.
[45] Business Isle of Man. 2024. *Cleantech*. Available from here.
[46] Advanced Propulsion Centre. 2021. Strategic UK opportunities in passenger car electrification. Available from here.
[47] Hydrogen UK. 2024. *UK Hydrogen Supply Chain: Strategic Assessment*. Available from here.
[48] Invest In Torbay. 2024. Incentives. Available from here.

The precise blend of the package is dependent on what emerges from the value chain analysis and where the perceived gaps in capabilities exist. Regardless of the precise intervention, a pilot programme should be rolled out focusing on nearer term opportunities. This could include enabling the E&M Sector to supply into more mature cleantech industries such as energy storage, wind, solar or electric vehicles. If this proves successful, then longer term opportunities could be pursued in areas such as hydrogen, carbon capture usage and storage (CCUS), maritime or aviation. One measure the Island could pursue, if there are multiple companies interested in the same product, is a series of dedicated supply chain readiness programmes. The Nuclear Advanced Manufacturing Research Centre have successfully run Fit for Hydrogen and CCUS programmes aimed at transitioning UK based E&M companies to successfully win contracts in these new adjacent industries (see case study 15).[49]

Case Study 15: Fit for Hydrogen and CCUS Programme

Fit For Hydrogen and Carbon Capture Usage and Storage (CCUS) was based on the proven 'Fit for Nuclear' model of sector-focused supplier development. Ran by the Nuclear Advanced Manufacturing Research Centre, the programme enabled companies to measure their operations against the standards required to supply in the hydrogen and CCUS sector and take the necessary steps to close any gaps. At the end of the pilot programme, 28 companies were granted F4H2+CCUS status following a rigorous assessment of business excellence and sector-specific development and training. More than 90 companies applied to join the pilot, with successful firms meeting for the first time at a special event hosted by the Nuclear AMRC in May 2023 to begin sector-specific training modules. They met again in December 2023 for the final training and industry updates before final assessment and granting of F4H2+CCUS status. At the end of the pilot in April 2024, participating companies reported that their experience with F4H2+CCUS already helped them win new contracts worth more than £220 million.

Spending required to enact the sustainability initiatives

The following section outlines the expected public and private sector spending required to deliver the sustainability initiatives which have been recognized as important for the Isle of Man's E&M Strategy. This includes the indicative minimum and maximum spending implications for implementing the initiatives. During the process of workshopping the initiatives included in this proposed Strategy, Gemserv and IfM Engage estimated the costs associated with the sustainability initiatives identified by all stakeholders. Examples of best practice from other jurisdictions, case studies and discussions with Business Isle of Man were all used to develop these estimates.

The total public and private investment required to deliver the sustainability initiative over the 10-year period amounts to between **£9.61m** - **£31.66m**, depending on the scenario taken. Of this, the Government would spend between **£4.85m** and **£12.16m**, and the private sector would spend the remaining **£4.75m** to **£19.5m** for minimum and maximum inititive ambition respectively. In the short term (2025-2026), both scenarios project spending on sectoral and company level emission accounting activities (**SUS1**), value chain analysis to understand the scope for clean technology transition opportunities (**SUS6**), and marketing of the BESS funding (**SUS4**).

Investment scales upwards over the period. Of note is the scale of investment made into funding for clean technology solutions deployed within the E&M supply chain (**SUS8**). This accounts for most of the spending on sustainability initiatives from 2030 – 2035 (78-82%).

[49] Nuclear AMRC. 2024. Fit For Hydrogen and CCUS. Available from here.

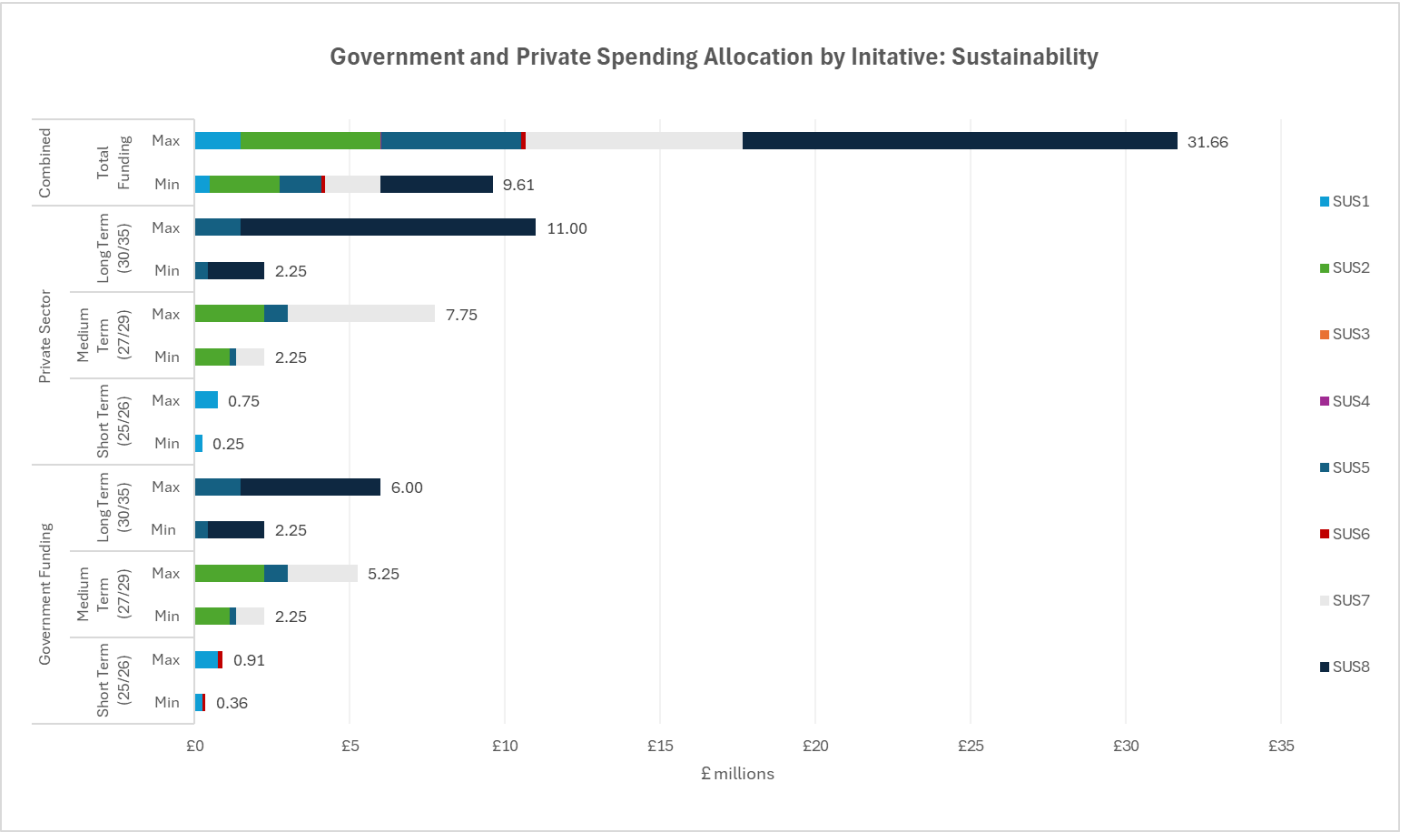


Figure 20 - Sustainability spending allocation by initiative

Sub theme	ID	Initiative action
Defining and measuring E&M Sector sustainability	**SUS1**	**SUS1:** Establish an E&M Sector and company level assessment of Scope 1-3 emissions
	SUS2	**SUS2:** Trial life cycle impact assessments of E&M Sector (e.g. water, waste, air, land)
	SUS3	**SUS3:** Mandated monitoring and disclosure of full environmental impact
Sustainable manufacturing programmes	**SUS4**	**SUS4:** Promote & encourage the E&M Sector to access the improved BESS funding
	SUS5	**SUS5:** Enhance E&M sustainability by running an organisational engagement programme focused on wider sustainability improvements (e.g. Sustain 8)
Enable E&M businesses entering the cleantech supply chain	**SUS6**	**SUS6:** E&M value chain analysis to understand cleantech supply chain opportunities
	SUS7	**SUS7:** Support to help E&M Sector pursue short term cleantech supply opportunities (e.g. renewables, EVs)
	SUS8	**SUS8:** Review scheme (see SUS7) efficacy & continue for long term opportunities (aero, CCS, H2)

Table 12 - Initiative action for sub themes

Metrics for measuring the impact of sustainability initiatives

This section briefly highlights the short and long-term metrics used to measure the impact of the sustainability initiatives. Short term impacts can be categorised as the immediate outcomes and tend to be linked to specific initiatives. In most cases, short term metrics measure an outcome that should positively impact a long-term metric. For example, an increased number of Scope 1-3 impact assessments conducted should have the longer-term impact of reducing the sector-level CO_2 emissions. The longer-term metrics are directly related to macroeconomic performance of the E&M Sector.

Sub theme	Short term Metric	Rationale
Defining and measuring E&M Sector sustainability	# of Scope 1-3 impact assessments conducted Credible sustainability plans mentioned in x number of business plans Metrics agreed to define sustainability	The impact of emission reduction can take time to permeate to national statistics as new processes and technology are implemented. Therefore, measuring how many E&M businesses undertake a Scope 1-3 assessment and mention sustainability more strongly in their outward comms / business plans indicates a stronger commitment. A short-term milestone will also be IOM Government defining a series of company and sector level sustainability metrics that balance economic growth with sustainability.
Sustainable manufacturing programmes	# of E&M businesses applying for BESS funding # of businesses granted funding for sustainable manufacturing programme	Monitoring how many E&M businesses apply for BESS funding will indicate the level of appetite to reduce energy consumption / improve efficiency. If oversubscribed, then it indicates a demand and a need for further resources. Assessing how many E&M businesses apply and are awarded for the pilot sustainable manufacturing programme will also provide a snapshot of demand for more holistic support and the success rate of the programme.
Enable E&M businesses entering the cleantech supply chain	# of cleantech projects funded # of companies to successfully complete a supply chain readiness programme Publication of a cleantech supply chain strategy	Building manufacturing capability in cleantech can take several years so early metrics should include the number of cleantech related E&M projects funded and the number of companies engaging with any launched programmes such as supply chain readiness. The publication of a cleantech supply chain strategy for the E&M Sector will also show progress and help support other initiatives such as FDI and Innovation.

Table 13 - Short term metric and rationale for sub themes

Eleven longer term metrics were identified for the Department for Enterprise to measure for sustainability. They include both company level metrics to gather from business surveys as well as sector level metrics that aggregate the company level. These are all listed below with the rationale for including them stated below.

Longer term metrics	Rationale
% sector level reduction in CO2 & pollutant emissions	The E&M Sector must understand its total pollutant emission footprint and annual reduction in both GHGs and local air quality pollutants
% sector level reduction in water consumption	The E&M Sector must understand its total water usage and annual reductions
% sector level reduction in waste	The E&M Sector must understand its total waste levels and annual reductions
% sector level reduction in energy use	The E&M Sector must understand its energy usage, reduction and split between electricity, oil, and gas
% company reduction of CO2 / pollutant per unit production	Companies should be reporting on their GHGs / pollutant levels per unit of production or profit levels to show that emission intensity is falling
% company reduction of water per unit production	Companies should be reporting on their water usage per unit of production or profit levels to show that water usage intensity is falling
% company reduction of waste per unit production	Companies should be reporting on the waste produced per unit of production or profit levels to show that waste intensity is falling
% company reduction of energy per unit production	Companies should be reporting on the energy used per unit of production or profit levels to show that energy intensity is falling.
# of cleantech / sustainability businesses in the Isle of Man	Understanding the number of cleantech / sustainability firms in the IOM will give an indication on the strength of the E&M Sector
% of revenue from cleantech side of the businesses	Assessing each companies % of revenue / sales from cleantech markets would give an indication of how successful transitioning businesses to new markets has been
# of E&M businesses supporting domestic / international roll out of cleantech	Qualitative insights on which businesses are supporting national / international roll out of cleantech / sustainability projects would help promote the strength of the E&M Sector

Table 14 - Longer term metrics and rationale for sub themes

4. Enhancing Productivity

WHY		WHAT			HOW	OUTCOMES	
Vision	**Trends & Drivers**	**Sub-theme**	**Initiatives**	**Examples**	**Resources**	**Short Term**	**Long Term**
PRODUCTIVITY VISION  **Shifting the mindset to drive increases in the efficiency and productivity of our manufacturing operations that are necessary to stay competitive**	**Measures of productivity aren't captured by government** **Adoption of digital technologies has the potential to improve current manufacturing activities** **New market opportunities at the intersection of digital and manufacturing** **Current businesses are not operating at their most efficient in terms of premises**	**Defining & measuring E&M Sector productivity**	**PRO1**: Define productivity metrics at company & sector level that demonstrate economic value of E&M	Productivity Institute Company level metrics	Resource to define suitable metrics Website development Treasury resource to collate data Business survey refinement	# of businesses responding to updated business survey # of manufacturers sharing metrics they use to measure productivity Baseline sector GVA figures	Improving company GVA Improving sector GVA Production based GDP E&M % of exports
			PRO2: Collect data on baseline performance, set realistic productivity targets and create support programmes to achieve the targets	Manufacturing productivity dashboard UK comparison of productivity metrics			
		Implementing digital technologies into existing manufacturing operations	**PRO3**: Mentorship that identifies low-cost, low-risk methods to quickly implement digital technologies using affordable off-the-shelf kit	Digital manufacturing on a shoestring	External programme management Internal mentors to help implement the programme Awareness campaign on programme Programme monitoring and evaluation	# of E&M companies supported on the programme Further investment into digital after initial programme support	Profit margin increase (%) % of businesses using basic digital technologies % of businesses using advanced digital technologies GVA per worker (£ and % increase)
			PRO4: Implement advanced digital technologies that enable the IOM to be regionally competitive in digital engineering	Made Smarter Hartree National Centre for Digital Innovation			
		Exploring synergies between the E&M & digital sectors	**PRO5:** Develop a joint strategy with Digital Isle of Man to identify future growth areas that cut across digital and E&M	UK Manufacturing digitalisation roadmap Digital in Manufacturing Survey	Digital Isle of Man co-operation Programme management Awareness campaign on programme Programme monitoring and evaluation	New market areas defined, and opportunity articulated # of collaborative projects with digital and E&M Sector	# of businesses in new digital / E&M opportunity areas Increased capital productivity Unit labour costs
			PRO6: Establish joint Digital & Business IOM programmes across identified opportunities (e.g. gamification, digital twins)	EPSRC Digital Manufacturing Programme			
		Optimising existing facilities to enhance competitiveness	**PRO7:** Co-funded resource to help businesses optimise current facilities (e.g. reconfiguration, relocation, rationalisation, automation)	Continuation of the DfE's Financial Assistance Scheme	Adaptation or addition to FAS	# of applications for capital assistance	Reduction in facilities mentioned as key barrier to growth

This section explores:

- why productivity is important from a macroeconomic perspective
- why productivity is important for the Isle of Man E&M sector
- what initiatives are required to improve productivity in the E&M sector
- how much spending is required to implement the productivity initiatives
- measuring the impact of achieving the productivity initiatives

Why is productivity important?

Productivity relates to how firms organise their labour and capital to maximise their revenue and profitability. Companies aim to maximise profits with the most efficient use of labour and capital. There are several reasons why pursuing interventions that boost productivity are beneficial:

High levels of productivity are crucial to maintain international competitiveness: For firms in highly competitive areas like the E&M Sector, continually improving productivity is crucial. This is to maintain market share and win work against both competitors and internal competition from group operations overseas. High levels of productivity can also lead to increased exports which contributes to a nation's positive trade balance. Achieving a positive trade balance can significantly strengthen an economy by increasing income, supporting industries, building financial reserves, and enhancing stability.

Higher productivity often leads to higher wages and innovation spending: Firms with higher levels of productivity often generate higher profit margins which can be reinvested back into R&D or translate into higher wages.

Promotes sustainability, efficiency and conservation: Greater productivity levels means that the same amount of labour, capital, or raw materials can produce more output. This boosts economic output without requiring additional resources, which is especially important in economies like the Isle of Man where logistics and energy costs are greater.

Increased corporate revenue: In many advanced economies, highly productive firms with greater profits are often subjected to corporation taxes. This gives national governments an incentive to promote highly productive firms as some money flows back to the treasury to fund public services. Given the 0% corporation tax policy within the Isle of Man, this isn't a consideration.

Increased corporate revenue: In many advanced economies, highly productive firms with greater profits are often subjected to corporation taxes. Corporation taxes give national governments an incentive to promote highly productive firms to raise treasury funds for public services, but they can also disincentivise firms from investing in productivity as they will lose a portion of their increased revenue. As the Isle of Man has a standard rate of 0% corporation tax, it is a highly attractive location for firms to invest in productivity to enable their future growth. Although the IOM Treasury would not benefit directly from this, it could see greater income tax revenue on wages that have improved as a result of increased corporate profits.

The importance of productivity to the Isle of Man

In addition to macroeconomic rationale for increasing productivity, several specific trends and drivers emerged from the Phase One report and the Phase Two process as being directly linked to productivity in the Isle of Man:

The cost base in the IOM compares unfavourably with other locations:
Interviews with E&M businesses in Phase 1 noted that costs of operating in the IOM can often be higher than in the UK, constraining profitability and potentially dissuading manufacturers from basing operations in the IOM. Specifically, Phase 1 research identified that remuneration and electricity costs were higher in IOM than in the other jurisdictions compared to. Increasing energy costs have been hurting IOM E&M international competitiveness – making the need for increased productivity even more important for businesses in the IOM.

The rapid increase in adoption of digital technology capabilities and automation:
Digital technologies are changing the competitive landscape through their adoption by manufacturers around the world. To remain competitive, IOM manufacturers need to understand how digitalisation, automation, data and AI could enhance their performance to improve competitiveness. Existing capabilities in digital technologies and sector-level support can be a key enabler for accelerating the scaling up & adoption of novel industrial technologies in the IOM by increasing the levels of business innovation and investment that underpin such productivity improvements.

Tensions between firm productivity and Island's ambition of generating jobs:
As income tax is the primary income stream for the Isle of Man Government, job creation is a key criterion when awarding funding. This creates tension between the focus of E&M Sector firms and the IOM Government. On the one hand, firms want to increase productivity and stay competitive in a global market. Therefore, companies will often invest in capital machinery and keep labour input as optimised as possible. On the other hand, the Isle of Man Government incentivises job creation, which may not be the most productive investment choice for an E&M firm. Analysis from McKinsey highlights that in most regions across the globe, increased capital utilisation has been the main driver of continued labour productivity improvements.[50] Put simply, investing in capital has tended to grow labour productivity significantly so barriers to investment in capital machinery vs competitor nations put's E&M firms at a distinct disadvantage.

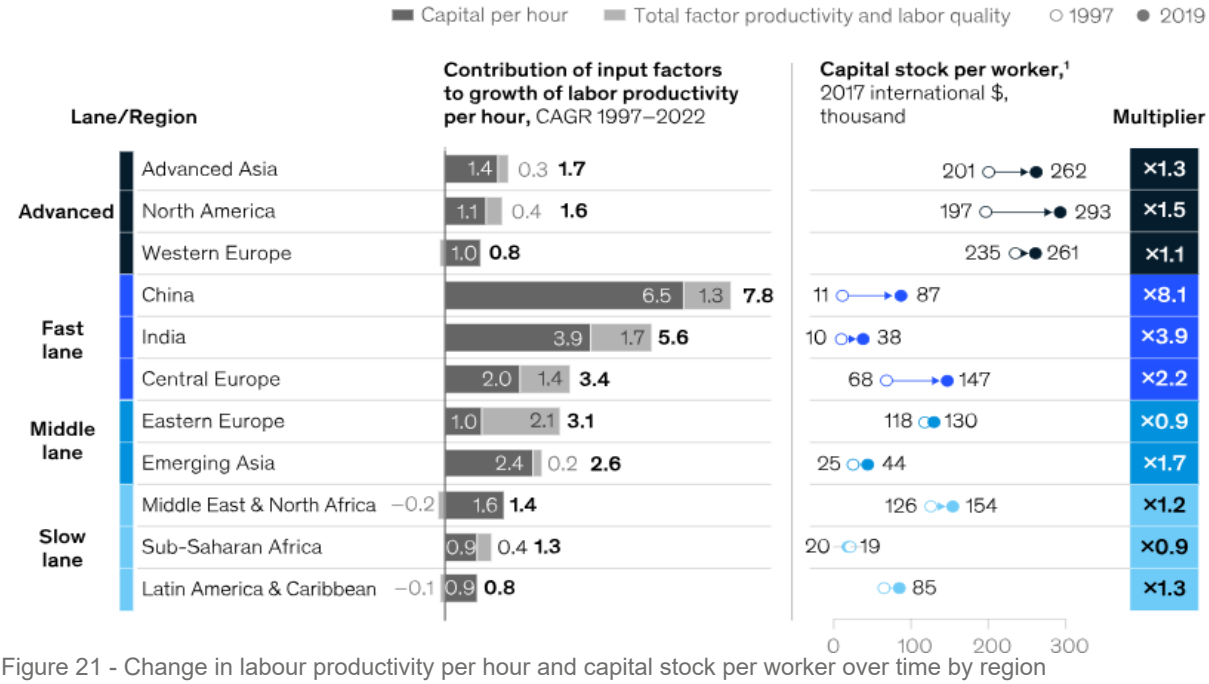


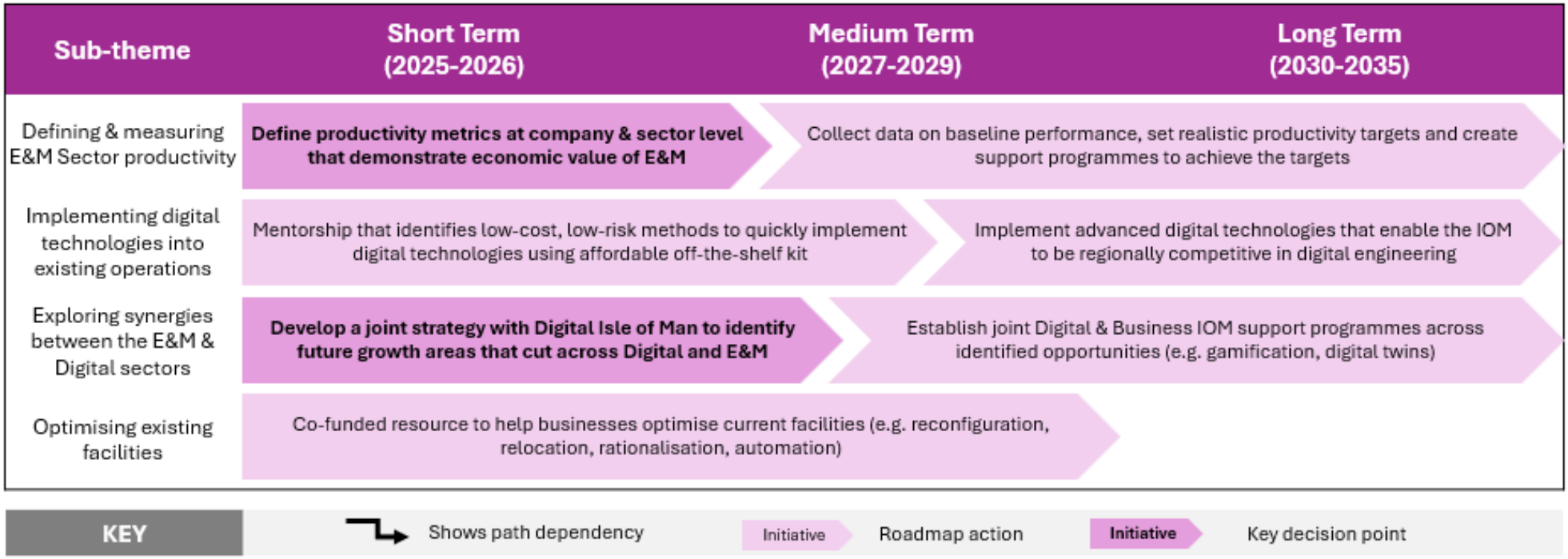
Figure 21 - Change in labour productivity per hour and capital stock per worker over time by region

[50] McKinsey Global Institute. 2024. Investing in productivity growth. Available from here.

How to achieve progress – key productivity initiatives

The productivity theme has four subcategories. The following section provides a commentary on the evidence underpinning these initiatives and the relevant case studies that suggest how the IOM can enact these initiatives.

Where the Isle of Man is now	Vision: what success will look like
Currently incentivising job creation rather than productivity; lacks the data required to establish a firm benchmark of productivity and assess progress of initiatives; Digital IOM has implemented initiatives that could be examples to learn from; sector has a range of digital and data maturity levels; strong desire to accelerate scaling up and adoption of novel industrial technologies but not currently incentivised by funding to do so; digital sector capabilities that could be leveraged further.	*Shifting the mindset to drive increases in the efficiency and productivity of our manufacturing operations that are necessary to stay competitive.*



Defining and measuring E&M Sector productivity

Through the Phase One study it became apparent that GVA (Gross Value Added), the most common productivity metric, wasn't being measured in the Isle of Man. GVA is typically calculated by subtracting the cost of inputs and raw materials from the total value of goods and services produced[51]. This can be done at a national, regional and firm level – although it should be noted that there are nuances in approach between how national and company level GVA is measured. For the individual diagnostic reports, 8 out of 10 manufacturers' GVA figures were provided as part of the Phase One report which covers a significant proportion of E&M Sector activity.

Case Study 16: ONS productivity benchmarking tool

In March 2022, the ONS published an online productivity tool to help companies benchmark their productivity. Only three pieces of information are required to measure GVA: company turnover (or sales), purchases of inputs (excluding employment costs and investment), and the amount of people you employ. Once the calculation has been conducted, users are then encouraged to compare their GVA levels against 2 and 4 number SIC codes.

Therefore, a first step would be to build upon the data provided by IfM Engage and ask for more company level GVA metrics to derive a sector GVA figure. To minimise the effort associated with calculating GVA figures, online GVA calculator tools could be developed to minimise the time burden and get more responses in a shorter period (see case study 16).[52] Based on the outcome of the calculator, various suggestions for productivity support could be provided to help businesses increase productivity. In addition to GVA, there are also other productivity measures worth tracking including export intensity, proportion of automation / digital technology uptake, and increased capital productivity. Using other established institutions such as The Productivity Institute for sources of data and how to approach measuring productivity should also be leveraged.[53] Once a suitable range of metrics have been identified and defined, ongoing monitoring of these metrics must continue. An efficient way of implementing this would be to embed questions into an annual business survey.

Implementing digital technologies into existing manufacturing operations

A key finding from the Phase One individual company diagnostic reports was the variation in digital maturity amongst the businesses. Further interviews conducted as part of the wider Phase One review also identified an appetite for businesses to implement digital technologies to either improve productivity or offer increased services to customers.

Case Study 17: Digital manufacturing on a shoestring

The initial 'Digital Manufacturing on a Shoestring' research carried out by IfM established an understanding of the priority digital solution areas for manufacturing SMEs. A catalogue of 59 'digital solution areas' was established, and the top 15 preferences of 128 SMEs established. This research and catalogue of solutions is now being drawn upon to help increase accessibility to digitalisation for manufacturing SMEs by allowing small manufacturers to focus on areas of immediate benefit and solution developers to concentrate efforts in these priority areas.

[51] This is known as the 'production approach' method. GVA can also be calculated by adding sources of income ('income approach'), which is the method used to calculate the GVA of the participating E&M businesses on the Isle of Man when developing of this strategy. See this report for a more detailed explainer.
[52] ONS, 2022. *How productive is your business?.* Available from here.
[53] The Productivity Institute. 2024. *The 2024 TPI UK ITL3 Productivity Scorecard Series*. Available from here.

An initial step would be to implement a programme that gives manufacturers access to low cost, off-the-shelf equipment that can improve their daily operations. This includes simple things such as air quality and temperature monitoring, downtime monitoring and job location tracking. To help implement this, an external provider could run the programme, or internal Isle of Man resource could be trained to deliver the programme (see case study 17).[54] Depending on the popularity of the programme, other facets could be added such as an online portal with training modules to complete to reduce the time constraint on mentors or external consultants.

As companies are supported to implement basic digital technologies into their daily operations, the on-Island capabilities and networks will have been established to implement more advanced digital technologies. This could include support for advanced robotics, augmented / mixed realities or additive manufacturing. Collaborations with Digital Isle of Man could also occur to align with their sector priorities which could include helping E&M companies better utilise and integrate data, implement virtual and digital design methods or explore how AI can improve existing business practices. In terms of implementation, Business Isle of Man could follow the Made Smarter model adopted in the UK. In this programme, small and medium sized businesses are provided grant funding that can be used to choose from a wide variety of technology types and business support options (see case study 18).[55]

Case Study 18: Adopting advanced digital technologies via Made Smarter

The Made Smarter programme is a UK government-backed initiative designed to drive the adoption of advanced digital technologies across the manufacturing sector, particularly among small and medium-sized enterprises (SMEs). Launched in 2019 in the Northwest of England, the programme has since expanded to several regions and will roll out nationally by 2025-26, with plans to extend to Scotland, Wales, and Northern Ireland by 2026-27.

Made Smarter focuses on equipping manufacturers with digital tools, innovation opportunities, and skills to improve productivity, efficiency, and sustainability. It offers SMEs access to expert advice, grants for technology projects, leadership development, and digital transformation workshops. The programme also supports decarbonization efforts and helps create high-value jobs in the industry. Achievements to date include:

Engagement: Over 2,500 manufacturers have participated, with 334 technology projects funded.

Economic Impact: In the Northwest alone, the programme is projected to boost GVA by £242 million and create 1,550 new jobs while upskilling 2,772 workers.

Investment: SME manufacturers have invested £25 million in digital transformation projects, significantly enhancing operational capabilities.

Regional Success: Based on its impact in initial regions, Made Smarter has developed a replicable model to help manufacturers across the UK transition to Industry 4.0 practices.

[54] Shoestring Digital. 2024. *Home*. Available from here.
[55] Made Smarter. 2024. *Delivering Impact: How Made Smarter inspires digital transformation*. Available from here.

Exploring synergies between the E&M and digital sectors

The Isle of Man's Digital Sector was consistently highlighted as a strength in both the Phase One stakeholder engagement process and in the roadmap workshops. The Isle of Man's commitment to digital transformation presents an opportunity for the Digital and E&M Sectors to explore new markets and technologies. It is important that this initiative is a mutually beneficial collaboration for both sectors. Therefore, the E&M Sector should use this as an opportunity to learn about the full breadth of the digital transformation Digital Isle of Man are planning through their programmes such as 'Activate AI', leveraging the Island's digital capabilities to their benefit. Equally, Digital Isle of Man should view a collaboration with the E&M Sector as an opportunity to expand markets they currently serve using technologies and approaches for sectors like eGaming and Fintech.

The first step would be to publish a joint strategy between Business Isle of Man and Digital Isle of Man on the growth opportunities and key evolutions in the E&M market. For example, in 2020 / 2021, the University of Loughborough alongside the Automotive Council published a joint digital engineering roadmap. This document helped focus the academic research community and UK industry on the broad opportunity areas for the UK. A similar approach could work in this instance, with a roadmap articulating broad opportunity themes and defining potential sub-themes for companies to explore (see case study 19).[56] Examples of potential synergies could be gamification of production lines, virtual validation and testing or use of AI to create new products.

Case Study 19: Digital manufacturing roadmap IDE

In 2021 the University of Loughborough in partnership with the Automotive Council published its Digitalisation Roadmap. The aim of the roadmap was to identify the drivers and enablers for industrial transformation and outline where investment in new capabilities is required. The roadmap extensively engaged with multiple different industries and identified multiple opportunities for the digital industries to enhance existing engineering performance. These were centred on four broad themes:

Digital Engineering Environment (DEE) – combines new and existing digital technologies, improving speed and efficiency of development processes and solutions within engineering, manufacturing, servitisation and end-of-life.

Process and Assurance – uses digital technologies to transform product creation processes by challenging engineering norms such as the established V model.

Co-Creative Ecosystems – will unlock a step change in collaboration and cocreation between organisations, their value chains, and customers within a digital engineering environment.

People – Empowering and developing people will be the fundamental driving force of digitalisation. Incumbent and emerging organisations must recognise this, enabling their people to champion digital technologies.

Once industry has coalesced around a tangible set of priorities and sub-themes to explore, a dedicated Digital Engineering funding programme should be established. The structure requires flexibility to foster innovative ideas but should encourage Isle of Man based digital and E&M businesses to work collaboratively. Funding could focus both on early-stage ideation through to commercialisation, providing a range of capital and R&D support. A similar model has been successfully enacted in the UK via the Digital Manufacturing programme (see case study 20).[57]

[56] University of Loughborough. 2021. IDE Digitalisation Roadmap. Available from here.
[57] Innovate UK. 2022. *Digital manufacturing: invited full proposals.* Available from here.

Case Study 20: Digital manufacturing multi-year EPSRC programme

The Engineering and Physical Sciences Research Council (EPSRC) Manufacturing the Future programme supports early-stage, basic research with the goal of delivering transformative new knowledge that can be used to build new and more competitive manufacturing activities in the UK. Digital technologies for manufacturing have been a core theme of the programme for many years. In 2022, as part of a review of priorities, EPSRC released £7 million in funding to support novel research into how digital approaches can be applied to improve manufacturing processes, manufacturing systems or both. The goal of the funding call was to help stimulate idea sharing between academia and industry on early-stage innovation in digital manufacturing systems.

Optimising existing facilities to enhance competitiveness

Challenges surrounding facilities also emerged for existing businesses in the Isle of Man. The individual company diagnostics conducted in Phase One highlighted issues around expansion and rationalisation of facilities to support growth ambitions. Similarly, many companies interviewed as part of the wider engagement echoed these sentiments. For SMEs on the Island, having facilities that maximise productivity is a big issue with many expressing a desire to downsize, rationalise to one facility or acquire a new facility. Under the current Financial Assistance Scheme, most of the support awarded to the E&M Sector is covered under facilities / buildings and capital equipment purchasing. Therefore, this initiative represents a proposed change to current DfE schemes. To maximise the impact of this initiative, priority could be given to those SMEs who can demonstrate the current arrangements are significantly hindering productivity. Therefore, the impact of rationalising, moving facilities or replacing CAPEX machinery would need to demonstrate a step change affect.

Spending required to enact the productivity initiatives

The following section outlines the expected public and private sector resources required to deliver the productivity investment initiatives and includes indicative minimum and maximum spending implications for implementing the initiatives. As with the other initiatives featured in this proposed Strategy, data on the minimum and maximum spending for the productivity initiatives has been collected from a range of sources which include IfM Engage and Gemserv case studies, examples of best practice from other jurisdictions as well as discussions with Business Isle of Man. Figure 22 details funding allocated to boosting E&M Sector productivity initiatives.

From 2025 to 2035, the total public and private funding allocated to productivity initiatives is **£29.61m** and **£61.40m** for the minimum and maximum scenarios respectively. Of this, the Government would spend between **£9.33m** and **£19.75m**, and the private sector would spend the remaining **£20.28m** to **£41.65m** for minimum and maximum inititive ambition respectively. The largest area of spend relates to the co-funding of steps to optimise current E&M business facilities via reconfiguration, relocation, rationalisation and automation (i.e. aligned with the areas of spend under existing support schemes) (**PRO7**). This is akin to an extension of current FAS spending.

Initial short-term spending on the development of a joint strategy with Digital Isle of Man (**PRO5**) leads into the establishment of a joint Digital-Business IOM support programme across shared opportunities (**PRO6**). Together, these initiatives require between **£6.05m – £14.1m** of spend between the government and private sector over the 10 years. Similarly, mentorship that identifies low-cost, low-risk methods to quickly implement digital technologies (**PRO3**) in the first 2 years of the proposed Strategy, and the following implementation of digital technologies and engineering practices (**PRO4**) will contribute an additional **£1.56m - £3.3m** of spend over the 10 years.

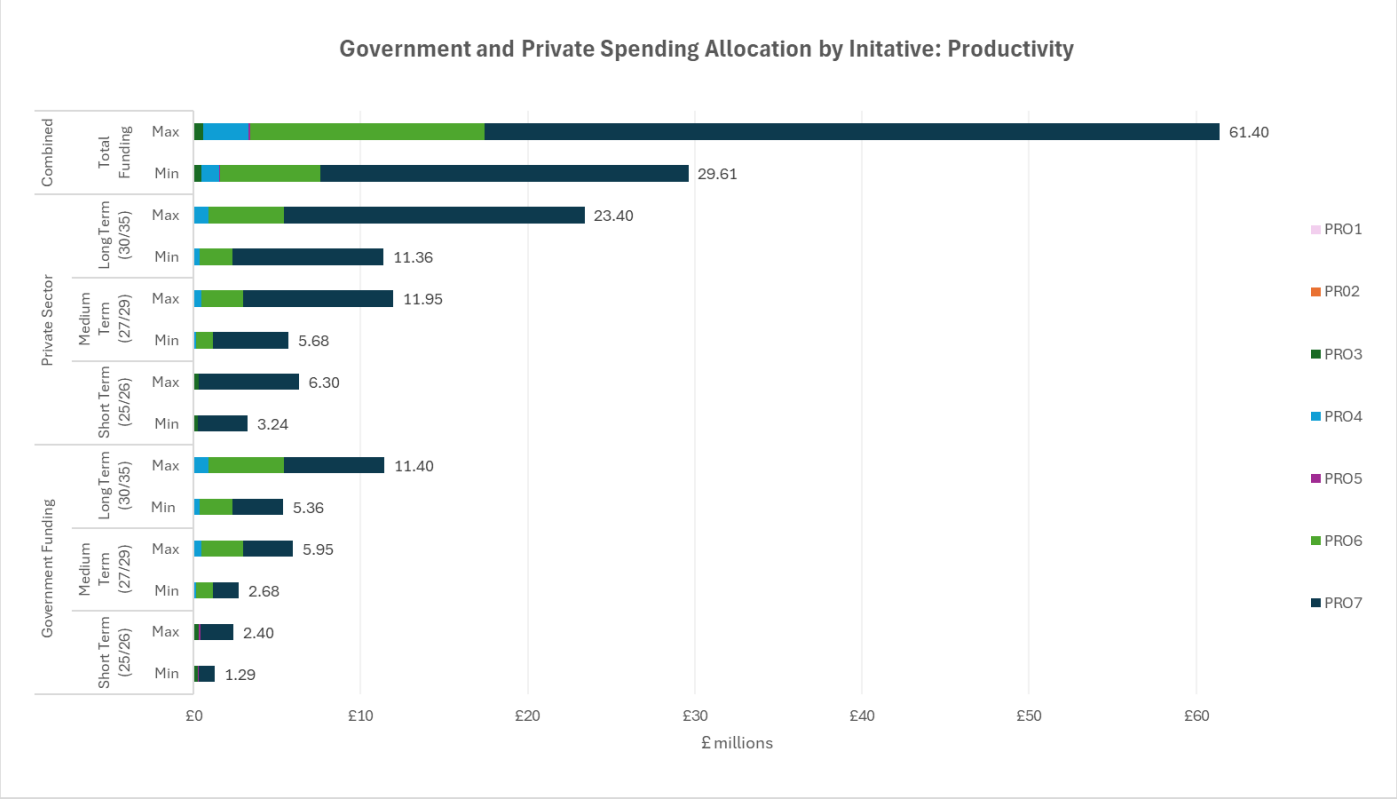


Figure 22 - Productivity spending allocation by initiative

Sub theme	ID	Initiative action
Defining & measuring E&M Sector productivity	**PRO1**	Define productivity metrics at company & sector level that demonstrate economic value of E&M
	PRO2	Collect data on baseline performance, set realistic productivity targets and create support programmes to achieve the targets
Implementing digital technologies into existing manufacturing operations	**PRO3**	Mentorship that identifies low-cost, low-risk methods to quickly implement digital technologies using affordable off-the-shelf kit
	PRO4	Implement advanced digital technologies that enable the IOM to be regionally competitive in digital engineering
Exploring synergies between the E&M & digital sectors	**PRO5**	Develop a joint strategy with Digital Isle of Man to identify future growth areas that cut across digital and E&M
	PRO6	Establish joint Digital & Business IOM programmes across identified opportunities (e.g. gamification, digital twins)
Optimising existing facilities	**PRO7**	Co-funded resource to help businesses optimise current facilities (e.g. reconfiguration, relocation, rationalisation, automation)

Metrics for measuring the impact of productivity initiatives

This section briefly highlights the short and long-term metrics used to measure the impact of the productivity initiatives. Short term impacts can be categorised as the immediate outcomes and tend to be linked to specific initiatives. In most cases short term metrics measure an outcome that should positively impact a long-term metric. For example, the number of businesses supported by a programme implementing low cost, off-the-shelf digital technologies should improve the productivity of the E&M Sector and firms on the Isle of Man. The longer-term metrics are directly related to macroeconomic performance of the E&M Sector.

Sub theme	Short term metric	Rationale
Defining & measuring E&M Sector productivity	# of businesses responded to updated business survey # of manufacturers share metrics they use to measure productivity Baseline sector GVA figures	Before measuring improvements in productivity, defining and setting a baseline is required. A useful short-term metric would be to update the business surveys to include new questions / data requests on productivity. Leveraging help from larger E&M organisations would also be useful as these companies would likely track detailed company level metrics. Encouraging more companies to share their GVA figures, using the individual diagnostic as a reference point, would also help build a clearer picture of total sector productivity
Implementing digital technologies into existing manufacturing operations	# of E&M companies supported on the mentorship programme Further investment into digital after initial programme support	The benefits of implementing digital technologies will be immediate at a company level but less so at a sector level. Measuring the number of companies supported and the type of support will help plan resources for any future iterations. Tracking further investments into digital technologies after the funding is critical as well.
Exploring synergies between the E&M & digital sectors	New market areas defined, and opportunity articulated # of collaborative projects with digital and E&M Sector	The benefits of exploring and pursuing new markets at the intersection of the Digital and E&M Sector will take a while to assess. Tracking the number of collaboration projects alongside a clear articulation of future growth areas for the sector.
Optimising existing facilities	# of applications for capital assistance	Tracking the number of applications for capital assistance relating to facility optimisation will be useful for gauging early productivity growth potential. Further detail could highlight other information such as barriers to productivity growth. Some metrics relevant to optimising existing facilities are already collected via FAS.

Table 16 - Short term metric and rationale of sub themes

Twelve longer term metrics were identified for the Department for Enterprise to measure for productivity. They are listed below with the rationale for including them.

Longer Term Metrics	Rationale
Improving company GVA	A metric that can be tracked relatively easy via business surveys and shows how productivity changes over time
Improving sector GVA	Aggregates company GVA and provides a metric on the overall productivity of the E&M Sector
Production based GDP	IOM currently uses an income-based approach. Using an output-based approach could shed E&M in a different light
E&M % of exports	Shows the contribution of the E&M Sector to the Island's export strength
Profit margin increase (%)	Tracking profit margins would show the health of the businesses and construct an industry average
% of businesses using basic digital technologies	Captures the number of businesses using basic digital technologies to show impact of the Island's digitalisation programme
% of businesses using advanced digital technologies	Captures the number of businesses using advanced technologies to show the impact of the Island's advanced digitalisation
GVA per worker (£ and % increase)	Tracks the labour productivity of the E&M Sector
# of businesses in new digital / E&M opportunity areas	A measure which captures the number of E&M and digital companies self-reporting they've entered a new market
Increased capital productivity	Measures the efficiency of capital in generating output. It indicates how much output (usually GDP or a specific product) is produced per unit of capital
Unit labour costs	Calculates the proportion of labour costs per unit of production or GDP
Reduction in facilities mentioned as a key barrier to growth	A measure which reports on the number of E&M businesses that highlight inadequate facilities as an inhibitor to growth

Table 17 - Longer term metrics and rationale for sub themes

5. Developing Skills

WHY		WHAT			HOW	OUTCOMES	
Vision	**Trends & Drivers**	**Sub-theme**	**Initiatives**	**Examples**	**Resources**	**Short Term**	**Long Term**
SKILLS VISION  **Building on the critical mass of highly skilled, ambitious and loyal E&M working population through engaging early learners; incentivising graduates back to the IOM and actively supporting relocation.**	**Displacement occurring in the E&M Sector as engineering talent is in short supply** **No university or R&D centre that attracts or anchors talent to the Island** **UCM E&M courses are set up to train entry level workers rather than provide holistic engineering skills** **Isle of Man national target of attracting talent to the Island to fill skills shortages** **Low throughput of E&M students at UCM puts the course at risk**	**Mapping the future E&M skills need**	**SKI1**: Establish a sector level skills matrix for the short, medium, and long term **SKI2**: Update matrix regularly to predict and respond to the skills need (at least every 3 years)	Lancashire Skills and Employment Strategic Framework UK Local Skills Improvement Plans	Third-party research project and report to capture baseline Internal resource to update periodically Industry & UCM engagement	Skills gap (demand vs supply) across current/future E&M roles List of skill needs used to influence UCM course development	% reduction in skills gap across E&M Sector # new entrants into E&M roles Skills gap density
		Creating a skills centre of excellence (CoE)	**SKI3**: E&M Sector & UCM decide on the remit & scale of skills centre of excellence **SKI4**: Establish a joint industry-academia CoE that's tailored to foster innovation, attract FDI, enhance sustainability & improve productivity	Advanced Construction & Engineering (ACE) Centre Factory as a classroom concept Follow the UK model of introducing LSIPs supported by strategic development funds	Building relationship and approach with UCM Innovation Lead Network of academic / business experts with E&M background	Decision made on the future of E&M training footprint Industry publicly committing funding and support for centre of excellence	% of E&M workers in R&D roles Student satisfaction rates of E&M courses # of safeguarded jobs # of new jobs created
		Ensuring a steady throughput of future E&M workers	**SKI5**: Increase engagement with schools via ACE to increase uptake in E&M courses **SKI6**: Work closely with Locate Isle of Man on targeted campaigns that attract E&M talent to the Island (e.g. young families, university placements, STEM returners)	STEM Returners STEM Ambassadors Programme Knowledge Transfer Partnership programme Individual cash incentives / reduced rentals for year (Italy, Spain, Greece)	Marketing and communications (prospectus) Creation of accompanying syllabus material Engagement plan with primary and secondary schools	# of STEM returners in sector # KTP (Knowledge Transfer Partnership) placements enacted # of cash incentives offered # of new STEM ambassadors # of primary / secondary schools visited	# of E&M graduate placements # of new jobs created by key characteristic (qualification level, abroad etc) Annual E&M course passes (%)
		Continuous training and certification	**SKI7**: Targeted training and specialised company accreditation to improve competitiveness (e.g. an executive education programme, ISO accreditation)	IfM Engage / University of Cambridge executive education programme ISO accreditation support schemes	Programme delivery partners for training Marketing and communications	# of individuals put through training programme # of companies supported to gain additional certifications / accreditations	% of workforce upskilled

This section explores:

- why it is important to develop skills
- why skills are important for the Isle of Man E&M sector
- what initiatives are required to improve skills in the E&M sector
- what resources are required to implement the skills initiatives
- the short-and long-term impact of achieving the skills initiatives

Why is developing skills important?

The types of skills needed of the global workforce are increasingly shifting due to trends such as digitalisation and decarbonisation. This makes it continually important for economies to evolve their skills base to be able to remain competitive and address risks and issues. Skills are also key to supporting features of an economy that lead to growth, such as productivity and innovation.

Investment in skills leads to economic growth through a variety of means, including:

Improving adaptability and resilience: Planned skills development can equip a region to meet specific upcoming challenges, such as the need for decarbonisation of homes and industries. Without these skills in place, there is risk of negative impacts in the future, such as higher home energy bills due to lack of insulation, or reduced energy security without sufficient electricity infrastructure. More generally, skilled workforces can respond more readily to unknown challenges due to the transferability of skills between industries and greater potential for innovation.

Increased innovation: A skilled workforce is associated with higher levels of innovation, demonstrated by the inclusion of education and skills metrics as part of the Global Innovation Index.[58]

Increased productivity and competitiveness: Where skills development can be accessed across the population, unemployment and inequality are reduced. This leads to a higher proportion of the population joining the workforce and increases the average level of skills, leading to a greater productivity of the population. For example, the inclusion of a higher number of women in the paid workforce means a greater potential for value generation for businesses. Additionally, a lack of targeted skills development in certain areas could lead to a region being left out of productivity improvements achieved by others, leading to reduced competitiveness.

[58] WIPO. 2023. Global Innovation Index 2023

The importance of developing skills in the Isle of Man

As determined in Phase One, skills are a key challenge for IOM E&M businesses. “Home-grown” talent is drawn away from the Island to universities overseas and may not return, whereas new talent is often difficult to attract to Island life despite incentives like the National Insurance Holiday Scheme and Graduate Role Incentive. On-Island provision for E&M skills development provides a route to address this, though, with a lack of uptake or certainty over exactly what the E&M skills gap is expected to be for the Island, it is not currently considered effective. Improving this understanding is key for planning initiatives to secure necessary skills to support growth of IOM E&M businesses.

Growing the population of working-age residents is an important target for the Isle of Man: The Island has a target to increase the number of new jobs to 1,800 by 2026, as part of the Island Plan. Retaining and attracting a growing workforce of skilled, productive workers is an important pillar of the Island’s economic strategy.[59] A growing workforce has wider economic and fiscal benefits for demand in the economy, government revenues, and businesses already operating in the IOM.

Despite this goal, the Island has an aging population which, all else being equal, would typically lead to a decline in the number of workers over time: It is therefore a priority to encourage high-skilled immigration. The E&M Sector, which operates in a global marketplace, can be positioned to attract the type of workforce and immigrants which are well-placed to contribute to the Isle of Man’s Economy.

As the Island looks to attract innovative businesses, skills requirements will need to change and develop over time: Skills and training development has an important role to play in reflecting the requirements of employers in an evolving E&M Sector. This proposed Strategy looks to foster innovation, drive productivity and target FDI, and as such a dynamic skills development programme is needed in the Isle of Man. This programme should be considerate of future manufacturing opportunities and workforce requirements of Isle of Man businesses.

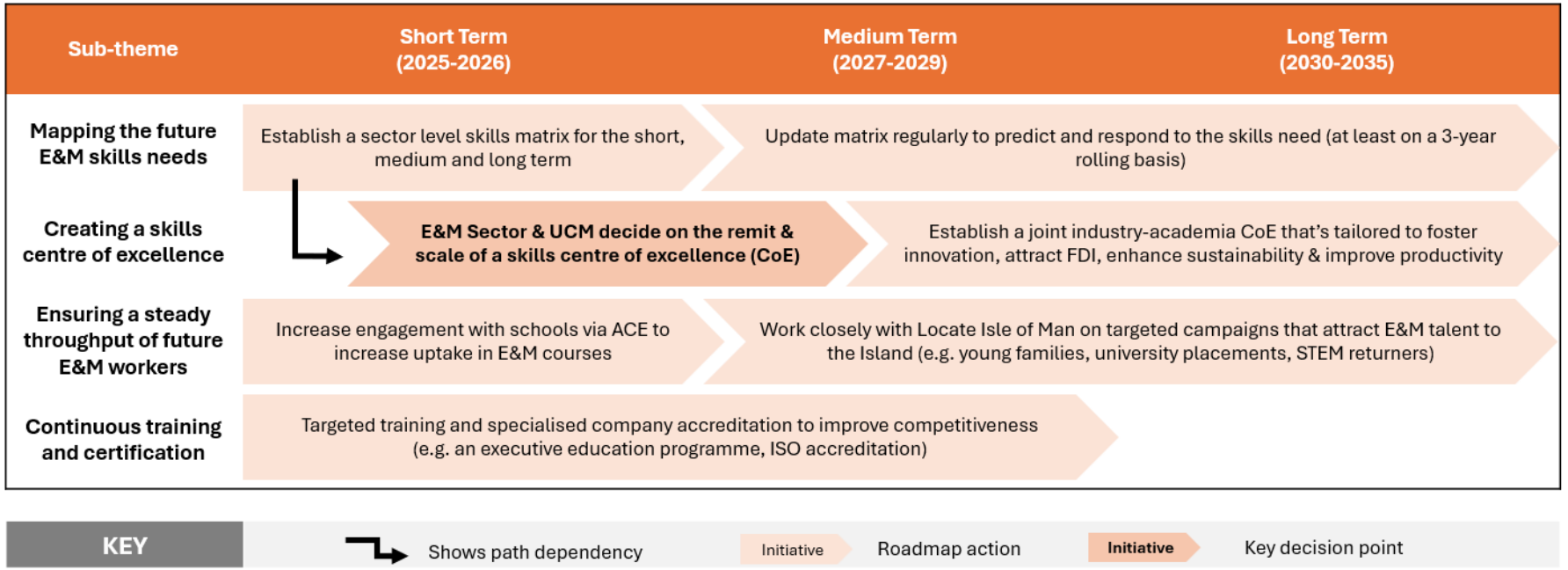
A skills development programme is an important enabler of supply chain resilience: The supply of skilled labour is an important production factor for the E&M businesses in the Isle of Man. It is important, therefore, that the E&M Sector can draw from an available pool of workers as and when required by changes to business operations – and as driven by growth.

[59] Isle of Man Government (2024) A strong and diverse economy

How to achieve progress – key skills initiatives

The skills theme has four subcategories. The following section provides a commentary on the evidence underpinning these initiatives and the relevant case studies that suggest how the IOM could enact these initiatives.

Where the Isle of Man is now	Vision: what success will look like
The sector is unsure of the future skills needs and further clarity is needed on links to The Skills Board and wider Skills Strategy. Some schemes are working well – e.g. The NI Holiday Scheme, Graduate Role Incentive, and Employee Relocation Incentive. Recent changes to DESC's Vocational Training and Assistance Scheme (VTAS) and Apprenticeship Scheme have traditionally worked well, but recent changes have made access to this scheme more challenging for large employers. UCM's Advanced Manufacturing Training Centre (AMTC) is deemed a great asset but consultation with industry is needed to ensure the business case is aligned with future needs. As UCM E&M course applications don't reach critical mass some years, IOM companies are currently engaging with off-Island educational establishments to cater for some of their needs when courses are not commercially viable in the Isle of Man.	*Building a critical mass of a highly skilled, ambitious, and loyal E&M working population through engaging early learners; incentivising graduates back to the IOM and actively supporting relocation.*



Mapping the future E&M skills need

The company diagnostic reports carried out in Phase One identified future skills and requirements as the biggest constraint to growth. Some commented that at times there is a disconnect between the training provided to UCM graduates and the evolving expectations of industry. Skills matrices provide a tool to map current and future skill requirements, enabling informed decisions to be made in planning the approach to meet skill demands. This first initiative involves producing a sector level skills matrix for the short, medium and long term – which also feeds into the following initiative for the IOM; establishing a skills centre of excellence. Case Study 21 shows the example of Lancashire's Skills and Employment Strategic Framework, which the IOM could seek guidance from.[60]

Once a skills matrix is established in the short term, it is additionally important to ensure that it remains up to date to stand a useful resource for predicting and responding to the E&M skills need of the IOM. Workshop input specified this to be at least on a 3-year rolling basis.

Case Study 21: Lancashire Skills and Employment Strategic Framework

Lancashire's Skills and Employment Strategic Framework establishes a dynamic vision aimed at enhancing the adaptability of the region's skills and employment ecosystem. It seeks to align workforce development more effectively with the evolving needs of Lancashire's businesses and residents. The framework aspires to empower individuals to continually upskill throughout their lives, making Lancashire an attractive destination for business investment due to its highly skilled and productive workforce. This has been achieved through various intervention programmes aimed at boosting digital skills, promoting adult education, facilitating academic-industry collaboration and expanding apprenticeship opportunities, among other initiatives. Ultimately, the framework aims to foster stronger collaboration between the public, private, and voluntary sectors, ensuring the optimal use of labour and skills resources across the county.

Case Study 22: Advanced Construction & Engineering (ACE) Centre in Norwich

City College Norwich's new Advanced Construction and Engineering (ACE) Centre has been officially opened following a £3.1m upgrade to the engineering and construction facilities funded by the Norwich Town Deal. The new facility will equip students and apprentices with the advanced technical skills needed in sectors which are experiencing rapid change as part of the shift to more sustainable, low carbon technologies – with a particular focus on the automotive industry, manufacturing, construction, and civil engineering. Located within the Blakeney Building on the Ipswich Road campus, the ACE Centre has been created through a major refurbishment of 8 existing classrooms and workshops.

Creating a skills centre of excellence

Following the development of a skills matrix in the short-term, decisions can be made for the remit and scale of an IOM skills "centre of excellence". Phase One identified that a core weakness of the IOM was the lack of formal institutions for knowledge generation and dissemination, with Phase Two workshop input forwarding the idea of a centre of excellence. The "centre" would not necessarily need to be a physical building but simply the entire Island could be viewed as a centre of excellence, and its scale and ambition has a wide range of options, from modifying approaches to existing assets and collaborations to re-designing an approach from the ground up. Being a key area for both government and industry, the centre should be co-funded. Examples of centres of excellence are already in operation in the Isle of Wight and Norwich (see case study 22).[61]

[60] Lancashire Skills and Employment Hub, Website. Available here.
[61] City College Norwich, *Advanced Construction and Engineering Centre Opened*. Available here.

Ensuring a steady throughput of future E&M workers

The Phase One report and company diagnostics identified industry appetite to engage more with UCM. A suggestion from a workshop carried out as part of the formation of this proposed Strategy was to further the activities of the Awareness of Careers in Engineering (ACE) Forum. In the short term, the recommended initiative is to increase engagement with schools through this existing approach and increase uptake in E&M courses run by UCM.

Case Study 23: STEM Returners

STEM Returners is an organisation that responds to the growing skills gap in UK STEM industries. They provide STEM professionals who have taken a career break of any length with a supported route back into a career through paid, short-term returner programmes (usually 12 weeks). They offer advice, career coaching, networking opportunities and mentoring to ensure professionals are ready and confident to return to an equitable and inclusive STEM sector.

Another key part of the proposed E&M growth Strategy identified in Phase One is attracting skills via immigration, which was further supported during Phase Two workshops in discussions of off-Island relationships, internships and university placements. In the medium to long term, targeted campaigns should be developed alongside Locate Isle of Man to attract prospective E&M talent to the Island, for example young families and university placements. Case study 23 provides an example of creating supported routes for talent to enter the E&M Sector after career breaks, enabling a greater skills pool to be accessed by industry.[62]

Continuous training and certification

Supported by wider evidence from IfM Engage programmes, executive education programmes for directors and senior managers would help improve the competitiveness of IOM E&M businesses.[63] A pilot programme should be implemented in the short term, followed by reviewing, refining, augmenting and re-evaluating for future delivery into the medium and long term.

Case Study 24: IfM Engage / University of Cambridge executive education programme

IfM Engage / University of Cambridge offers a range of executive education programmes and short courses designed to equip organisational leaders with practical tools and strategies. These programmes help senior management design new products and services, manage innovation and technology, optimise global supply chains and nurture talent within their organisations. In response to the rapidly evolving world of digital transformation, changing markets and the need for future-focussed skills, these courses provide essential insights and capabilities to stay ahead in today's dynamic business environment.

[62] STEM Returners, STEM Returners Website. Available here.
[63] IfM Engage, Executive education. Available here.

Spending required to enact the skills development initiatives

The following section outlines the expected public and private sector spending required to deliver the skills development initiatives. This includes the indicative minimum and maximum spending implication for implementing the initiatives. As with the other themes, data on the minimum and maximum spending for the skills development initiatives identified as part of the workshopping of this proposed Strategy has been collected from a range of sources. This includes IfM Engage and Gemserv case studies, examples of best practice from other jurisdictions, as well as discussions with Business Isle of Man. The chart below details funding allocated to skills development by initiative.

The chart below shows that from 2025 to 2035, the total public and private funding allocated to the initiatives identified to support skills development sums to between **£5.45m** and **£12.79m** for the period – with both a minimum and maximum scenario displayed below. Of this, the Government would spend between **£2.83m** and **£6.65m**, and the private sector would spend the remaining **£2.62m** to **£6.14m** for minimum and maximum inititive ambition respectively.

Initially, much of this funding is allocated towards targeted **training** and specialised company accreditations for company leaders and executives (**SKI7**). This spending level is relatively constant throughout the period, whilst funding for the **Centre of Excellence** (**SKI4**) begins from 2027-2029 and contributes to the majority of the spend on skills towards the end of this proposed 10-year Strategy (between 2030 and 2035 especially).

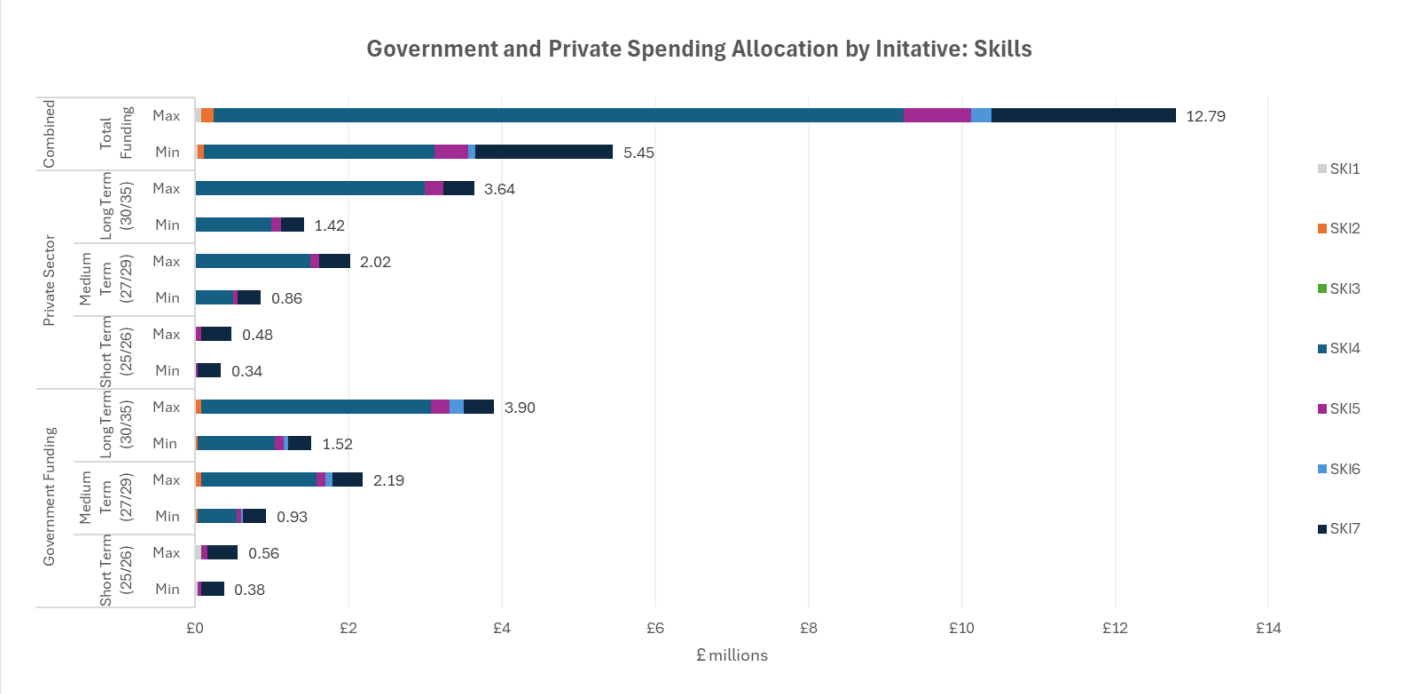


Figure 23 - Skills spending allocation by initiative

Sub theme	ID	Initiative action
Mapping the future E&M skills needs	**SKI1**	Establish a sector level skills matrix for the short, medium, and long term
	SKI2	Update skills matrix regularly to predict and respond to the skills need (at least every 3 years)
Creating a skills centre of excellence	**SKI3**	E&M Sector & UCM decide on the remit & scale of a skills Centre of Excellence (CoE)
	SKI4	Establish a joint industry-academia CoE that's tailored to foster innovation, attract FDI, enhance sustainability & improve productivity
Ensuring a steady throughput of future E&M workers	**SKI5**	Increase engagement with schools via the ACE Programme to increase uptake in E&M courses
	SKI6	Work closely with Locate Isle of Man on targeted campaigns that attract E&M talent to the Island (e.g. young families, university placements, STEM returners)
Continuous training and certification	**SKI7**	Targeted training and specialised company accreditations to improve competitiveness (e.g. executive education programmes, ISO accreditations)

Table 18 - Initiative action for sub themes

Metrics for measuring the impact of developing skills initiatives

This section briefly highlights the short and long-term metrics used to measure the impact of the skills initiatives. Short term impacts can be described as the immediate outcomes and tend to be linked to specific initiatives. In most cases, short term metrics measure an outcome that should positively impact a long-term metric. For example, the number of school visits conducted by the ACE Forum should have the longer-term impact of increasing E&M Sector course throughput at UCM. Therefore, the longer-term metrics are directly related to macroeconomic performance of the E&M Sector.

Sub theme	Short term metric	Rationale
Mapping the future E&M skills needs	Skills gap (demand vs supply) across current/future E&M roles List of skill needs used to influence UCM course development	Previous collaboration between UCM and industry led to the creation of the AMTC, which was well received by industry and fitted their needs. However, there isn't a forward-looking plan to ensure skills provision will meet future needs. Having a list of future skills needs and priority areas will help UCM tailor courses and any resource requirements to the E&M Sector's future needs.
Creating a skills Centre of Excellence	Decision made on the future of E&M training footprint Decision on an industry & government co-funded model to support the CoE vision	As the Island's E&M Sector is at a critical inflection point, a sensible short-term milestone would be for industry and academia to reflect on what they need from a skills Centre of Excellence. As discussed earlier, this could range from light-touch modifications and specialisation in niche areas, or a wider ranging and costly direction of travel. Whatever is decided, having a public statement from the E&M Sector community on UCM's direction of travel would also be powerful.
Ensuring a steady throughput of future E&M workers	# of STEM returners in sector # KTP placements enacted # of cash incentives offered # of new STEM ambassadors # of primary / secondary schools visited	Programmes to attract new E&M workers, either through targeting primary and secondary school-age children, re-skilling, or via immigration are a key component of the skills roadmap. Tracking immediate metrics related to schemes such as the number of STEM returners successfully embedded within organisations, KTP placements, school visits as well as the number and amount of any cash incentives offered to attract younger families to the Island would help track which schemes are most successful.
Continuous training and certification	# of individuals put through training programme # of companies supported to gain additional certifications / accreditations	Continuous development of the workforce is just as important as attracting new people. Monitoring how many individuals attend advanced management training alongside tracking which companies have achieved certification / accreditations and what that goes on to achieve is important to capture.

Table 19 - Short term metric and rationale for sub themes

Eleven longer term metrics were identified for the Department for Enterprise to measure for skills development. They are listed below with the rationale for including them also stated.

Longer Term Metrics	Rationale
% reduction in skills gap across E&M Sector	Measures the level at which employers feel new employees they hire don't require much additional training. Metric can measure incidence, density and volume
# new entrants into E&M roles	Measures the number of new entrants into the E&M market, usually from school / college / university but also from adjacent sectors
Skills gap density	The quantity of workers which employers feel are underqualified / skilled as a proportion of total workforce
Annual E&M course passes (%)	Rate at which students pass UCM E&M-based courses
% of E&M workers in R&D roles	Measures the number of roles within total E&M Sector dedicated to R&D activity to show the split between knowledge-based and operations-based roles
Student satisfaction rates of E&M courses	Measures the student satisfaction of E&M courses to highlight potential improvements
# of E&M graduate placements	Measures the number of Knowledge Transfer Partnerships, or other routes, that give graduates experience in E&M based businesses
# of new jobs created	Total number of new E&M jobs created per time period
# of new jobs created by key characteristic (qualification level, migration requirement, etc)	More detail on new job creation characteristics such as required qualification level and whether migration is required to fill the role
# of safeguarded jobs	Estimated number of jobs safeguarded / protected. Useful when transitioning existing businesses into new market areas and if IOM Government is adopting a survival and retention outlook
% of workforce upskilled	Proportion of the workforce that has increased its skill level within a year
% of E&M graduates employed	Proportion of graduates from UCM E&M-based courses that become employed in IOM E&M

Table 20 - Longer term metrics and rationale for sub themes

6. Competitive Funding

WHY		WHAT			HOW	OUTCOMES	
Vision	**Trends & Drivers**	**Sub-theme**	**Initiatives**	**Examples**	**Resources**	**Short Term**	**Long Term**
FUNDING VISION  **Improving IOM Government's competitive offering in funding mechanisms to enable capabilities and infrastructure to be developed at a pace within a realistic budget**	**Funding is primarily awarded on job creation and hiring more people is not typically the most productive option for the E&M Sector** **Multi-faceted evaluation of funding programmes is becoming more common** **More holistic support for SMEs and startups is crucial to rapid growth and building E&M Sector experience in new markets** **Common challenges such as net zero, defence, and AI tend to have international funding to tackle them**	**Refining how funding is administered**	**FUN2**: Review the terms, accessibility & ease of which businesses access IOM funding & support	Advanced Research and Invention Agency Innovate UK grant terms	Legal specialism to check applicability Economic analysis to justify using more metrics to evaluate spending Funding for training & process change for DfE Enterprise Support	Consultation on changing funding allocation rules Pilot funding mechanism uses new funding rules	# of successful applications from the E&M Sector Time taken to complete funding applications
		Defining & measuring E&M Sector funding impact	**FUN3**: Define & collect funding impact data to understand the ROI (e.g. GVA) for E&M Sector **FUN4**: Streamlined funding process awarded based on modified KPIs & metrics that align with growing the E&M Sector + IOM economy.	Innovate UK Grants and R&D Returns: APC Impact Evaluation Faraday Battery Challenge Impact assessment	Internal resource to define and collate data Refine funding application questions to capture data on new metrics	A set of evidenced metrics in six of the Strategy themes Updated business survey / funding application forms to capture data	# of metrics tracked to show impact vs pre-E&M Strategy publication
		Dedicated funding for mentoring E&M SMEs	**FUN5**: Run pilot SME support scheme, tailored for E&M Sector. Test uptake & efficacy **FUN6**: Initial commitment to an SME support programme for the E&M Sector **FUN7**: Commitment to a long term, holistic SME support scheme for E&M Sector	TDAP Programme High Value Manufacturing Catapult – SME programmes Aerospace Technology Institute – SME Programme	Third party delivery programme for E&M mentoring, IP support, product strategy etc Marketing and communications Internal IOM project delivery leads	First cohort successfully utilise the pilot programme External impact report on the direct impact of funding	# of SMEs / startups supported # of companies achieving first revenue # of startups / SMEs committing to further R&D / manufacture on the Island
		Leveraging alternative funding streams	**FUN8**: Stakeholder mapping & relationship building with UK Government and private investors **FUN9**: Forge partnerships and funding programmes with private sector investors / UKRI to help bolster funding for established E&M companies and start ups	Market assessment on status of venture capital / private equity Taiwan-UK Innovation Fund Energy Catalyst	Stakeholder engagement / business development with private investors and national governments Marketing and communication Legal specialism to understand practicality of joint funds	Stakeholder mapping report highlighting high-priority investor groups # of meetings / interactions with international country funding bodies # of meetings / interactions with private investors	# and value of joint funds established with international partners # and value of joint funds with private equity / venture capitalist

FUN1 (Hire a funding lead) has been omitted from this summary table as it is a resourcing measure that drives the other initiatives

This section explores:

- why funding is important
- why funding is important for the Isle of Man E&M sector
- what funding initiatives are needed
- what resources are required to implement the funding initiatives
- the short and long-term impact of achieving the funding initiatives

Why is funding important?

Government and private funding underpin several of the themes captured in this proposed Strategy and is crucial for economic growth and improving living standards. When an economy channels funds into capital and R&D, it builds a foundation for a higher level of productivity in the future. Investment also fosters greater diffusion of the ideas and innovations that underpin technological progress and higher wages.[64]

Figure 24 shows the level of private and public investment as a % of total GDP across the G7 countries. The graph shows the UK Economy has suffered from significant levels of underinvestment compared with those economies that have delivered larger improvements in living standards over the past 25 years – such as France and Germany.

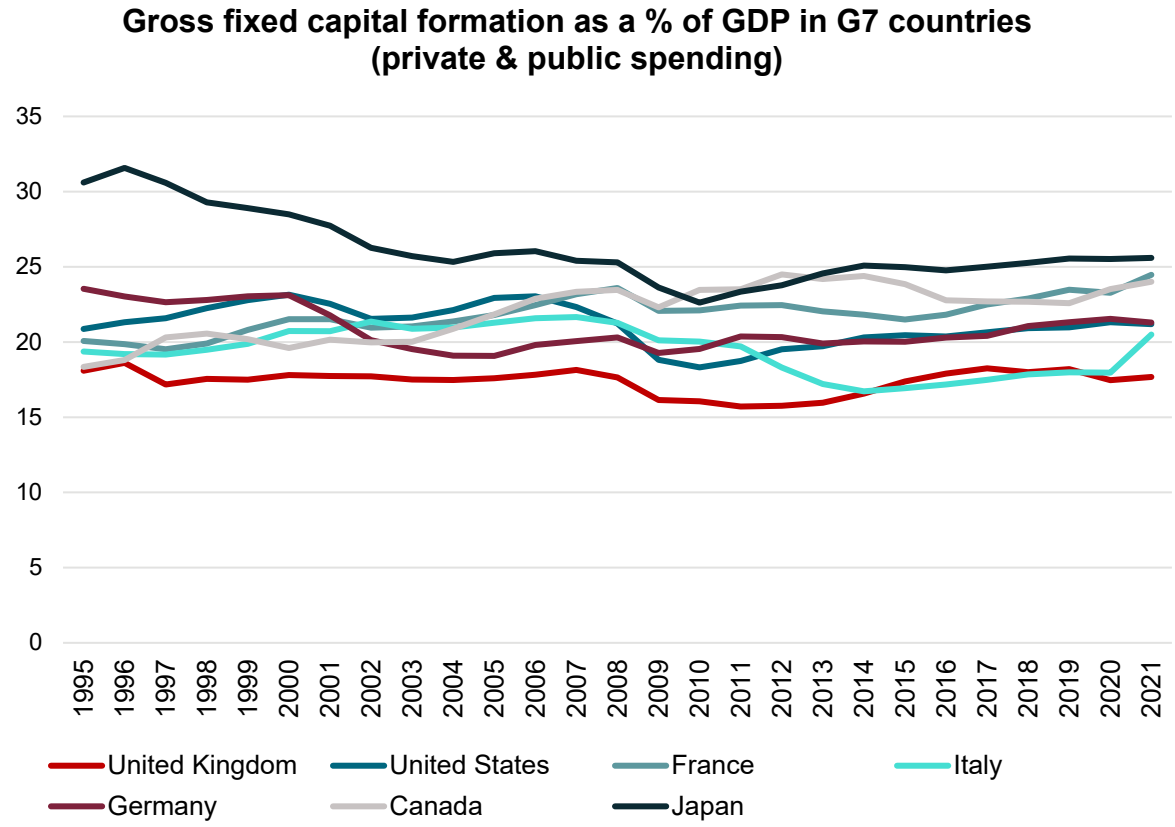


Figure 24 – Gross fixed capital formation as a % of GDP in G7 countries (private & public)[65]

[64] Economics Observatory. 2024. *Boosting productivity: why doesn't the UK invest enough?*. Available from here.
[65] Institute for Fiscal Studies. 2024. *Public investment: what you need to know*. Available from here.

There are therefore several reasons why government funding is important for the growth and development of the E&M Sector:

Government funding can derisk private sector investments in R&D and innovation: Uncompetitive funding may cause businesses to invest in R&D elsewhere as innovation is risky and the benefits may not be entirely captured by the firm. This can lead to suboptimal levels of innovation spending in the economy. As such, there is space for governments to provide adequate funding which compensates companies for taking this risk and recognises the wider economic and social benefits associated with R&D spending.

Government funding can be structured to address the specific needs of companies and/or projects: Governments can identify the sectors, technologies and investments which are aligned with long-term economic growth and prosperity and can structure funding to best support strategic investments. For example, the UK Infrastructure Bank/National Wealth Fund provides a range of financing tools that best align with strategic project needs – from equity investments to government guarantees and debt offerings.

Government may have more flexibility over the terms of funding agreements: For many innovative businesses, securing financial support is crucial but the structure and conditions of the funding itself can play a pivotal role in driving investment. Factors such as the timing of payments, the ease of accessing finance and appetite of existing financial institutions to invest, particularly for small businesses, influence the levels of investment. Government funding bodies also tend to have a larger risk appetite than private sector lenders. Furthermore, when it comes to multi-year capital spending, governments often have more competitive interest rates when borrowing money so can be more effective at maximising the impacts of funding.

Funding can support productivity improvements and economic growth by encouraging more private sector investment: Government funding is an important enabler of investment in factors of production – plant, machinery, and people. Government investment into capital often crowds in private sector investment as it breeds confidence in sectors and companies.

The importance of funding to the Isle of Man

The availability of funding is an important consideration for E&M companies already operating in the Isle of Man and for attracting global businesses looking for opportunities to invest.

For E&M businesses already operating in the Isle of Man, funding has been identified as an important enabler of investment in plant, equipment and skills: Engagement with many of the major E&M businesses over the course of 12 months has highlighted funding as important in enabling capital investment to maximise existing manufacturers' efficiency. In addition, funding can support investment in human capital by facilitating retraining and upskilling initiatives, which plays a crucial role in enhancing productivity within the E&M Sector.

For global businesses, the availability of funding enhances the Isle of Man E&M Sector's appeal as an attractive investment destination: Attracting Foreign Direct Investment (FDI) is an important theme considered in detail within this proposed strategy, and an important pathway for E&M Sector growth given the current size of the industry in the Isle of Man. Competitive government funding that is easy to apply for and access improves the attractiveness of the Isle of Man E&M Sector for an international investor, which is important given the competition for finance across jurisdictions.

Funding is particularly important for the attraction of new E&M sub-sectors and businesses: The Isle of Man Government has identified several nascent and growing industries – historically eGaming and more recently medicinal cannabis – which represent businesses of the future and provide economic and export growth potential. New businesses like these often face high costs and risks. Attractive funding packages incentivise more R&D, infrastructure, and workforce development, enabling novel and strategic E&M businesses to develop and grow in the IOM.

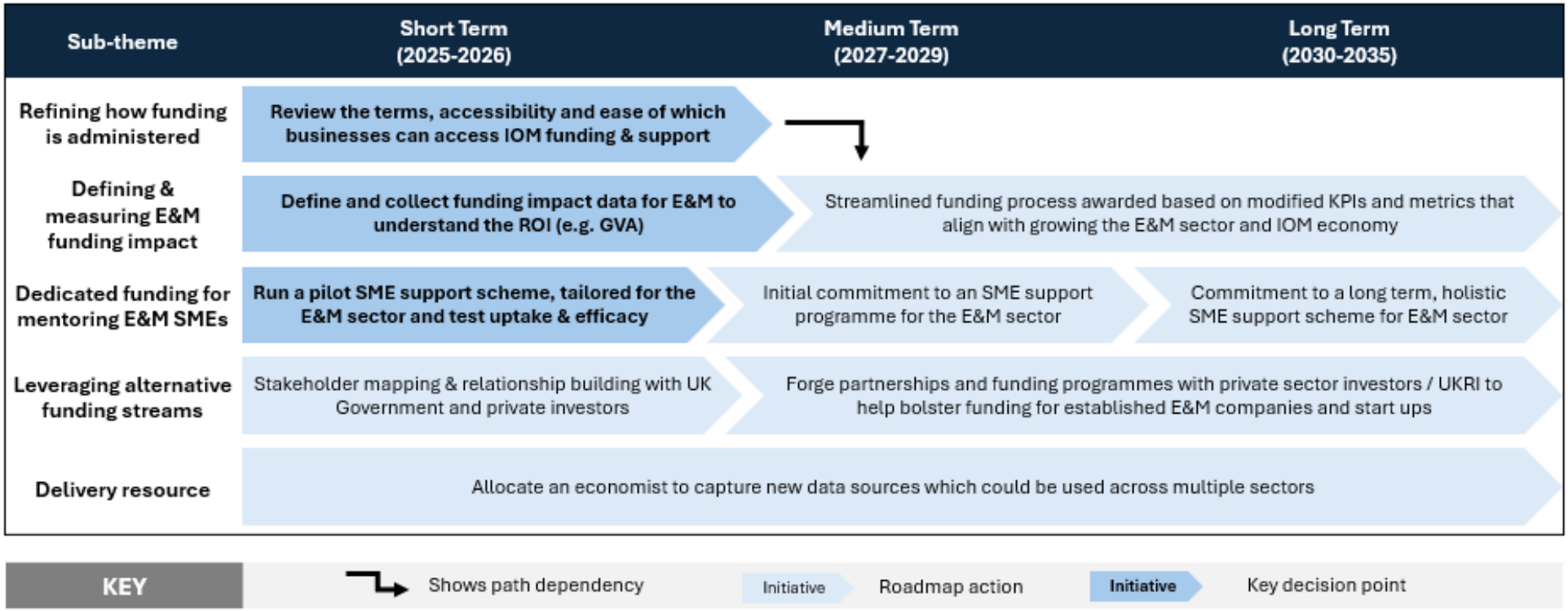
Operating and manufacturing costs can be higher in the Isle of Man than in other jurisdictions: Day-to-day operating costs can be higher in the IOM than international competitors, as identified in the Phase One Report. Government funding can counteract higher business costs which challenge the E&M Sector. Higher costs, be they input products or services, constrains profitability and harms competitiveness when selling products internationally.

Businesses can struggle to access appropriate financial products in the Isle of Man: Even if an E&M business has decided to invest in new equipment, plant, or labour, as a smaller economy with a limited pool of lenders, businesses in the IOM may struggle to find finance which matches their requirements. Indeed, during the workshops carried out with industry, stakeholders commented that difficulties accessing private finance can hamper growth. Some competitor E&M businesses located in other jurisdictions will be better placed to benefit from deep and liquid capital markets which can offer a variety of investment instruments. Some E&M firms located in the Isle of Man may be unable to access these finance offerings. The Isle of Man Government can step in to offer funding products which have more amenable terms or suitable payment structures.

How to achieve progress – key funding initiatives

The funding theme has five subcategories. The following section provides a commentary on the evidence underpinning these initiatives and the relevant case studies that suggest how the IOM can enact them.

Where the Isle of Man is now?	Vision: what success will look like
Job numbers are decreasing, as is GDP for the sector; 60% of the FAS budget goes to the E&M Sector, but support is based on historic processes and the ensuing benefits are not well demonstrated or understood; companies have a low skill absorption rate and there is a significant number of low and semi-skilled workers; established target of reaching GDP of £10bn by 2032.	*Improving IOM Government's competitive offering in funding mechanisms to enable capabilities and infrastructure to be developed at a pace within a realistic budget.*



Refining how funding is administered

Funding has been a key area of consideration in both the Phase One and Phase Two work, with a consistent message from workshop participants that terms for funding are unfavourable compared to other jurisdictions. The current IOM Financial Assistance Scheme (FAS), administered by the Department for Enterprise, is available to businesses for support with costs such as plant, machinery and rent, and generally relies on a positive exchequer benefit within a desired timeframe with grants paid after the associated job-creation (or sometimes retention) criteria has been met. These factors make it difficult for E&M businesses to obtain funding, since upfront costs are likely to be high for capital investments, and growth-enabling investments such as automation may not directly lead to more jobs. The difference in needs between sectors is indicated by the difference in exchequer payback period between the E&M and Digital sectors (see Defining & measuring E&M Sector funding impact).

The funding terms mean the Island's funding mechanism has a low-risk appetite, inhibiting the uptake of funding for R&D and innovation. As grant payments in respect of R&D are capped (Appendix 7 of the FAS Guidelines) and only awarded after receipts have been presented, businesses fully shoulder the risk of their upfront investments as well as anything above the cap. Since R&D and some forms of capital spending are likely to have more uncertain results compared to other investments, these types of investment become less attractive for businesses seeking support via FAS. This could also explain why larger companies on the Island tend to access FAS more; they possess the upfront capital to shoulder the risk associated with not achieving results. This is further evidenced by analysis conducted in Phase One that highlighted R&D comprised less than 1% of the value of E&M grant applications (including company spend) in FAS between 2018/19 and 2022/23 (including food and drink manufacturing and excluding Appendix 13 emergency funding). The Appendix 13 emergency funding in response to the COVID-19 pandemic did place a greater emphasis on R&D via salary support, alongside business improvement and training. However, only 30% of the offered grants were claimed.

Other approaches to grant support such as those in the UK take on a greater level of risk at an individual grant level. For example, Innovate UK have a more flexible approach to grant funding. Grants are typically paid in quarterly instalments (unless otherwise agreed by Innovate UK) and in arrears on submission of a claim.[66] Recipients are required to have a time recording arrangement which enables businesses to accurately record time charged to Innovate UK projects. Unless further information is needed, grants are typically paid within 30 days. Moreover, Innovate UK also curated a guide to help smaller companies and those new to grant funding applications write the best application, with tips and advice on what scores well.[67] Compared to the FAS system – while not eliminating the risk and need for up front capital – it makes R&D and capital investments much more palatable to a broad range of

Case Study 25: The UK's Advanced Research and Innovation Agency

ARIA operates independently, focusing on high-risk, high-reward research projects that could drive groundbreaking advancements. Researchers are given significant autonomy to explore ambitious ideas, free from traditional constraints. The agency employs diverse funding mechanisms, such as grants, contracts, and equity stakes, to support projects tailored to their unique needs. This approach enables rapid decision-making and investment, ensuring ARIA can back visionary science and technology initiatives which may have otherwise been under-funded. At the heart of ARIA's approach are the Programme Directors, who retain creative control over how and who they fund within the opportunity spaces they have defined.

[66] Innovate UK. 2024. *Terms & Conditions of an Innovate UK Grant Award*. Available from here.
[67] Innovate UK. 2024. *Good application guide*. Available from here.

businesses. Case study 25 also shows how UK innovation organisation ARIA has been established to provide an even more ambitious approach to funding high risk, high reward sectors.[68]

Defining & measuring E&M Sector funding impact

Before being able to refine the funding process for E&M businesses, more work is needed to obtain a data-backed understanding of the benefits of investment in the E&M Sector in the IOM. If not measured through exchequer benefit from job creation, The Treasury require evidence of the benefits of funding by another measurement approach. This has posed a challenge in Phase One and Phase Two, due to the difficulty obtaining data on the current performance of E&M investments, to be able to quantify the current state of FAS effectiveness for E&M and potentially support in determining alternative ways of measuring impact. Average estimated payback period to the exchequer from closed FAS grants is 3.3 years.[69] Though this is higher than some other sectors (the equivalent for Digital Sector FAS grants is 2.4 years), this is likely due to the different funding needs facing E&M, particularly high capital cost investments.[70]

Case Study 26: Innovate UK Impact Report

The report *"Innovate UK Grants and R&D Returns: Impact on Business and Economy"* evaluates the effectiveness of Innovate UK's grant funding for business R&D. It finds that for every £1 invested through these grants, businesses see a direct Gross Value Added (GVA) increase of 73p. Including broader economic effects, the total return rises to £6.21 over seven years. The grants also spur additional private R&D investment, addressing market failures in innovation funding.

Academics were commissioned by Innovate UK to conduct this analysis, which utilises business performance data to evaluate the causal impact of Innovation UK funding.

As noted in the introductory section on changing the nature of support, the value of the E&M Sector to the IOM encompasses far more than exchequer benefits through job creation, and a key measure to consider is GVA – as highlighted in work across Phase One and Phase Two. Again, current data is limited, with the IOM being the only jurisdiction in Phase One comparisons for which GVA data was not available. However, the individual company assessments in Phase One quantify overall GVA for most participating companies, with company feedback that this would be possible to apply to individual projects. This would provide a comparison for a selection of previously funded FAS projects, if other associated FAS metrics can also be gathered for those projects.

The immediate priority for this sub-theme is to define, collect and monitor the metrics identified for each of the headline themes. This will begin the process of providing a more holistic evaluation of the effectiveness of current E&M funding. If a broad range of metrics across Innovation, FDI, Sustainability, Productivity and Skills is collected, a balanced scorecard approach could be a way to assess the E&M Sector's wider impact. First, if the application form can be restructured in a way to capture business-level metrics across these five elements, the expected impact across a range of projects can be both quantitatively and

[68] ARIA. 2024. *How we fund*. Available from here.
[69] On the assumption that the amount of exchequer benefit achieved is in line with the proportion of total grant claimed under a given offer. Based on closed cases only. Not including food and drink manufacturing.
[70] On the assumption that the amount of exchequer benefit achieved is in line with the proportion of total grant claimed under a given offer. Based on closed cases only. Not including exchequer benefit that is associated with an ERI/GRI application for the same project.

qualitatively assessed. A similar approach is standard practice for Innovate UK Smart Grants which all have Project Impact questions as part of their standard assessment criteria.[71] Other funding organisations, such as the Advanced Propulsion Centre and Aerospace Technology Institute, which use Innovate UK standard forms as a template often contain further appendices which ask more detailed questions on impact such as environmental performance. Appendix W provides further information on how a balanced scorecard approach could be realised in the final, adopted Strategy.

To best, collate and analyse the metrics used to evaluate funding applications, the hiring of an economist, or engaging an external expert is likely needed particularly when establishing a new set of assessment criteria across the six themes identified in this proposed Strategy.

Dedicated funding for mentoring E&M SMEs

The need to support SMEs and IP generation was raised under the themes of Innovation and Attracting FDI in Phase Two workshops, and the Phase One report identified examples of SMEs not having the support mechanisms to be able to carry out the R&D or manufacturing activities they wanted to pursue. A dedicated funding stream for SMEs could address these issues.

In the short term, to test uptake and efficacy, a pilot scheme should be implemented. This should be tailored to SMEs in the E&M Sector, responding to identified needs and ensuring accessibility. Following the results of this pilot, an initial commitment can be made for an E&M SME support programme, and into the long term, full implementation of this scheme – giving SMEs confidence in support from IOM Government and enabling growth.

Case Study 27: Advanced Propulsion Centre (APC) SME support scheme

This 18-month phased programme, is designed to accelerate an innovation's route to market and includes: up to £170,000 grant funding split across two phases, market focus and technology validation as well as six focus areas supported and delivered by a series of flexible workstream activities and workshops covering commercialisation strategy and financial planning, IP management, investor readiness, leadership and new venture growth dissemination, networking and marketing, business & investor mentoring from experts, and auto industry networking.

Leveraging alternative funding streams

It is important to consider the breadth of funding streams outside of the IOM Government, which have the potential to grow the IOM E&M Sector without the need to consider return on investment to the IOM Treasury. During Phase One, SMEs provided the insight that more could be done with venture capital and private equity investment in the E&M Sector, and in Phase Two, workshop participants mentioned the need to leverage investment from the UK funding landscape.

[71] Innovate UK. 2024. *What the Project Impact questions cover*. Available from here.

The first step, in the short term, is to undertake horizon scanning to understand the most likely funding avenues and build relationships with UK Government and private investors. In the medium to long term, partnerships can be forged and new funding programmes created, increasing funding for existing and new E&M companies. UKRI may present an opportunity for this, as evidenced by case study 28.

Case Study 28: UK-Taiwan partnership

Taiwan is benefitting from the recently established £5m UK-Taiwan collaborative R&D fund supported by Innovate UK. This initiative aims to fund business-led collaborative research and development (CR&D) projects focused on industrial research for innovative proposals developed between the UK and Taiwan. The funding prioritises projects in areas such as smart manufacturing and advanced technologies. With Taiwan's strong research institutions and supportive policies, the country has become an attractive partner to the UK and a recipient of UKRI funding.

Spending required to enact the funding initiatives

The following section outlines the expected public and private sector spending required to deliver the funding initiatives which have been identified as key to delivering this proposed 10-year Strategy. This includes the indicative minimum and maximum spending implications for implementing the initiatives. As part of the process of completing the Strategic Review and workshopping the initiatives, Gemserv and IfM Engage have estimated the identified costs associated with the funding initiatives. Examples of best practice from other jurisdictions, case studies and discussions with Business Isle of Man were all used to develop these estimates.

From 2025 to 2035, the total public and private funding allocated to the dedicated funding initiatives sums to between **£17.58m** and **£28.9m** for the minimum and maximum scenario respectively. Of this, the Government would spend between **£8.96m** and **£14.78m**, and the private sector would spend the remaining **£8.6m** to **£14.13m** for minimum and maximum inititive ambition respectively. Spending in the short term (2025-2026) is driven by the pilot SME support scheme (**FUN5**), and to a lesser extent the hiring of a dedicated economist (**FUN1**) and stakeholder engagement / marketing activities (**FUN8**).

Decisions made regarding the depth of investment in establishing and funding the SME support programme (**FUN6** and **FUN7**) after the trial period drive the differing investment levels seen between the scenarios during the 2030s.

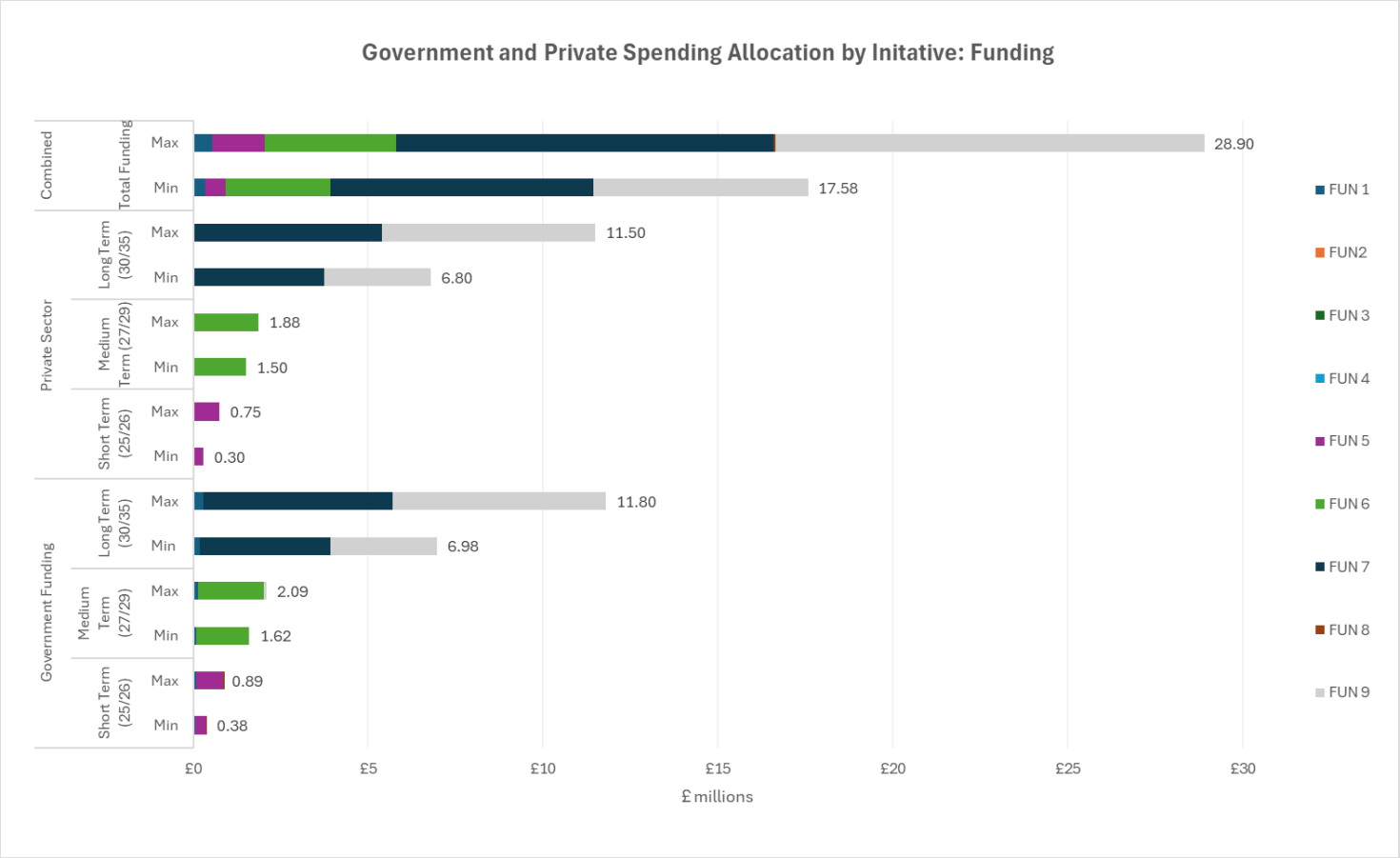


Figure 25 - Funding spending allocation by initiative

Sub theme	ID	Initiative action
Internal resources to action funding initiatives	**FUN1**	Ideally hire a dedicated economist to capture new data sources which could be used across multiple sectors. Otherwise, existing internal resources would need to prioritise innovation initiatives
Refining how funding is administered	**FUN2**	Review the terms, accessibility & ease of which businesses access IOM funding & support
Defining & measuring E&M Sector funding impact	**FUN3**	Define & collect funding impact data to understand the ROI (e.g. GVA) for E&M Sector
	FUN4	Streamlined funding process awarded based on modified KPIs & metrics that align with growing the E&M Sector + IOM economy.
Dedicated funding for mentoring E&M SMEs	**FUN 5**	Run pilot SME support scheme, tailored for E&M Sector. Test uptake & efficacy
	FUN6	Initial commitment to an SME support programme for the E&M Sector
	FUN7	Commitment to a long term, holistic SME support scheme for E&M Sector
Leveraging alternative funding streams	**FUN8**	Stakeholder mapping & relationship building with UK Government and private investors
	FUN9	Forge partnerships and funding programmes with private sector investors / UKRI to help bolster funding for established E&M companies and start ups

Table 21 - Initiative action for sub themes

Metrics for measuring the impact of the funding initiatives

This section briefly highlights the short- and long-term metrics used to measure the impact of the funding initiatives. Short-term impacts can be categorised as the immediate outcomes and tend to be linked to specific initiatives. In most cases short-term metrics measure an outcome that should positively impact a long-term metric. For example, the number of intra-business collaborations incentivised by the intra-island innovation forum should have the longer-term impact of increasing R&D spending in the Isle of Man. Therefore, the longer-term metrics are directly related to macroeconomic performance of the E&M Sector.

Sub theme	Short term metric	Rationale
Refining how funding is administered	Consultation on changing funding allocation rules Pilot funding mechanism using new funding rules	A consultation or feedback session with industry on the current funding mechanisms would allow views to be shared on the subject and could direct The Treasury to consider changing some of the competitive elements of the system. Adopting any new changes in future pilots would also demonstrate progress.
Defining & measuring E&M Sector funding impact	A set of evidenced metrics in six of the Strategy themes Updated business survey / funding application forms to capture data	Using this Strategy as a starting point, The Treasury should identify, define and track a host of metrics not currently captured when analysing progress of the E&M Sector. Updating the annual business surveys to capture new data points would be an ideal outcome.
Dedicated funding for mentoring E&M SMEs	First cohort successfully utilise the pilot programme External impact report on the direct impact of funding	Monitoring the first cohort of pilot SMEs / start-ups during and after they have received support would bolster the evidence based on the scheme's efficacy. Wrapping this up into a programme impact assessment on the pilot SME support programme will provide a reflection point to improve the service.
Leveraging alternative funding streams	Stakeholder mapping report highlighting high-priority investor groups # of meetings / interactions with international funding bodies # of meetings / interactions with private investors	Cultivating relationships with new investment sources, both private investors and other governments takes time. A short-term metric to measure success in leveraging alternative funding streams is tracking the # of meetings and interactions with international funding bodies and private investors.

Table 22 - Short term metric and rationale for sub themes

Longer Term Metrics	Rationale
# of successful applications from the E&M Sector	Successful applications indicate a healthy pipeline of projects and a latent demand for additional support
Time taken to complete funding applications	Reducing the time associated with applying, providing feedback, clarifications and information within funding application processes needs to be qualitatively captured to increase engagement
# of metrics tracked to show impact vs pre-E&M Strategy publication	Regularly reviewing the metrics ensures that the Island is capturing the right data points and incentivising productive behaviours
# of SMEs / startups supported	Tracking the number of start-ups supported alongside industry type shows the demand for the service and informs whether to expand the service
# of companies achieving first revenue	A start-up / SME achieving first revenue indicates they have found product-market fit
# of startups / SMEs committing to further R&D and manufacturing future	Commitment to further R&D and manufacturing activity in the Isle of Man post-funding captures a "crowding-in effect" which wouldn't otherwise have occurred
# and value of joint funds established with international partners	Estimating the number of partnerships and expected investments from other funding bodies helps define the nature of government support
# and value of joint funds with private equity / venture capitalist	Estimating the number of partnerships and expected investments helps define the nature of government support

Table 22: Longer term metrics and rationale for sub themes

The critical success factors that need to be addressed

Through the analysis of the enabling competences and resources identified as necessary for each of the six strategic themes, several critical success factors have been identified.

These critical success factors include:

- Additional resource to deliver initiatives
- Research / study (in-house or external)
- Programme delivery partners
- Data collection and monitoring
- Marketing and communication
- Business development / stakeholder engagement
- Cross-departmental collaboration
- Consortia building
- Revision / enhancement of the current funding mechanism
- A new funding mechanism

The linkage grid below (Table 23) shows that all these factors are needed to support the six strategic themes but also highlights where the workshop discussions indicated that gaps exist which require addressing to be effective.

It shows that the following factors are most linked to the success of the initiatives identified throughout this proposed 10-year E&M Strategy. In short, the Isle of Man Government should consider prioritising the development of internal resources and capabilities which can deliver:

- **Cross-departmental collaboration** – which features as a key requirement (green tick) across 25 out of the 45 initiatives identified in this proposed Strategy.
- **Business development and stakeholder engagement** – which features as a key requirement across 24 out of the 45 initiatives.
- **Data collection and monitoring** – which plays an important role across 20 of the 45 initiatives.

Marketing and communication and programme delivery skillsets are also commonly required to deliver many of the proposed Strategy's initiatives.

The development of new funding mechanisms, revision of current funding mechanisms and consortia building skills are split across fewer of the initiatives in Table 23 but are central to a select few - such as commitment to a SME support scheme (FUN6) and leveraging the Island Infrastructure Scheme (FDI7).

The following factors and skills feature across the fewest number of initiatives:

- Additional resources to deliver initiatives – only features as a key competency in 3 of the 45.
- Research skills – which are seen as key to 7 initiatives out of 45 and therefore may not need in-house deliver

Key:
✓ = The initiative is dependent on that resource / activity to be successfully enacted
O = The initiative may require that resource / activity to a certain degree
X = The initiative doesn't require that resource / activity to be completed

		Additional resource to deliver initiatives	Research / study (in-house or external)	Programme delivery partners	Data collection and monitoring	Marketing & communication	Business development / stakeholder engagement	Cross-departmental collaboration	Consortia building	Revise / enhance current funding mechanism	New funding mechanism
Innovation	Hire a dedicated Innovation Lead for the E&M Sector or Business Isle of Man	✓	X	X	X	X	X	X	X	X	X
	Ensure the IOM Chamber of Commerce's Advanced Engineering & Manufacturing Forum acts as a cross-sector, intra-island innovation exchange	X	X	X	O	O	✓	X	✓	X	✓
	Forge partnerships and networks with overseas innovation networks and communities (e.g. UKRI, Business Connect; regional / sector innovation clusters)	X	X	O	O	O	✓	X	✓	X	X
	Map out future innovation needs & assets the E&M industry require for key sub-sectors	X	✓	X	X	O	X	X	X	X	X
	Decide to leverage off-Island centres or invest in local assets (e.g. rent Catapult space vs invest in open-source assets on Island)	X	X	✓	O	O	X	X	✓	X	✓
	Foster closer ties with the UKIPO & host regular workshops for the E&M Sector	X	X	O	O	O	✓	X	X	X	✓
	Develop a hands-on IP advisory service that facilitates technology licensing opportunities that maximise value of IP generated on the Island	X	X	✓	O	O	X	X	X	X	✓
Foreign Direct Investment	Hire an Investment Officer for the E&M Sector or Business Isle of Man	✓	X	X	X	X	X	X	X	X	X
	Devise an engagement plan with established E&M businesses parent companies	X	O	X	X	✓	✓	✓	X	X	X
	Schedule recurring touch points with E&M parent companies to share technology / investment plans & how IOM can actively facilitate these plans	X	X	X	O	✓	✓	✓	X	X	X
	Define target markets, locations & company types (e.g. HNWI, luxury goods)	X	✓	X	X	X	X	X	X	X	X
	Actively target high priority companies, sub-sectors and markets to support new FDI (via targeted prospectuses, sector trade shows, IOM pavilions, online events)	X	X	X	O	✓	✓	✓	✓	X	X
	Establish a cross-department team to identify and fast track suitable E&M facilities	X	X	X	X	X	O	✓	X	X	X
	Leverage the Island Infrastructure Scheme to create internationally competitive, soft-landing facilities for FDI targets and domestic businesses	X	X	X	✓	✓	✓	✓	✓	✓	X

Key: ✓ = The initiative is dependent on that resource / activity to be successfully enacted O = The initiative may require that resource / activity to a certain degree X = The initiative doesn't require that resource / activity to be completed		Additional resource to deliver initiatives	Research / study (in-house or external)	Programme delivery partners	Data collection and monitoring	Marketing & communication	Business development / stakeholder engagement	Cross-departmental collaboration	Consortia building	Revise / enhance current funding mechanism	New funding mechanism
Sustainability	Establish an E&M Sector and company level assessment of Scope 1-3 emissions	X	✓	O	✓	O	X	✓	X	O	X
	Trial life cycle impact assessments of E&M Sector (e.g. water, waste, air, land)	X	✓	O	✓	O	X	✓	X	X	✓
	Mandated monitoring and disclosure of full environmental impact	X	X	O	✓	O	X	✓	X	X	✓
	Promote & encourage the E&M Sector to access the improved BESS funding	X	X	X	X	✓	X	✓	X	✓	X
	Enhance E&M sustainability by running an organisational engagement programme focused on wider sustainability improvements (e.g. Sustain 8)	X	X	✓	✓	✓	✓	✓	X	✓	O
	E&M value chain analysis to understand cleantech supply chain opportunities	X	✓	X	X	X	X	X	X	X	X
	Support to help E&M Sector pursue short term cleantech supply opportunities (e.g. renewables, EVs)	X	X	✓	✓	✓	✓	✓	✓	X	✓
	Review scheme efficacy & continue for long term opportunities (aero, CCS, H2)	X	X	✓	✓	✓	✓	✓	✓	X	✓
Productivity	Define productivity metrics at company & sector level that demonstrate economic value of E&M	X	O	X	✓	X	X	✓	X	X	X
	Collect data on baseline performance, set realistic productivity targets and create support programmes to achieve the targets	X	O	X	✓	X	X	✓	X	X	X
	Mentorship that identifies low-cost, low-risk methods to quickly implement digital technologies using affordable off-the-shelf kit	X	X	✓	✓	✓	✓	✓	X	X	✓
	Implement advanced digital technologies that enable the IOM to be regionally competitive in digital engineering	X	X	✓	✓	✓	✓	✓	✓	X	✓
	Develop a joint strategy with digital Isle of Man to identify future growth areas that cut across digital and E&M	X	O	X	X	X	X	✓	X	X	X
	Establish joint Digital & Business IOM programmes across identified opportunity (e.g. gamification, digital twins)	X	X	✓	✓	✓	✓	✓	✓	X	✓
	Co-funded resource to help businesses optimise current facilities (e.g. reconfiguration, relocation, rationalisation, automation)	X	X	X	✓	✓	✓	X	X	✓	X

Key: ✓ = The initiative is dependent on that resource / activity to be successfully enacted O = The initiative may require that resource / activity to a certain degree X = The initiative doesn't require that resource / activity to be completed		Additional resource to deliver initiatives	Research / study (in-house or external)	Programme delivery partners	Data collection and monitoring	Marketing & communication	Business development / stakeholder engagement	Cross-departmental collaboration	Consortia building	Revise / enhance current funding mechanism	New funding mechanism
Skills	Establish a sector-level skills matrix for the S, M & L term	X	✓	X	X	X	X	O	X	X	X
	Update matrix regularly to predict and respond to the skills need (at least on a 3-year rolling basis)	X	✓	X	X	X	X	O	X	X	X
	E&M Sector & UCM decide on the remit & scale of a skills centre of excellence (CoE)	X	X	X	X	X	✓	✓	X	X	X
	Establish a joint industry-academia CoE that's tailored to foster innovation, attract FDI, enhance sustainability & improve productivity	X	X	X	O	O	✓	✓	X	X	X
	Increase engagement with schools via ACE to increase uptake in E&M courses	X	X	X	O	✓	✓	✓	X	X	X
	Work closely with Locate Isle of Man on targeted campaigns that attract prospective E&M talent to the Island (e.g. young families, university placements, STEM returners)	X	X	O	O	✓	✓	✓	X	✓	O
	Targeted training and specialised company accreditation to improve competitiveness (e.g. an executive education programmes, ISO accreditation)	X	X	✓	O	O	O	✓	X	X	✓
Funding	A dedicated economist / third party resource to define, collate and analyse metrics across all six themes	✓	X	X	X	X	X	X	X	X	X
	Review the terms, accessibility and ease of which businesses can access IOM funding & support	X	O	X	✓	X	X	✓	X	✓	X
	Define and collect funding impact data for E&M to understand the ROI (e.g. GVA)	X	O	X	✓	X	X	✓	X	✓	X
	Streamlined funding process awarded based on modified KPIs and metrics that align with growing the E&M Sector and IOM economy	X	X	O	✓	O	✓	X	✓	✓	O
	Run a pilot SME support scheme, tailored for the E&M Sector and test uptake & efficacy	X	X	✓	✓	O	✓	X	X	✓	O
	Initial commitment to an SME support programme for the E&M Sector	X	X	✓	✓	O	✓	X	X	X	✓
	Commitment to a long-term, holistic SME support scheme for E&M Sector	X	X	✓	✓	O	✓	X	X	X	✓
	Stakeholder mapping & relationship building with UK Government and private investors	X	O	X	O	✓	✓	X	X	X	X
	Forge partnerships and funding programmes with private sector investors / UKRI to help bolster funding for established E&M companies and start ups	X	X	✓	✓	✓	✓	X	✓	X	✓

Table 23 - Current status of success factors required for various initiatives

Additional resources to deliver initiatives: The Funding, Innovation and FDI themes all include a budget for hiring dedicated resources to enact the respective initiatives. For example, in Innovation, it was deemed an Innovation Lead was needed, following the approach of UKRI where multiple sectors and technology areas have Innovation Leads. This also mirrors the approach of Digital Isle of Man where a dedicated Innovation Lead has "*a wide remit to champion Digital Innovation and push forward positive change*".[72] In an ideal scenario, dedicated resources for the E&M Sector would give Business Isle of Man the best chance to implement all the initiatives. Even hiring dedicated resources across the multiple sectors covered in Business Isle of Man's remit would be a positive step. Nevertheless, if hiring additional resource is difficult in the context of public sector reform in the Isle of Man, significant time would need to be carved out within the existing team to build out the agency's innovation, funding and FDI offering.

Research / studies (in-house or external): In most cases, the current Business Isle of Man team doesn't possess the internal capability or capacity to conduct strategic studies into innovation, FDI requirements and supply chain assessments. Therefore, in certain scenarios, the Agency or Department for Enterprise would need to hire specialist, external capabilities. Most of this activity occurs in the short term. This is because these studies form part of the evidence gathering process necessary to either explore the practicalities of pilots or streamline efforts on a limited range of sectors.

Programme delivery partners: Given the resource intensity, specialism and long duration of some of the initiatives, specialist delivery partners may be needed. For example, supporting E&M companies to use cutting-edge innovation assets (IN5) and a hands-on IP advisory service (IN7) will need sustained support from a trusted delivery partner. Similarly, building a holistic SME support programme (FUN5-7) will likely require multiple delivery partners to focus on market strategy, consumer engagement, IP management and manufacturing readiness.

Data collection and monitoring: All the themes identified in the proposed Strategy require Business Isle of Man to identify and define metrics to measure and monitor progress of the E&M Sector and government support. Collating this information would require Statistics Isle of Man and Business Isle of Man to review existing data points. Then, once gaps have been identified, annual business surveys would need to be modified to capture relevant data points. Encouragingly, the experience from the Phase One diagnostic assessments demonstrates an appetite for E&M businesses to share more data.

Marketing and communications: Many themes require the publication and promotion of various initiatives to maximise uptake and promote the Island to potential investors. A key cross-cutting challenge for all themes will be connecting with and persuading companies to apply for various business support programmes. Moreover, some of the initiatives also require establishing a user-friendly online portal that encourages a community to share either innovation challenges, GVA data, or supply chain opportunities. Finally, a key output of the pilots will be publishing case studies to promote new initiatives and may require articles, videos or interviews to convince other businesses to apply for support.

Business development / stakeholder engagement: Many of the themes require forging relationships and leveraging them to either increase innovation activity, encourage FDI or promote skills development. A key activity is promoting the Isle of Man internationally and forming partnerships with key stakeholders in the UK and further afield. The FDI theme for example requires connecting with decision makers in parent companies which will require international site visits to properly cultivate relationships. For Innovation and Funding, partnering with international funding departments and private investors is crucial to increase the funding pot and establish partnerships that can lead to future growth opportunities.

[72] Digital Isle of Man, Digital Team. Available here.

Cross-departmental collaboration: For the final E&M Strategy to be successfully enacted, Business Isle of Man requires buy-in from a range of IOM Government departments. FDI and Skills initiatives require close collaboration with Planning, Locate Isle of Man and DESC. Enacting the Sustainability initiatives would touch upon the remit of DEFA, most of the Productivity initiatives have a digital element which aligns with Digital Isle of Man's remit. This requires Business Isle of Man to discuss potential implications of pursuing these initiatives with other departments and exploring jointly-funded elements or accessing different department funds for certain projects.

Consortia building: A consistent message that runs through this Strategic Review is promoting intra-island collaboration. Whether that be through innovation projects between businesses, or different departments and businesses working together to grow the IOM Economy. A key activity Business Isle of Man can undertake to support growth is to facilitate partnerships between domestic and international companies. For example, the innovation exchange (IN2) helps build partnerships for innovation projects. Similarly, to enhance the quality of bids for new manufacturing facilities (FDI7), helping put consortia partnerships together and provide feedback will help drive up the quality of bids and increase the likelihood of their success.

Revise / enhance current funding mechanism: Many of the initiatives within the proposed 10-year Strategy are refinements or enhancements of existing policy mechanisms. The changes usually involve providing greater funding for an initiative or expanding the scope and remit to be more ambitious. For example, the development of a sustainable manufacturing programme is a scope and funding extension of the Business Emissions Savings Scheme. The implication of this is that it may be easier to implement initiatives where internal capabilities already exist to administer a similar scheme.

New funding mechanism: Some of the initiatives proposed suggest a new funding mechanism that represents a departure from what the Isle of Man Department for Enterprise currently provides. While the Financial Assistance Scheme has some flexibility in what it can fund, it does not support all positive actions manufacturers can take to promote future growth. Many of the Productivity, Sustainability and Innovation initiatives have new, dedicated, funding mechanisms for areas that fall outside of the scope of FAS, which can also be structured differently to overcome some of the barriers currently faced by manufacturers seeking to access funding.

Immediate steps to action the proposed Strategy

Below are the immediate next steps Business Isle of Man and industry can take in 2025 to begin developing the final Strategy in response to this Strategic Review.

Immediate Actions	Business Isle of Man	E&M Industry	Treasury	Digital Isle of Man	DESC
Formally agree the final 10-year Strategy for the sector as well as each of the six strategic roadmaps.	R, A	R	R	I	I
Initiate a constructive dialogue with other departments to inform final spending and resource requirements.	R	I	A	C	C
Evaluate and then adopt the 'pilot' initiatives proposed.	R, A	C	R	I	I
Strategically allocate resources and funding to manage selected initiatives.	R, A	I	I	C	C
Build further upon the company-level data (e.g. GVA & GVA/employee) obtained in Phase One so that baselines and targets can be set and tracked to measure impact for each initiative going forwards.	R, A	R	R	C	C
Create a cross-departmental task force to look at current metrics for business and sector performance.	R, A	R	R	C	C
Invigorate industry networks like the IOM Chamber of Commerce's Advanced Engineering & Manufacturing Forum and ACE Forum to begin working on initiating the final Strategy.	A	R	I	I	I
Organise a structured visit to the UK to discuss approaches to funding and collaboration opportunities.	R, A	R	I	C	C
Facilitate active engagement between UCM and the E&M Sector to drive a decision on the future of E&M skills provision.	R	R	I	I	R, A
Periodically review the roadmap in 12 months and review the portfolio of ongoing and potential new initiatives that emerge as trends and drivers evolve over time.	R, A	R	C	C	C

R = Responsible
The responsible organisation must complete the task/project within agreed-upon parameters. The responsibility is delegated by the accountable organisation.

A = Accountable
The accountable organisation ensures that all the responsible members complete the task – given the parameters.

C = Considered
Stakeholders who need to give input before the work can be completed and signed off. These people are active participants and may be subject matter experts.

I = Informed
The informed party is typically a stakeholder who wants info about the project. Informing these stakeholders promotes internal transparency, team alignment, and project delivery.

1.1 Formally agree the final 10-year Strategy for the sector as well as each of the six strategic roadmaps

As this proposed Strategy touches upon multiple departments, buy-in from multiple stakeholders will be key to gaining consensus on the final Strategy as well as for each theme. While precise spending implications will be detailed in the implementation plans, it is important that stakeholders agree with the direction and core messages of the Strategic Review.

1.2 Initiate a constructive dialogue with other departments to inform final spending and resource requirements

Due to the multi-thematic and cross-sector impact of the initiatives, early engagement with other departments should occur during the implementation plan stage. This is true for agencies and departments including Digital Isle of Man, Locate Isle of Man, Department of Education, Sport & Culture (DESC), Department of Environment, Food and Agriculture (DEFA) as well as any other resourced departments/sectors envisaged to be impacted by a final Strategy. The ideal outcome would be to identify crossovers in strategies and share resources to maximise efficiency and increase the chances of success.

1.3 Evaluate and then adopt the 'pilot' initiatives proposed

Based on discussions with other departments, the Opportunity-Feasibility criteria developed during Phase One should be used to evaluate the portfolio of recommended initiatives. Based on the outcome of this, the precise funding envelope can be taken forward as part of a detailed implementation plan. Creating successful short-term initiatives will act as a launch pad to unlock further investments as ambition in the proposed Strategy ramps up longer term.

1.4 Strategically allocate resources and funding to manage selected initiatives

Depending on the funding envelope, a decision should be made on whether additional resource should be hired to pursue certain initiatives. The ideal scenario would be dedicated resource for the Innovation, FDI and Funding initiatives given the breadth of new activities they entail.

1.5 Build further upon the company-level data (e.g. GVA & GVA/employee) obtained in Phase One so that baselines and targets can be set and tracked to measure impact for each initiative going forwards

This is a critical step to developing a consistent and reliable data resource from which baselines, targets and the tracking of progress / performance can be undertaken. These figures should be obtained from any company seeking government support in the future. The envisaged impact that this support will bring to the business should also be evaluated. These can be combined with the other performance metrics highlighted across the six themes.

1.6 Create a cross-departmental task force to look at current metrics for business and sector performance

The metrics suggested for measuring performance across the six themes are not only relevant for the E&M Sector. During the Phase One and Phase Two review, it was found that other sectors do not collect data on innovation, productivity, exports etc. To maximise the success and reduce the burden on Business Isle of Man, a cross-department taskforce should be created to identify, define, measure and monitor progress at different sector levels. Not only does this enable direct comparisons between sectors but it shares the resource and risk associated with this activity. Relevant departments included in this

taskforce should be the DfE, The Treasury, Statistics Isle of Man, and potentially DOI and DEFA.

1.7 Invigorate industry networks like the IOM Chamber of Commerce's Advanced Engineering & Manufacturing Forum and ACE Forum to begin working on initiating the final Strategy

The long-term success of any final strategy and health of the E&M Sector should be supported by a wider ecosystem of organisations which can bring forward the skills, talent, and innovation needed to ensure growth. Industry networks such as the IOM Chamber of Commerce's Advanced Engineering & Manufacturing Forum and ACE Forum can influence and inspire the next generation of engineers on the Island. The sector has a common interest in growing the pool of young people interested in E&M careers.

1.8 Organise a structured visit to the UK to discuss approaches to funding and collaboration opportunities

A consistent theme that emerged in the development of the Phase One report, was the Island's lack of institutions to generate and disseminate knowledge. A structured visit to the UK to build strategic partnerships with British innovation networks would help address this challenge and could lead to FDI opportunities. In addition, alignment of funding terms and conditions with close competitor regions such as the UK, will encourage a greater number of SMEs to engage with the IOM offering. A trip to the UK to visit Innovate UK and other relevant organisations can help foster strategic partnerships and provide the BIOM team with an understanding of funding offers in competitor regions.

1.9 Facilitate active engagement between UCM and the E&M Sector to drive a decision on the future of E&M skills provision

A critical decision is imminent on the future curriculum of E&M courses and skills provision in the Isle of Man. Through our engagement with industry, there is an appreciation of UCM's difficulties and a willingness to help make skills provision work in the IOM. Business Isle of Man should actively facilitate a dialogue between industry and UCM to ensure any future skills provision works for both employers and students.

1.10 Periodically review the roadmap in 12 months and review the portfolio of ongoing and potential new initiatives that emerge as trends and drivers evolve over time

A periodic review of the criteria, the scaling statements, the scoring and the 'hurdle rates' for selection should be reviewed periodically in line with any significant impact that future changes in external trends and drivers may have upon the strategic vision. A natural review point would be towards the end of 2026 when the short-term activities are nearing completion, and the early impact and uptake of initiatives can be assessed.

Appendix W – Balanced scorecard approach and example

Three projects and their respective scorings using a radar plot. These final scorings would be a derived from several company level metrics defined in each of the themes (i.e. total innovation spending in Innovation or % reduction in energy use for Sustainability). In this example, Project 1 scores lowly across most metrics whereas Project 2 scores highly for FDI and Skills impact whereas Project 3 scores very well for Innovation and Sustainability.

Utilising dummy numbers to simulate an example evaluation of three different E&M businesses and project opportunities, Figure 26 below shows the results of this example scoring exercise which is also summarised in Table 24. The three illustrative projects include part-financing an update to a large domestic firm's manufacturing facility (Project 1), supporting a small domestic firm's investment in new machinery (Project 2), and encouraging external FDI investment from a medium sized firm looking to establish a new site in the Isle of Man (Project 3).

Each example project has an area of relative strength and weakness. Updating the large domestic firm's manufacturing facility enables a better performance on the sustainability metrics (e.g. lowering energy consumption) and is tied with additional R&D spend. Conversely the project only leads to three additional jobs being supported. Project 3 – the development of a new site for a medium sized FDI firm – supports a greater number of jobs but scores poorly on sustainability and innovation metrics.

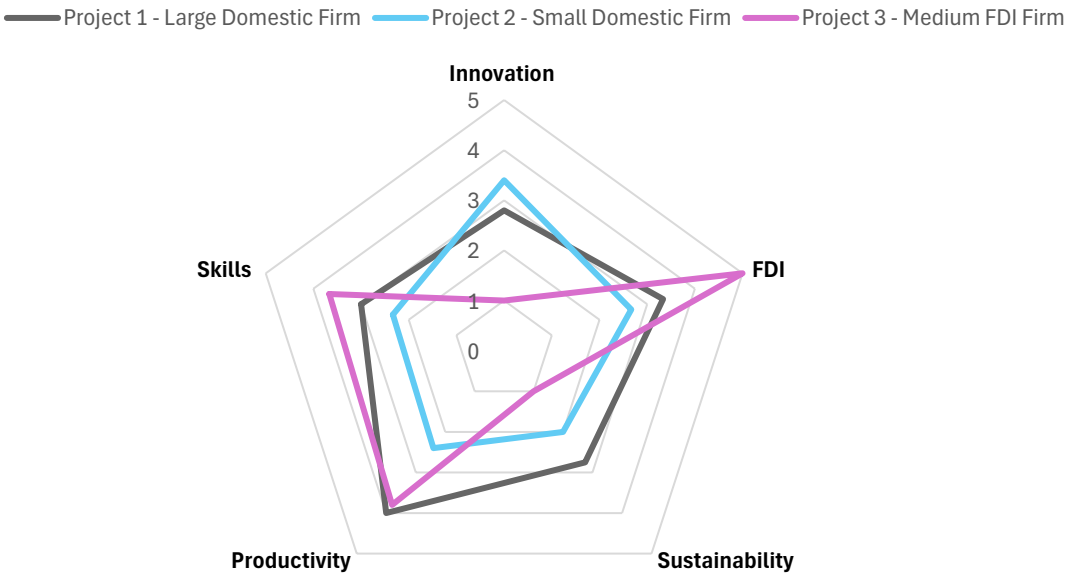


Figure 26 – radar plot populated with dummy data and example project specifications

The scorecard approach provides an objective decision-making framework and tool to enable the comparison and selection of projects which have very different characteristics. As such it enables a balanced assessment. Nonetheless, there is scope to tweak the weighting applied to each area score.

Table 24 below details the data used to complete the evaluation and scorecard. A set of representative metrics have been developed, and the example projects are scored against each metric based on expected performance. An average score is derived for each evaluation theme (e.g. Innovation). These 6 scores are then averaged to develop a final single score for the project.

As can be seen in this illustrative example which has been developed with dummy data, whilst Project 3 supports a greater number of jobs, it's poor performance on innovation and sustainability metrics means that it has a lower final score than Project 1.

		Large Domestic Firm	Small Domestic Firm	Medium FDI Firm	Large Domestic Firm	Small Domestic Firm	Medium FDI Firm
		Data			**Project scorecard**		
Key Info							
	Revenue	£4,000,000	£300,000	£1,500,000			
	Employee Count	200	10	40			
	Type of investment	FDI Internal	N/A	FDI External			
	Investment Source	US	Isle of Man	UK			
	Investment Type	Updating Faciltiy	New Machinery	New Site and Machinery			
	New Business	No	No	Yes			
	Current profit margin	6%	-1%	8%			
Innovation	Private Project R&D spend	£80,000	£24,000	£0	4.0	3.0	1.0
	R&D spend % total annual revenue	2%	8%	0%	2.0	5.0	1.0
	Additional R&D employment from project	3	1	0	3.0	2.0	1.0
	New R&D employees % of total workforce	1.5%	10%	0.0%	2.0	5.0	1.0
	Number of patents created	3	1	0	3.0	2.0	1.0
	Average				**2.8**	**3.4**	**1.0**
FDI	Level of investment	£500,000	£85,000	£750,000	4.0	2.0	5.0
	Total investment % of revenue	13%	28%	50%	3.0	4.0	5.0
	Potential Spillover (1-5 rating)	3	2	5	3.0	2.0	5.0
	Average				**3.3**	**2.7**	**5.0**
Sustainability	Energy consumption	-5%	0%	100%	3.0	2.0	1.0
	Waste produced	-10%	0%	100%	3.0	2.0	1.0
	Pollutant emissions produced	-10%	0%	100%	3.0	2.0	1.0
	Water consumed	0%	0%	100%	2.0	2.0	1.0
	Average				**2.8**	**2.0**	**1.0**
Productivity	Expected GVA improvement	£191,730	£87,150	£536,844	3.0	1.0	5.0
	Increased revenue	£400,000	£130,000	£910,000	3.0	1.0	5.0
	GVA per worker	£63,910	£87,150	£48,804	4.0	5.0	2.0
	Expected profit margin on funded project	53%	40%	11%	5.0	4.0	2.0
	Use of digital technologies on project	High	Low	High	5.0	1.0	5.0
	Average				**4.0**	**2.4**	**3.8**
Skills	New jobs created	3	1	11	2.0	1.0	4.0
	Average salary of new jobs	£55,000	£75,000	£42,000	4.0	5.0	3.0
	Total taxable income	£121,500	£60,500	£302,500	3.0	1.0	4.0
	Average				**3.0**	**2.3**	**3.7**
Total	**Average**				**3.18**	**2.56**	**2.89**

Table 15 - data used to generate the example scorecard and project comparison

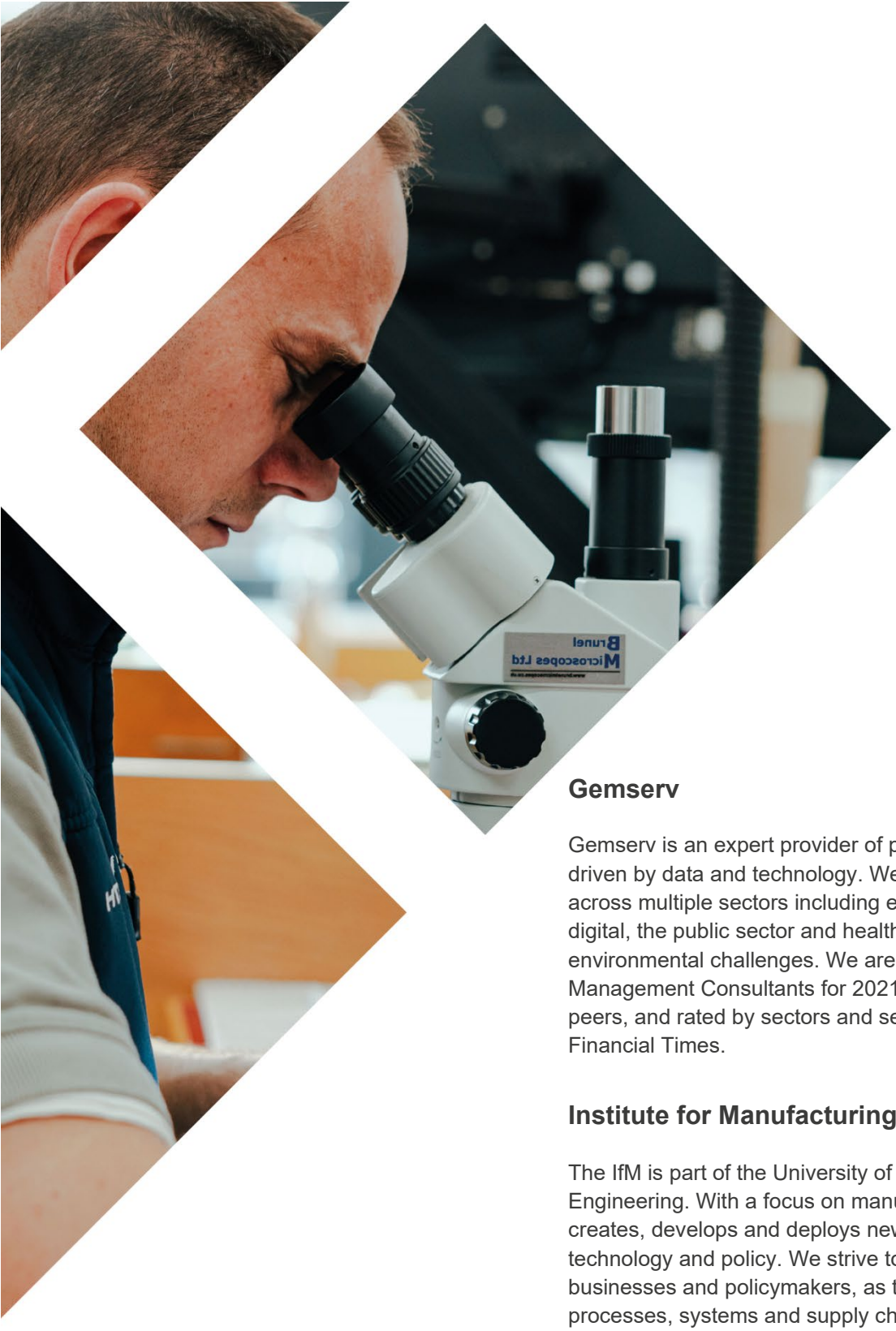
Appendix X – Spending assumptions

Initiative	R&D Spend		Capital Spend		DfE Internal
	DfE	Private	DfE	Private	
IN1: Hire an Innovation Lead to execute the initiatives below	N/A	N/A	N/A	N/A	100%
IN2: Ensure the IOM Chamber of Commerce's Advanced Engineering & Manufacturing Forum acts as a cross sector, intra-island innovation exchange	50%	50%	N/A	N/A	N/A
IN3: Forge strategic partnerships with overseas innovation networks and communities (e.g. UKRI Business Connect; regional / sector innovation clusters)	N/A	N/A	N/A	N/A	100%
IN4: Map out future innovation needs & assets the E&M industry require for key sub-sectors	N/A	N/A	N/A	N/A	100%
IN5: Decide to leverage off-Island centres or invest in local assets (e.g. rent Catapult space vs invest in open-source assets on Island)	50%	50%	N/A	N/A	N/A
IN6: Foster closer ties with the UKIPO & host regular workshops for the E&M Sector	50%	50%	N/A	N/A	N/A
IN7: Develop a hands-on IP advisory service that facilitates technology licensing opportunities that maximise value of IP generated on the Island	50%	50%	N/A	N/A	N/A
FDI1: Hire an Investment Officer for the E&M Sector/ Business Isle of Man. Or prioritise existing resources to FDI initiatives	N/A	N/A	N/A	N/A	100%
FDI2: Devise an engagement plan with established E&M businesses' parent companies	N/A	N/A	N/A	N/A	100%
FDI3: Schedule recurring touch points with E&M parent companies to share technology / investment plans & how IOM can actively facilitate these plans	N/A	N/A	N/A	N/A	100%
FDI4: Define target markets, locations & company types (e.g. HNWI, luxury goods)	N/A	N/A	N/A	N/A	100%

FDI5: Actively target high priority companies, sub-sectors and markets to support new FDI (via targeted prospectuses, sector trade shows, IOM pavilions, online events)		N/A	N/A	N/A	N/A	100%
FDI6: Establish a cross-department team to identify and fast track suitable E&M facilities		N/A	N/A	N/A	N/A	N/A
FDI7: Leverage the Island Infrastructure Scheme to create internationally competitive, soft-landing facilities for FDI targets and domestic businesses		N/A	N/A	25%	75%	0%
SUS1: Establish an E&M Sector and company level assessment of Scope 1-3 emissions		50%	50%	N/A	N/A	N/A
SUS2: Trial life cycle impact assessments of E&M Sector (e.g. water, waste, air, land)		50%	50%	N/A	N/A	N/A
SUS3: Mandated monitoring and disclosure of full environmental impact		N/A	N/A	N/A	N/A	N/A
SUS4: Promote & encourage the E&M Sector to access the improved BESS funding		N/A	N/A	N/A	N/A	100%
SUS5: Enhance E&M sustainability by running an organisational engagement programme focused on wider sustainability improvements (e.g. Sustain 8)		50%	50%	N/A	N/A	N/A
SUS6: E&M value chain analysis to understand cleantech supply chain opps		N/A	N/A	N/A	N/A	100%
SUS7: Support E&M Sector pursue short term cleantech supply opps (e.g. renewables, EVs)	Min	50%	50%	N/A	N/A	N/A
	Max	50%	50%	25%	75%	N/A
SUS1: Establish an E&M Sector and company level assessment of Scope 1-3 emissions	Min	50%	50%	N/A	N/A	N/A
	Max	50%	50%	25%	75%	N/A
PRO1: Define productivity metrics at company & sector level that demonstrate economic value of E&M		N/A	N/A	N/A	N/A	N/A

PRO2: Collect data on baseline performance, set realistic productivity targets and create support programmes to achieve the targets	N/A	N/A	N/A	N/A	N/A
PRO3: Mentorship that identifies low-cost, low-risk methods to quickly implement digital technologies using affordable off-the-shelf kit	50%	50%	N/A	N/A	N/A
PRO4: Implement advanced digital technologies that enable the IOM to be regionally competitive in digital engineering	50%	50%	N/A	N/A	N/A
PRO5: Develop a joint strategy with Digital Isle of Man to identify future growth areas that cut across digital and E&M	N/A	N/A	N/A	N/A	100%
PRO6: Establish joint Digital & Business IOM programmes across identified opportunities (e.g. gamification, digital twins)	50%	50%	N/A	N/A	N/A
PRO7: Co-funded resource to help businesses optimise current facilities (e.g. reconfiguration, relocation, rationalisation, automation)	N/A	N/A	25%	75%	N/A
SKI1: Establish a sector level skills matrix for the short, medium, and long term	N/A	N/A	N/A	N/A	100%
SKI2: Update matrix regularly to predict and respond to the skills need (at least every 3 years)	N/A	N/A	N/A	N/A	100%
SKI3: E&M Sector & UCM decide on the remit & scale of a skills centre of excellence (CoE)	N/A	N/A	N/A	N/A	N/A
SKI4: Establish a joint industry-academia CoE that's tailored to foster innovation, attract FDI, enhance sustainability & improve productivity	50%	50%	N/A	N/A	N/A
SKI5: Increase engagement with schools via ACE to increase uptake in E&M courses	50%	50%	N/A	N/A	N/A
SKI6: Work closely with Locate Isle of Man on targeted campaigns that attract E&M talent to the Island (e.g. young families, university placements, STEM returners)	N/A	N/A	N/A	N/A	100%
SKI7: Targeted training and specialised company accreditations to improve competitiveness (e.g. executive education programmes, ISO accreditations)	50%	50%	N/A	N/A	N/A

FUN1: Salaried economist to define, collect and analyse economic data	N/A	N/A	N/A	N/A	100%
FUN2: Review the terms, accessibility & ease of which businesses access IOM funding & support	N/A	N/A	N/A	N/A	N/A
FUN3: Define & collect funding impact data to understand the ROI (e.g. GVA) for E&M Sector	N/A	N/A	N/A	N/A	N/A
FUN4: Streamlined funding process awarded based on modified KPIs & metrics that align with growing the E&M Sector + IOM economy.	N/A	N/A	N/A	N/A	N/A
FUN5: Run pilot SME support scheme, tailored for E&M Sector. Test uptake & efficacy	50%	50%	N/A	N/A	N/A
FUN6: Initial commitment to an SME support programme for the E&M Sector	50%	50%	N/A	N/A	N/A
FUN7: Commitment to a long term, holistic SME support scheme for E&M Sector	50%	50%	N/A	N/A	N/A
FUN8: Stakeholder mapping & relationship building with UK Government and private investors	N/A	N/A	N/A	N/A	100%
FUN9: Forge partnerships and funding programmes with private sector investors / UKRI to help bolster funding for established E&M companies and start ups	50%	50%	N/A	N/A	N/A



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