HIGH VALUE MANUFACTURING PROPERTY NEEDS IN SCOTLAND

MARCH 2023

Ryden

EXECUTIVE SUMMARY

PROJECT BRIEF

Ryden was appointed by Scottish Enterprise (SE) and its partner agencies, Highlands and Islands Enterprise (HIE) and South of Scotland Enterprise (SOSE), to undertake analysis into **market failure associated with the provision of industrial land and property to support the growth of high value manufacturing in Scotland**.

STRATEGY

The Scottish Government's suite of economic strategies and plans demonstrates the size of the high value manufacturing opportunity available to Scotland, as the country builds on its strengths in sectors such as energy, healthtech, space, food and drink innovation, and moves to take advantage of global trends in relation to net zero, digital, health and wellbeing and advanced manufacturing.

The new National Planning Framework 4 recognises the importance of productive places and identifies national developments including Clyde Mission and Aberdeen Harbour which have the potential to make a national contribution.

Regional economic strategies identify competitive advantages across a range sectors with manufacturing needs including renewable energy, low carbon, digital automation, life sciences and space. City Region and Growth Deal projects are often a vital part of facilitating those opportunities in specific locations. These strategies and Deals now cover all of Scotland.

National sectoral strategies including those for life sciences, space, food & drink, offshore wind energy, the hydrogen economy, battery production, transport decarbonisation, green heat, and defence and security all signal manufacturing potential.

High value manufacturing is thus an intrinsic thread which runs through many of Scotland's areas of economic opportunity. The provision of suitable property and sites will be a key enabler (or inhibitor) of Scotland's ability to respond to these opportunities and will include the need for bespoke (purpose-built) accommodation for some sectors, e.g. offshore wind energy and life sciences, as well as more general high value manufacturing land and property supply.

ECONOMY

Scotland's manufacturing sector turned over £35.1 billion in 2019, contributed £12.8 billion Gross Value Added (GVA) to the Scottish economy and employed around 169,000 people. This accounts for almost 15% of Scottish turnover, nearly 13% of GVA and a little over 9% of employment. Manufacturing also accounts for 47% of research and development expenditure in Scotland. The relative scale of manufacturing (in terms of sector share of GVA) has however declined from 15.6% in 2009 (and much higher in the 20th Century).

In 2020, there were almost 19,900 manufacturing businesses in Scotland in 23 sub-sectors. Four sub-sectors contribute almost half of the total value added: manufacture of beverages (primarily spirits); manufacture of food products; repair or installation of machinery and equipment; and fabricated metal products. In terms of employment, manufacturing of food products is the largest sub-sector. There is considerable variation in GVA/head (an indicator of productivity) with pharmaceuticals the most productive and manufacture of textiles and basic metals the least productive per head.

Geographically, the greatest concentration of manufacturing activity in terms of the number of business units is in the West of Scotland. Almost a third (31%) of manufacturing business units are located in the Glasgow City Region Deal area. At local authority level, particular concentrations of activity exist in Glasgow City, Fife, Aberdeenshire and South Lanarkshire. Employment in manufacturing is also concentrated in these areas.

Manufacturing has developed over the years with the distinction between manufacturing and services becoming less clear. Increasingly, high-value producers produce goods and components as well as offering installation, repair and servicing alongside. Related to this, economic statistics consider different sectors and sub-sectors of the economy, which are not necessarily the same as an industry, which can be comprised of several sub-sectors.

PROPERTY MARKET

Scotland's total **stock** of industrial properties - both occupied and vacant - of 15,000 sq.ft. or larger is 130 million sq.ft. in 2,400 properties. Glasgow City Region has 38% of properties, followed by Edinburgh & South East Scotland City Region with 20% and Aberdeen City Region Deal with 16%.

While a significant proportion of the stock has been built since 2000, the large majority is 20 to 50 years old. While age is not an absolute guide, older industrial properties are more likely to exhibit physical, functional or environmental obsolescence. Property ratings also point to a very basic quality of building across the country, other than those purpose-built for occupiers such as Aggrekko (Dumbarton) or Leonardo (Edinburgh).

Of these 2,400 industrial buildings, 151 (6%) are on the market as **supply** available to occupiers. The floorspace vacancy rate is a very low 3.2%. Availability including occupied buildings and new developments is 4.9%, having fallen from 8.8% in 2012. The quality of much of the supply in terms of property age and rating is very similar to the underlying stock i.e. it is mainly basic, older buildings. Additionally, 50% of the 151 properties on the market have a poor energy performance rating (EPC rating F or G), or a rating is not available. The mean asking rent is £5.98 per sq.ft. which again reflects basic premises. The quality of the supply (and stock is a concern for high value manufacturers who may typically seek modern, productive, environmentally efficient premises.

In terms of land to support new development, the study researched larger **sites** with 10-20 acres (5-10 acres in the HIE and SOSE territories) which are immediately available to manufacturers, identifying 26 serviced, marketed sites. The supply of sites in the core Central Belt particularly around Glasgow seems relatively low in comparison with the share of the industrial and manufacturing property market in that location. Only the Advanced Manufacturing Innovation District (AMIDS, Renfrew) is manufacturing-led while Arrol Gibb Innovation Campus (Rosyth) targets the sector. A large, location-sensitive manufacturer may have few site options. There is some public sector ownership in the forms of enterprise agencies and local authorities, otherwise the locations are in private landownership.

Analysis of **speculative development** of new industrial property indicates that developers tend to favour terraces of smaller units, but that a number of new developments underway for example in Glasgow, Cambuslang, Motherwell and Gartcosh could provide larger modern, high specification premises. Proposals not yet under construction indicate that the market was expanding geographically too. However, the development market has recently experienced sharply rising costs in tandem with falling capital values due to higher interest rates, and now faces a period of more subdued activity. The substantially increased levels of rents to support new speculative development will not be affordable for some occupiers, potentially including manufacturers. One example of speculative development for a high value manufacturing sector was identified: Pioneer Group's new 20,000 sq.ft. Moubray laboratory facility at Edinburgh Technopole.

These challenging development economics and the large portfolio of older buildings brings greater focus onto refurbishment of existing buildings (which may benefit embedded carbon and existing locations too). In prime locations where demand and rents can justify the investment, such refurbishment is well underway.

Economic development agencies may also undertake speculative development. In recent years this has tended to be highly focused on regeneration areas or target sectors. In Scotland:

- SE worked with East Ayrshire Council and Clyde Gateway URC 2017-19 to deliver pilot projects for lease to manufacturers and is now working on proposals for 4 further locations across Central Scotland.

- Michelin Scotland Innovation Parc reuses an existing factory via a public-private partnership to accommodate innovation, manufacturing and skills development focused on sustainable mobility and decarbonisation.

- The Advanced Manufacturing Innovation District Scotland (AMIDS) in Renfrewshire aims to attract advanced manufacturing companies and R&D. It is home to existing high value manufacturers and the Netherton campus which has the National Manufacturing Institute Scotland (NMIS) and the Medicines Manufacturing Innovation Centre and the potential to develop up to 1.6m sqft of commercial floorspace.

A brief search of other, competing locations identified numerous innovation centres, but also notably in some instances investment into medium to large units to secure or attract follow-on investment:

- Two new technology buildings being marketed by the Irish Development Agency (IDA) are detached buildings with high eaves production / warehousing space, high office content, strong environmental credentials and expansion room. They are part of a 150 million Euro programme of building which commenced in 2015.

- The North East of England has a strong economic development focus on manufacturing, including the International Advanced Manufacturing Park (IAMP iampnortheast.co.uk) in Sunderland, TeesAMP in Middlesborough, NetPark in Sedgefield and a Commercial Property Investment Fund about to be launched.

Turning to demand, total **take-up** (sales and lettings) of industrial units >/= 15,000 sq.ft. since January 2017 in Scotland is 24.18 million sq.ft. in 551 transactions. Take-up is slightly more modern than supply but still dominated by older buildings. The mean achieved rent of £5.11 per sq.ft. and the average sales rate is £34 per sq.ft. That may highlight a large gap between the financial commitments to take an older second-hand building, and what would be required to secure a new, state-of-the-art high value manufacturing building.

Twenty-three percent of known industrial take-up is by manufacturers or c20 deals per annum. Concentrations of manufacturing take-up are evident firstly in West and Central Scotland, and secondly around Aberdeen (due to the energy industry). Manufacturers who have recently taken premises include, for example, Livingston Precision Engineering (Livingston), Aerorepair (Glasgow), Metrol Technology Ltd (Aberdeen), Kayfoam Ltd (Glasgow), CP Electric Ltd (Fusebox) (Kilmarnock), Valneva (Livingston), Skyrora (Cumbernauld), Impact Laboratories Ltd (Livingston), Mallatite (Glasgow), Vascutek (Renfrew) and Honeywell International (Edinburgh).

High value manufacturers typically require flexible, digitally connected, environmentally efficient properties. Some deliver their own, **bespoke** (purpose-built) property solutions, in partnership with a developer or contractor. These can be among the larger, more specialist and in some cases more location-sensitive manufacturing investments. Recent developments include: Coherent (West of Scotland Science Park), Danfoss Power Solutions (Midlothian), Alpha Solway (Dumfries) and Edrington Macallan Distillery (Speyside); while current projects include Mangata Networks (Prestwick), Guala Closures (Gartcosh), Mitsubishi Electric Air Conditioning Systems Europe (Livingston, extension), Board24 (Eurocentral), Saica Pack (Livingston), Cullen Eco-Friendly Packaging (Glasgow) and Cademuir Engineering (Galashiels).

Economic development agencies record 54 **occupier requirements** for high value manufacturing land and property >/= 15,000 sq.ft. Enquiries from the energy sector are highest in number, followed by technology and engineering then life sciences. Demand from high value manufacturing sectors is thus notable, but demand for medium to larger premises from any one sub-sector is not deep, although economic projections and sector strategies noted above and analysed below signal growing potential demand.

FUNDING GAPS

A range of funding sources is potentially available for high value manufacturing property, sites and infrastructure. Whilst there is support for the sector and R&D in particular, there is no funding source which focuses purely on the provision of sites and property. Where this has been enabled it has tended to be on the back of City/Growth Deal programmes, TIFs and specific Joint Ventures although even in these circumstances a ‘cocktail’ of funding sources is often required. Where local authorities have access to funds such as the Place Based Investment Fund or the Regeneration Capital Grant Fund the need for the provision of sites and properties needs to be balanced against all other eligible needs within the area, which often means it is not a priority.

OPTIONS

This report demonstrates that **property development and support will be required to meet the needs of Scotland's high value manufacturing sector**. The market may continue to provide a limited supply of secondhand buildings, as well as some shell buildings for general market consumption in prime locations that manufacturers can compete for (at significantly increased rents). The market may also provide design-and-build solutions for established manufacturers able to make the required long term investment. Those instances aside, **the unsupported property development and development finance markets are unlikely to meet the growing demands of high value manufacturers for productive modern properties**.

The **heat map**[1] provides an initial guide to sub-national market potential using City and Growth Deal areas. Darker orange indicating stronger markets. The Glasgow City Region has one third of Scotland's manufacturing businesses but around half of the country's manufacturing property market activity and a tight market for supply. Ayrshire also stands out, as do Edinburgh and South East Scotland, and Aberdeen (the latter though without market pressure due to a high supply units). Borderlands and Falkirk are also notable. While the remaining Deal regions show less market scale or activity, there is specific sectoral potential in local areas – particularly in renewable energy such as offshore wind, bespoke production sites and for smaller supply chain buildings.

MANUFACTURING PROPERTY HEAT MAP (CITY AND GROWTH DEAL REGIONS)

Deal Region	Business units	Policy and strategy	Take-up v. supply	Manufacturing property take-up
Aberdeen				
Argyll & Bute				
Ayrshire				
Borderlands				
Edinburgh & SE Scotland				
Falkirk				
Glasgow City Region				
Inverness & Highland				
Islands				
Moray				
Stirling & Clacks.				
Tay Cities				

In order to understand what **interventions** may be required to overcome property market constraints, it is necessary to project future demand (see table). Baseline demand is the existing position demonstrated in this report; projected demand is based upon national programme employment forecasts (noting that consultations identified people and skills as the principal constraint on manufacturing growth) as a proxy for both those sectors and other high value manufacturing sectors with growth potential.

FUTURE DEMAND SCENARIOS (ANNUAL)

Market Scenario	Baseline (2ndhand)	Baseline (bespoke)	Refurbishment	New speculative	New bespoke
High	20 units	2 units	750,000 sq.ft.	190,000 sq.ft.	565,000 sq.ft.
Medium	20 units	2 units	500,000 sq.ft.	125,000 sq.ft.	380,000 sq.ft.
Low	20 units	2 units	250,000 sq.ft.	65,000 sq.ft.	190,000 sq.ft.

Figures are rounded to the nearest 5,000 sq.ft.
The baseline demand is for all manufacturing occupiers not just high value manufacturers

[1] See full report for table details and key, and Appendix 1 for regional data analyses.

The scenarios show the continuing baseline requirement for manufacturing properties, plus growth scenarios of:

- 250,000 sq.ft. – 750,000 sq.ft. of refurbishment annually. In situations and markets where this is not financially viable, then intervention to support landlords and/or occupiers could be signalled.

- 65,000 – 190,000 sq.ft. of speculative new development annually. While there is no exact standard size for a speculative manufacturing units, indicatively this could comprise say 2 to 6 units each year.

- 190,000 – 565,000 sq.ft. bespoke (purpose built) development. These tend to be larger buildings for major producers or tier 1 supply chain.

A number of **options** are available for market interventions to ensure that the land and property needs of high value manufacturers can be met. The options are not all mutually exclusive: complementary or mixed options could be pursued. Options are scored (see table) [2] using the criteria: market demand fit (out of 10 points); sector focus (/10); economic impact (/5); costs, value for money and leverage (/5); timing (/5); design/ specification control (/5); deliverability (/5); and risk (/5). The maximum potential score for an option is 50 points.

MARKET INVERVENTION OPTIONS

Option	Description	Total score/ 50 points
0 Do Minimum	Reactive to occupier needs and/or developer proposals	**26**
1 Selective site servicing	Full servicing of key manufacturing sites	**25**
2 Selective speculative development	SE/ HIE/ SOSE led speculative development at key manufacturing sites	**35**
3 Competitive property fund	Calls-based fund for advance developer and bespoke occupier / developer support	**39**
4 Bespoke support	Package of support to manufacturing occupiers	**33**
5 National development programme	Scotland-wide industrial development programme targeted at manufacturing	**28**
6 National refurbishment programme	Provide support nationally for public or private landlord refurbishment	**32**

The **preferred option is Option 3 – competitive property fund**. A calls-based competitive property fund operated by SE, HIE and SOSE would ask developers to bring forward proposals for speculative development proposals and selective site servicing to enter into a restrictive ('ring fencing') agreement for a period of time for high value manufacturers. This offers a high likelihood that the locations, buildings and target/potential demand would provide a good fit with the sector. The ability to control costs and risks to deliver buildings to specification and on time is good as it would be subject to agreement. Potential weaknesses to address would be market awareness and appetite, and site ownership to accommodate development; these signal strong partnership with the wider public sector. Without access to developable land and a pipeline of opportunities there could be a risk of under-subscription.

[2] Full scores, rationales and discussions are contained in Section 7 of the main report

Wider considerations to support high value manufacturing through land and property are:

- Explicit consideration of manufacturing needs within the next iterations of growth deal projects, informed by regional economic strategies, in order to prioritise full site servicing and follow-on development;

- The potential to also recycle existing areas for high value manufacturing use including higher amenity industrial estates and stalled business, science and technology parks should be considered;

- Ring-fencing of advance (speculative) manufacturing space to prevent displacement by other sectors and to capture investment with a short lead-in time to market, particularly mobile investors who have that choice in competing regions.

- Communicate to the market that manufacturing is re-emerging as a growth sector, particularly in its high value forms. Delivery of high amenity sites and high quality buildings is a challenge for the unsupported property market but there is demonstrable occupier demand and positive sector growth projections.

- Note that this research has focused on medium to larger buildings and sites. For high value manufacturing, the ladder of accommodation below 15,000 sq.ft. from start-up or spin-out through incubation to growth phases is at least as important and is already a focus for economic development. Equally, at the other end of the scale Scotland has a number of major manufacturing assets - including refineries, shipbuilding, defence, distilleries, ports and pharmaceuticals – which can and do invest outside of the regular property market.

Ryden LLP
March 2023

01

INTRODUCTION

1.1 Ryden was appointed by Scottish Enterprise (SE) and its partner agencies, Highlands and Islands Enterprise (HIE) and South of Scotland Enterprise (SOSE), to undertake analysis into **market failure associated with the provision of industrial land and property to support the growth of high value manufacturing in Scotland**.

1.2 This is a timely piece of research for SE and its partners, as they develop an evidence base to help shape successful interventions for the sector. High value manufacturing has been identified by the Scottish Government as one of the sectors most likely to drive future demand in the Scottish economy[3]. Scotland has a proud manufacturing heritage in sectors such as textiles, timber, food and drink, life sciences and engineering. Additionally, newer high value growth sectors such as low carbon transport, chemical industries, space and satellites, healthtech and food & drink innovation are emerging. High value manufacturing is an intrinsic thread which runs through many of Scotland's areas of economic opportunity, delivering substantial employment, exports, supporting inclusive growth and delivering productivity gains.

1.3 While longer term economic trends did see manufacturing's contribution to the Scottish economy decline, Scotland is now doing more around developing technologies, investing in skills, improving access to finance and developing industry capabilities. The Scottish Government's economic opportunity areas and SE's national programmes point towards an acceleration in manufacturing activity.

1.4 Access to suitable manufacturing sites and premises is a crucial part of the mix to deliver this anticipated growth. However, manufacturers are believed to face a very limited supply of ageing and restrictive premises. This is reportedly compounded by limited new private or public development, and competition for premises from logistics businesses meeting online delivery needs. Consequently, growing demand for property from manufacturers *could* be thwarted by few and unsuitable premises, constraining their growth potential (including productivity improvements not just physical size).

1.5 Accordingly, this study assesses the industrial and manufacturing land and property markets in order to identify gaps and market failures, and suggest potential market interventions. It is a strategic, Scotland-wide study, but one which recognises the range of regional and sectoral manufacturing specialisms.

1.6 Scotland's manufacturing sector is large, with c. 19,900 businesses and up to 170,000 employees. The country's industrial property market is also large, with around 200 million sq.ft. of buildings. In order to rationalise this, the study focuses on premises of 15,000 sq.ft. (1,394 sq.m.) and larger. This will accommodate all medium and larger enterprises and also the upper end of the small business sector (10-49 employees). [4] These are averages and automated facilities may employ fewer people, while factories with higher R&D and office content may employ relatively more. The development sites focus is on 10-20 acres (4-8 hectares), then to account for differences in market scale 5-10 acres (c.2-4 hectares) in Highlands & Islands and the South of Scotland.

1.7 The remainder of this report provides:

- Section 2 sets out the strategic context for the study.
- Section 3 presents an economic review prepared by BiGGAR Economics.
- The market analysis of industrial and high value manufacturing premises is in Section 4.

[3] Scottish Government, Investing with Purpose: Scotland's Global Capital Investment *Plan*

[4] Employment Density Guide 3rd edition (Homes and Community Agency, November 2015). 1 job per 387 sq.ft.

- Development to meet high value manufacturing demand is reviewed in Section 5.
- A wide range of stakeholder consultations is summarised in Section 6.
- The public sector funding landscape for manufacturing land and property is reviewed in Section 7.
- The report summary and intervention options for the enterprise agencies to consider are presented in Section 8.

The Appendix presents regional data cuts for Scotland's 12 City Region and Growth Deal territories.

02

STRATEGIC CONTEXT

INTRODUCTION

2.1 This section reviews the strategic context as it applies to high value manufacturing in Scotland. It encompasses a review of national, regional and sectoral strategies in order to understand the ambition for the various high value manufacturing sectors over the next few years. This context affects public sector funding (reviewed later in Section 7) and thus the delivery of land and property projects.

NATIONAL STRATEGY

SCOTLAND'S NATIONAL STRATEGY FOR ECONOMIC TRANSFORMATION

2.2 In March 2022, the Scottish Government published its National Strategy for Economic Transformation. The ten-year strategy provides a set of key priorities and actions with a vision of achieving a wellbeing economy that is prosperous for all of the country's people and places. A wellbeing economy is one that delivers economic prosperity across social, economic, and environmental dimensions. This includes capitalising on Scotland's most advantageous economic opportunities such as the transition to a net zero economy and a green recovery from the Covid-19 pandemic. Additionally, it includes reducing the socio-economic inequalities that exist between parts of the country.

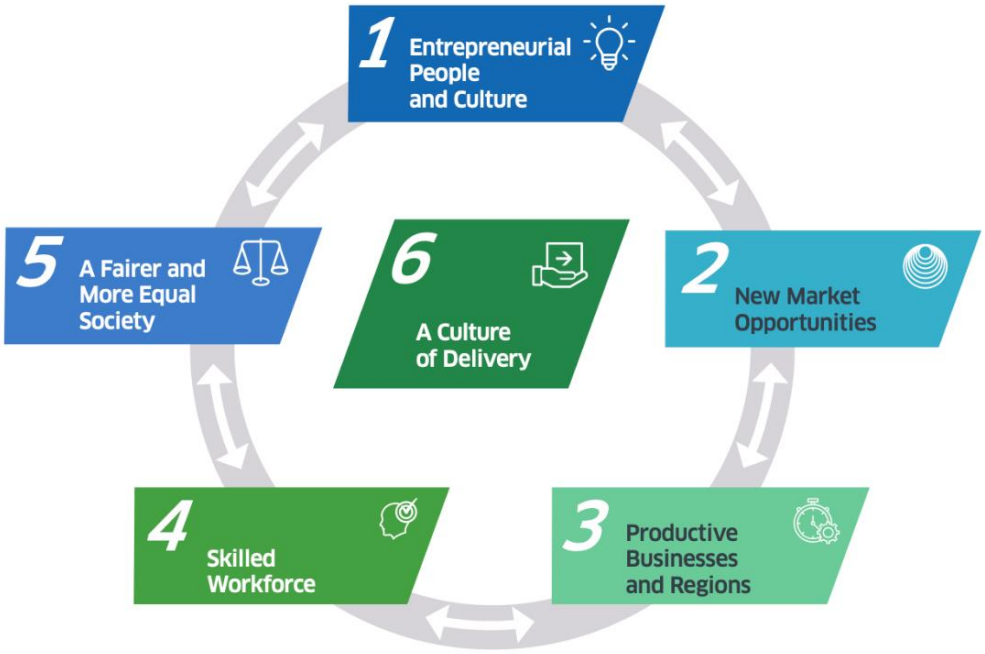
2.3 The ambition of the strategy is for 'Scotland to be successful' over the next decade. This includes creating an economy in which all people can have access to skilled, well-paid, jobs, and businesses and entrepreneurs have the conditions necessary to flourish. Achieving these ambitions is underpinned by five policy programmes of actions that the Scottish Government has identified as having the potential to generate the greatest economic success, all centred on a culture of delivery (Figure 1 on the next page).

2.4 One aspect of the strategy's vision is for Scotland to be 'the best place to start and grow a business'. However, a key issue highlighted by the strategy is that Scotland falls behind other countries in terms of its productivity. It notes that there are too few businesses scaling up or starting and that limited access to infrastructure is a factor in this problem. Productivity gains can also be made by investing in capital equipment to improve processes (automation etc.). Housing this type of equipment requires high quality buildings.

2.5 A key focus of the strategy is on inclusive growth across the country and it is evident that Scotland requires economic growth and investment in high productivity sectors to raise local and national productivity rates. Having adequate supply of employment land and property is a factor in enabling this vision and supporting business growth.

2.6 The transition to becoming a net zero economy offers new market opportunities for businesses in Scotland, notably in the financial, manufacturing and energy sectors. Growth and investment in these sectors can take early advantage of such opportunities, in addition to creating a skilled workforce. To enable this growth, sites for expansion need to be available for firms, particularly for those looking to relocate to areas where opportunities are available. Large capital investments in this market will translate to economic growth in the areas in which they occur.

FIGURE 1: SCOTLAND'S NATIONAL STRATEGY FOR ECONOMIC TRANSFORMATION: POLICY PROGRAMMES OF ACTION



Source: Scottish Government (2022) Scotland's National Strategy for Economic Transformation.

A TRADING NATION: A PLAN FOR GROWING SCOTLAND'S EXPORTS

2.7 The Scottish Government published its 10-year export growth strategy (A Trading Nation) in 2019 which focused on the recovery and growth of Scotland's exports through values-based trade. The strategy set out an ambitious target to increase international exports from 20% to 25% of GDP over the 10-year period. Achieving this should increase Scotland's GDP by approximately £3.5 billion and help support 17,500 jobs. Scotland's international exports will require significant annual growth over the next eight years to achieve the 25% target.

2.8 Evidence suggests that successful exporting countries mostly specialise in a limited range of goods and services and make most of their exports earnings selling those goods and services to a limited number of countries. This pattern of trade is repeated throughout the world and the strategy notes that Scotland is no exception with its top 5 sectors accounting for 69% of export value.

2.9 Based on analysis, the strategy states that the Scotland's export strengths are food and drink; engineering services and advanced manufacturing; life and chemical sciences; technology, digital and media; financial and business services and energy. High value manufacturing runs through the majority of these sectors highlighting its importance in export terms.

2.10 Research for the strategy indicates that the value of exports can be increased by refocussing efforts to: support key exporters who generate 80% of Scotland's export value; undertake concentrated engagement with the top 26 export markets which offer 80% of the strongest export growth opportunities; and focus on key sectoral strengths that account for over 80% of Scotland's export value. The USA and Europe remain Scotland's top exporting destinations.

2.11 The Scottish Government has been developing Sector Export Plans linked to key sectors with high growth potential. Earlier this year an export plan for Scotland's Technology Sector was published as was an

export plan for the Life Sciences Sector. These are being co-produced with industry and Government agencies to collectively mobilise around both current and future export growth opportunities.

SHAPING SCOTLAND'S ECONOMY: INWARD INVESTMENT PLAN

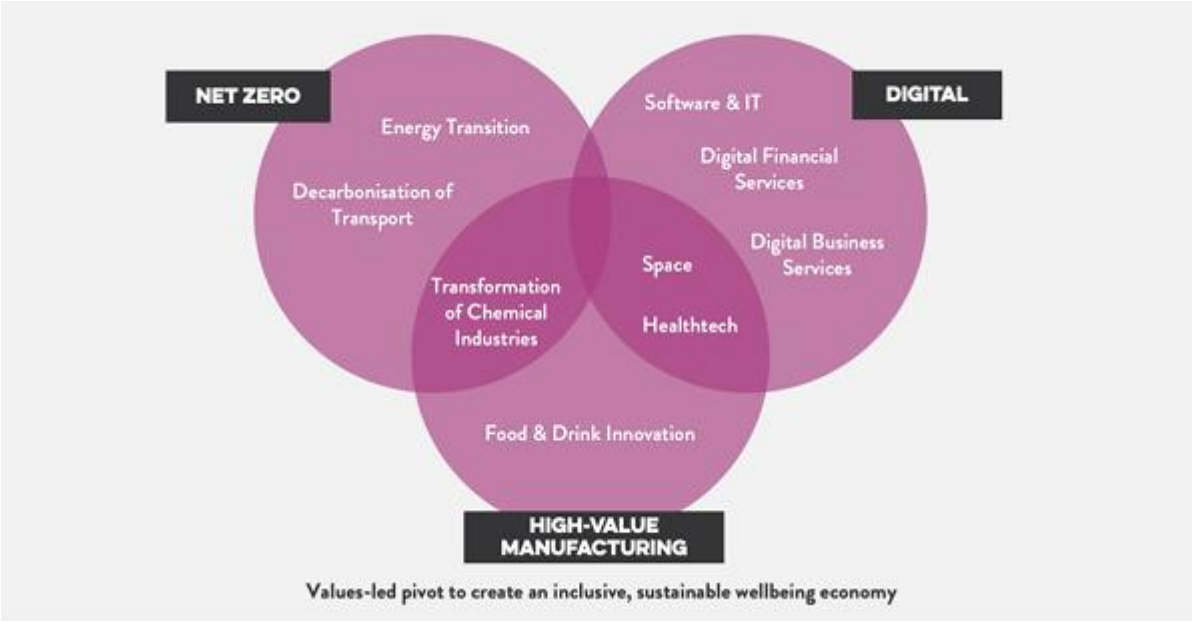
2.12 Published in 2020, the Inward Investment Plan outlines the Scottish Government's ambitions for Scotland to be a leading destination for inward investment aligned with its values as a nation, committed to fair work, net zero and inclusive prosperity.

2.13 The Plan sets out a shift towards a more strategic focus, working with target investors and projects in 9 opportunity areas, where the evidence shows Scotland has a competitive and comparative advantage that is aligned with global demand. It moves the focus of the Scottish Government and its agencies beyond the creation of new projects and jobs alone, towards realising the wider 'spillover' benefits that an inward investment project can deliver, such as local supply chain benefits, spending on Research and Development (R&D) and regional impact.

2.14 Central to the Inward Investment Plan's values-led approach is a commitment to ensuring all of Scotland's regions are able to share in economic success as a result of inward investment. Scotland's regions have distinctive assets that can attract different types of inward investment. In the Inward Investment Plan, the Government sets out a commitment to working with regional partners to draw on and promote these strengths on a global stage, combining this with the strong promotion of 'Scotland as the investible proposition' at a national level.

2.15 The 9 opportunity areas are summarised in Figure 2 below.

FIGURE 2: SCOTLAND'S 9 OPPORTUNITY AREAS



Source: Scottish Government (2020) Shaping Scotland's Economy: Inward Investment Plan

2.16 High Value Manufacturing is clearly noted on the diagram, however it is important to note that high value manufacturing is important for net zero and digital too. For example, high value manufacturing has a key role to play in the decarbonisation of transport in the creation of zero-emission vehicles. High value manufacturing is therefore an intrinsic thread which runs through many of Scotland's opportunity areas.

2.17 Complementing the above, SE has worked to develop a portfolio of 8 National Programmes, aligned to the Scottish Government's inward investment priorities (Figure 3). Again, there is considerable cross-over between the SE National Programmes and high value manufacturing.

FIGURE 3: SE'S NATIONAL PROGRAMMES

Build Future Economic Opportunities Through Scottish Enterprise's National Programmes		
Opportunity	**SE National Programme**	**Inward Investment Priority**
Digital: Accelerating digital and data driven economy opportunities	Digital Scale Up Level Up	Software & IT Digital Financial Services Digital Business Services
Health and wellbeing: Leveraging health and wellbeing economy opportunities	Health for Wealth	Healthtech
Manufacturing: Advancing modern manufacturing economy opportunities	Scotland in Space	Space
	Future Healthcare Manufacturing	Food & Drink Innovation Transformation of Chemical Industries
Net zero: Developing sustainable low carbon economy opportunities	Zero Emissions Heavy Duty Vehicles	Energy Transition Decarbonisation of Transport
	Decarbonising Heat	
	Hydrogen Economy	
	Offshore Wind	

Source: Scottish Enterprise (2021) 2021/22 Business Plan, adapted by Ryden

2.18 The Inward Investment Plan recognises that the market to attract inward investment is competitive. To succeed, Scotland needs to understand and leverage its strengths across all regions. Clusters are regional concentrations of expertise and activities in groups of related industries which emerge naturally through market processes. Examples of positive effects that often grow within a local critical mass of expertise are a labour market with specialised skills, local supplier networks with specialised capabilities, and a knowledge pool driven by business innovation activities and knowledge institutions. The following relevant examples of strong place based assets are cited in the plan as:

- Low Carbon Transport in Dundee - Michelin Scotland Innovation Parc in Dundee is a globally competitive centre for advanced manufacturing, skills and innovation in low carbon energy and sustainable transport.

- Advanced Manufacturing in Glasgow – including the Advanced Manufacturing Innovation District Scotland (AMIDS) located near Glasgow Airport. This includes the National Manufacturing Institute Scotland (NMIS), the Advanced Forming Research Centre (AFRC), the Lightweight Manufacturing Centre (LMC) and the Medicines Manufacturing Innovation Centre (MMIC).

- Low Carbon Infrastructure in Hunterston - Hunterston Port and Resource Centre (PARC) will become a key element in Scotland's low carbon infrastructure. There are three core pillars to the site – Marine, Port activity and Industrial use across a range of sectors including light manufacturing and renewable energy generation.

- Energy Transition in Aberdeen - The £62m Energy Transition Fund seeks to help both accelerate economic recovery from the Covid-19 pandemic in a key sector and region, and assist with Scotland's long term aims to decarbonise the economy – shifting the energy sector from using fossil fuels to renewable energy sources.

- Industrial Biotechnology in Grangemouth - a clean technology which can support the shift away from chemical and petrochemical based industries, many of whom are located in Grangemouth, towards sustainable high value manufacturing. The vision, as part of the Falkirk Growth Deal, is to develop new Industrial Biotechnology pilot plant and demonstrator facilities in Grangemouth to test CO2 re-use and biomass as feedstocks, and develop new, clean biorefinery processes.

- Precision Medicine in Glasgow - matching medical treatments to the individual characteristics of each patient, based on an increasingly data-driven approach to healthcare. Glasgow has world class clinical and research assets for precision medicine that industry can access.

- Healthtech in Inverness - incorporates many of Scotland's strengths in medical technology and diagnostics as well as sensors, data analysis, AI and digital technology to meet the needs of a rapidly expanding point-of-care market. Inverness has a rich history in innovation in the sector attracting investors from around the world to design, develop, evaluate and manufacture cutting edge products and services.

- Marine Economy in the Highlands & Islands - The region has 61% of the UK coastline, combined with innovative businesses, outstanding research capability and a skilled workforce. The European Marine Energy Centre in Orkney already demonstrates the potential of the wave and tidal energy sector. There is now an opportunity to build on this through an increased focus on innovative aquaculture and marine biotechnology. Aquaculture and its supply chain support more than 12,000 jobs and offer opportunities in some of Scotland's most remote and fragile communities.

2.19 More recently, it would also be appropriate to include:

- Space and Aerospace in Prestwick – recently announced as the location for the US satellite company, Magnata Networks who will create a new space engineering, manufacturing and operations hub supporting 575 jobs and bringing £84m investment. Investment is also being made in the development of space launch services which is being led by Glasgow Prestwick Airport and has received Growth Deal monies. Prestwick is also home to an established centre of excellence for aerospace maintenance, repair and overhaul (MRO), aero structures and design engineering. Over 3,000 highly skilled employees are based there (more than 50% of Scotland's aerospace workforce) as well as some of the largest global aerospace companies including BAE Systems, Spirit AeroSystems, GE Caledonian, Collins Aerospace and Woodward.

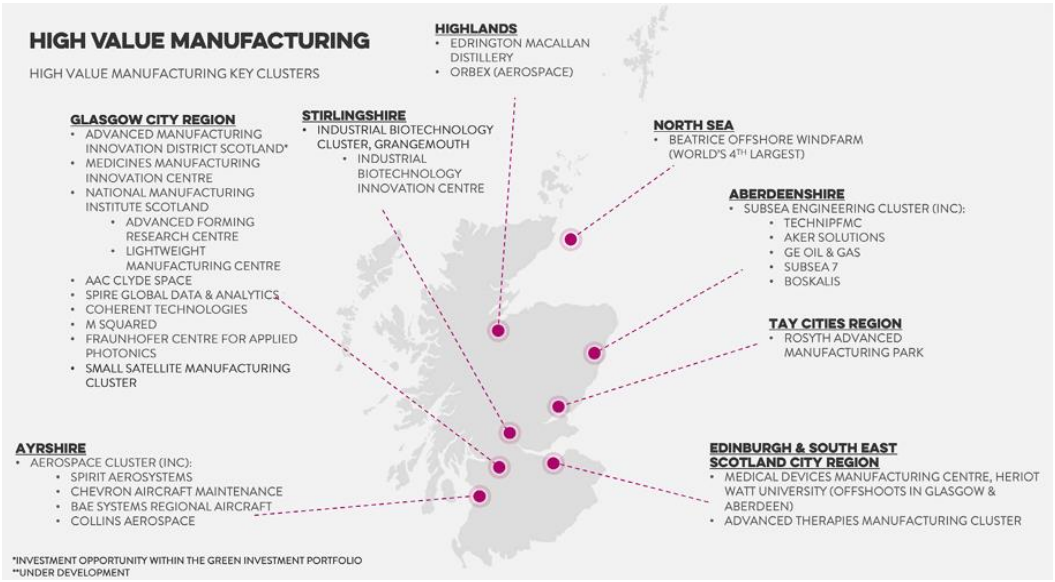
2.20 The above list is not exhaustive but a focus on enhancing clusters and aligning with regional strengths are a clear part of the Plan.

INVESTING WITH PURPOSE: SCOTLAND'S GLOBAL CAPITAL INVESTMENT PLAN

2.21 Published by the Scottish Government in 2021, the Plan sets out how Scotland will attract productive forms of private capital investment, in sufficient volumes, focused on creating the market-conditions for an investment-led recovery. It recognises that public sector investment alone will not be enough to respond to the challenges of the 21st Century.

2.22 The Plan notes that Scotland's performance in attracting commercial property investment has been flat, and below par at about 4% of UK levels in 2019. It has been tilted in favour of standing stock (existing assets changing hands) rather than development capital (which builds new assets). With COVID-19 and EU Exit, the first half of 2020 saw total commercial investment volumes decrease by 73% from the same period in the previous year. The Plan states that Scotland will need to encourage investment into re-purposing under-utilised assets in town and city centres and to expand industrial real estate capacity to support business growth, in particular around clusters in key target sectors of which high value manufacturing is one. Existing high value manufacturing key clusters are shown on Figure 4 overleaf.

FIGURE 4: HIGH VALUE MANUFACTURING KEY CLUSTERS



Source: Scottish Government (2021) Investing with Purpose: Scotland's Global Capital Investment Plan

2.23 Key growth subsectors within high value manufacturing are noted as medicines, low carbon transport, chemical industries, space and satellites, healthtech and food and drink innovation.

2.24 The Advanced Manufacturing Innovation District Scotland (AMIDS) is Scotland's flagship initiative to attract more capital investment for the provision of next generation manufacturing facilities. AMIDS and others are presented to the market as part of the Green Investment Portfolio and proposals should continue to be of a scale to appeal to both UK and international investors. Target investors for this sector will be highly dependent on the nature of the opportunity and the specialism. Venture capital, private equity investors as well as large multi-national corporations are the main targets for engaging with investors. AMIDS is discussed in more detail in Section 5.

A MANUFACTURING FUTURE FOR SCOTLAND

2.25 Published by Scottish Government in 2016, A Manufacturing Future for Scotland sets out an Action Plan to work with industry to deliver initiatives to boost productivity across the sector and stimulate innovation and investment in Scottish manufacturing to better compete globally. There are 8 action plan themes (shown on Figure 5 overleaf), each with an associated activity workstream. Collectively, these form the Manufacturing Action Plan.

2.26 With regard to the theme of Competitive Infrastructure, the Plan notes that property market intelligence, produced by Ryden, highlights that some of Scotland's industrial property stock is becoming increasingly aged and obsolete. As such, there is a need to plan now to ensure Scotland's long-term future as a competitive location for advanced manufacturing with attractive options for both indigenous companies to expand and for continuing to attract international investment into Scotland. Precisely how continuing advances in technology will impact on production facilities is still emerging. However, modern manufacturing facilities should be flexible, energy efficient, digitally connected and close to appropriate transport infrastructure. To address this, co-ordination is required between public and private investments in industrial property development.

FIGURE 5: MANUFACTURING ACTION PLAN THEMES

Source: Scottish Government (2016) A Manufacturing Future for Scotland

2.27 Further work, commissioned by SE and produced by Ryden in 2016, on the back of the Manufacturing Action Plan concluded that:

- The stock of properties occupied by manufacturing SMEs in Scotland is ageing.
- New industrial development is not commercially viable across most of Scotland.
- The private sector is not expected to initiate a new wave of industrial development in Scotland.
- With few exceptions, Scotland's public sector has largely stopped building industrial property.
- The required investment to address physical deterioration/ obsolescence while also improving functionality and ICT and ensuring energy compliance is a major hurdle for occupiers and landlords.

MAKING SCOTLAND'S FUTURE: A RECOVERY PLAN FOR MANUFACTURING

2.28 Published in June 2021, this plan focuses on the manufacturing sector's recovery from the Covid-19 pandemic and seeks to rebuild it and put it on a path to long term recovery and success. The Plan focuses on four areas of recovery: collaboration and networks; supply chains and competitiveness; adaptation and transformation and skills and workforce.

2.29 As the Plan notes, when global supply chains were disrupted in March 2020, businesses and governments realised the risks of decades of increasing supply chain complexity and disaggregation. Disruption of international trade flows, combined with the availability of low-cost digital technology, the low carbon agenda and the fact that highly productive manufacturing sectors drive economic productivity, have created a compelling rationale to revitalise Scottish supply chains.

2.30 In addition, the utilisation of automated processes – is revolutionising manufacturing and location decisions. The traditional wisdom of moving production to low-cost economies as a way of improving productivity is becoming less valid and the use of adaptable, affordable, automated solutions is reversing years of horizontal integration. The price of labour continues to increase as the living standards in these low-cost economies rise. In addition to this, larger inventories, unresponsive lead times and the

environmental impacts from transportation emissions, are also diminishing the perceived productivity gains from 'offshoring'.

2.31 This realisation is potentially a positive force for more domestic manufacturing in Scotland.

NATIONAL PLANNING FRAMEWORK 4

2.32 The now adopted National Planning Framework 4 (NPF4) brings together long-term spatial strategy with a set of national planning policies to form part of Scotland's national development plan. It states that future places will be planned in line with 6 overarching spatial principles: just transition; conserving and recycling assets; local living; compact urban growth; rebalanced development and; rural revitalisation. By applying these spatial principles, the national spatial strategy will support the planning and delivery of: sustainable places; liveable places and; productive places.

2.33 With regard to productive places, 6 national developments have been identified as follows:

- Clyde Mission – regeneration of brownfield land along the River Clyde
- Aberdeen Harbour – completion of the South Harbour as well as the creation of a more mixed use waterfront on areas of the harbour which will not in the future be required for port uses
- Industrial Green Transition Zones – support transformation of key sites including by putting in place key infrastructure needed to commercialise carbon capture and storage and decarbonise industry. Key locations are St Fergus, Peterhead and Grangemouth
- Hunterston Strategic Asset – re-use of the port and wider site to make best use of existing infrastructure following nuclear decommissioning
- Chapelcross Power Station Redevelopment – re-use of a key site to provide a range of economic opportunities for local communities
- High Speed Rail – ensures connectivity with the UK and beyond

2.34 These national geographic priorities are relevant for high value manufacturing particularly in relation to net zero ambitions.

CLIMATE CHANGE PLAN 2018-2032 – UPDATE

2.35 The Climate Change Plan Update sets out new ambitious targets for Scotland to end its contribution to climate change by 2045. The Government has committed to reduce emissions by 75% by 2030 (compared with 1990) and to net zero by 2045. The Plan sets the approach to delivering a green recovery, and sets out a pathway to deliver its climate change up to 2032. This includes policies and proposals for each sector, a number of which interface with a requirement for the manufacturing of relevant technologies.

2.36 Some of the key targets contained within the document are:

- Electricity – 11 GW of offshore wind power by 2030
- Buildings – All new buildings to have zero emissions heating systems by 2024
- Transport – decarbonise scheduled flights within Scotland by 2040 and decarbonise Scotland's rail services by 2035.
- Waste – ending landfilling of biodegradable municipal waste by 2025 and recycling 70% of all waste by 2025.

2.37 These targets, as well as those since announced in further sectoral strategies mentioned later, come with a requirement for further technological innovation and the increased manufacture of various products as well as supply chain components which should drive growth in high value manufacturing. As such, the green recovery and transition to net zero present significant economic opportunities for Scotland. Globally, there is huge emphasis on adopting climate change targets which opens up an extensive opportunity to export products beyond the domestic market.

2.38 The Plan announces several innovation and R&D funding streams (see Section 7) to help develop new technologies in this regard. However, for the production of these technologies at scale, a range of suitable sites and properties will be required.

REGIONAL STRATEGY

REGIONAL ECONOMIC STRATEGIES

2.39 Regional Economic Strategies are prepared by Regional Economic Partnerships (REPs) which are collaborations between local government, the private sector, education and skills providers, enterprise and skills agencies, and the third sector. The Strategies generally set out an evidence base of the regional economy, future challenges and opportunities, and indicate where resources should be prioritised.

2.40 In examining their own high growth sectors, a number of these strategies note sectors associated with high value manufacturing. For example, the Glasgow City Region Economic Strategy (December 2021) cites its current competitive advantages in the fields of:

- Advanced manufacturing
- Digital economy (IT telecoms and media)
- Fintech and data
- Low Carbon, adaptation and broader environmental goods and services
- Healthcare and precision medicine
- Space

2.41 As a further example, the Tay Cities Region Economic Strategy's (2019) key sectors are: tourism; food and drink; manufacturing and engineering; construction; energy and renewables; digital and creative industries and; life sciences.

2.42 Growing the key and high-growth sectors is a core element of these strategies. City Region and Growth Deals and specific project proposals within those are often a vital part of facilitating this growth.

CITY REGION AND GROWTH DEALS

2.43 City Region and Growth Deals are packages of funding and decision making powers, agreed between the Scottish Government, the UK Government and local partners. They are designed to bring about long-term strategic improvements to regional economies, aiming to help harness additional investment, create new jobs and accelerate inclusive economic growth.

2.44 Deals are implemented by regional partners (usually the REPs). Each deal is tailored to its region, reflecting its individual economic strengths and weaknesses, and comprises a programme of interventions to support positive, transformative change. Deals have now been announced for every part of Scotland, with the UK Government and Scottish both having invested billions in these.

2.45 The 6 City Region Deals are:

- Glasgow City Region
- Aberdeen and Aberdeenshire
- Inverness and Highlands
- Edinburgh and South East Scotland
- Stirling and Clackmannanshire
- Tay Cities

2.46 In addition, there are 6 Growth Deals:

- Ayrshire
- Borderlands
- Moray
- Argyll & Bute
- Falkirk
- Islands

2.47 A number of projects relevant to high value manufacturing (subject to full business case approval), are proposed with the City and Growth Deals. For example, the Ayrshire Growth Deal includes an economic infrastructure programme which includes innovative projects around engineering, manufacturing and digital automation as well as an aerospace and space programme. However, with limited exceptions most new City and Growth Deal funding is channelled into creating innovation assets or creating transport infrastructure rather than property per se. The innovation assets and infrastructure investment will stimulate investment which will impact on demand for the property market in that geography.

SECTORAL STRATEGIES

A STRATEGY FOR SPACE IN SCOTLAND 2021

2.48 Produced by the Scottish Government in conjunction with Space Scotland and the Scottish Space Academic Forum in 2021, the strategy's vision is for *"Scotland to become the best place on Earth to build a space business"*. At the highest level, the ambition for 2030 is for Space Scotland to deliver:

- An annual contribution to the Scottish economy in excess of £4bn
- A 5 times increase in the workforce[5]
- A globally recognised strategic location and European leader for commercial space developments
- A range of managed launch and orbital services, supporting the highest launch cadence in Europe
- An increased and diverse workforce with improved participation that is fully reflective of Scottish society and ensures space is open for all[6]

2.49 The forecasts reflect year on year growth of 26%.

2.50 As part of the strategy, the space sector will strive to develop an enterprise infrastructure and research environment to enable economic growth through increased exports, innovation opportunities, access to investment for company growth and the attraction of inward investment.

2.51 An integrated sectoral management hub comprising industry, academia the Scottish Government and R&D facilities will be established to offer complete end-to-end solutions to those wishing to access space and space services. This 'virtual' Scottish space centre will provide access to resources. A plan is also being developed to facilitate, support and develop the Scottish launch sector and to work collaboratively to ensure Scotland can position itself as the best place in Europe to launch satellites.

2.52 Over the last few years, Scotland has become an international leader in the design, manufacture and management of small satellites. However, the wider sector is also set to grow adding new products, systems and services with recent examples of manufacturing investment in Scotland covered later in the report. In addition, Scotland boasts world class university research and undergraduate programmes that feed directly into the growing space sector.

[5] Excluding direct to home broadcasting. 2017/18 levels were 8,000 employees
[6] It should be a valid career choice for those who are non-technical or scientific as well.

LIFE SCIENCES STRATEGY FOR SCOTLAND 2025 VISION

2.53 In 2017, Life Sciences in Scotland, the industry leadership group which combines academia, healthcare professionals and the Scottish Government published its vision to 2025. The Vision of the Life Sciences Strategy is "to make Scotland the location of choice for life sciences businesses, researchers, healthcare professionals and investors while increasing life sciences contribution to Scotland's economic growth". The Mission is to increase the Life Sciences industry contribution to the Scottish economy to £8bn by 2025[7]. The sector already employs over 40,000 people across 750 organisations in Scotland. It also has the advantage of very high productivity compared to other sectors, and generates a wide range of products including drugs, medical technology, diagnostics and digital tools, as well as products for consumer health.

2.54 In order to support this continued growth, the sector will ensure Scottish businesses have both the infrastructure and support required for scale up. A life sciences infrastructure plan will be developed which will map out key infrastructure developments required, seeking appropriate investment for the sector's ambitious plans. A specific recommendation of the Campbell Report[8] is to develop a net zero health innovation life science infrastructure and commercial real estate pipeline building on Scotland's reputation as a world leader in the transition to net zero. This recommendation would help build a life science cluster in Scotland and the pipeline could include scale up facilities, clean rooms, digital infrastructure, start-up and follow-on space to support growth as noted in the strategy.

2.55 A key investment has been the new Medicines Manufacturing Innovation Centre (MMIC) in Renfrewshire. The MMIC has been designed to help pharmaceutical companies develop new manufacturing techniques that will enable drugs to be brought to market more quickly. The new centre has been developed in response to a recognised global shortage of pharmaceutical manufacturing capacity[9] and is intended to put Scotland at the forefront of the global medicine manufacturing market, estimated to be worth £98 billion[10].

2.56 In the first 5 years of its operation, the centre is expected to support over 100 jobs, with the potential to attract many more in related supply chain activities in the years to come. The pharmaceuticals industry is not a particularly labour-intensive part of the manufacturing sector but is very productive. Growth in this area is therefore likely to be particularly important for helping to drive improvements in the productivity of Scotland's manufacturing sector over the medium-long term.

FOOD AND DRINK AMBITION 2030: INDUSTRY STRATEGY FOR GROWTH

2.57 The 2030 vision for farming, fishing and food and drink is for the sector to become Scotland's most valuable industry, recognised at home and abroad as a model of collaboration and a world leader in responsible, profitable growth. If achieved, it means that the turnover in farming, fishing, food and drink will have doubled and hit £30bn by 2030. Companies in the sector range from thriving small businesses through to major global brands and Scotland accounts for the largest share of UK food and drink exports at almost 30% of total exports[11]. Post Covid, the sector's recovery has largely been driven by a strong growth in the export of beverages (the global strength of Scotch whisky being particularly strong) and seafood products. Food and drink is a growth sector for Highlands and Islands Enterprise.

[7] GVA is currently c. £3.1bn per annum (2019)

[8] Scottish Government (2021) A Roadmap to Investment for Health Innovation Life Sciences and Healthtech in Scotland

[9] See genetic medicine briefing featured in Economist, August 27th – September 2nd 2022.

[10] UK Government website https://www.gov.uk/government/news/faster-medicine-56-million-innovation-centre-for-scotland accessed on 14/9/22

[11] FDF (2021) UK Food and Drink Exports

SCOTWIND AND INTOG

2.58 As noted above, the Scottish Government set an ambition to increase offshore wind capacity to 11GW of energy installed by 2030. As well as outlining the economic opportunities offshore wind presents, the Scottish Government adopted a plan identifying suitable areas for commercial-scale offshore wind projects. This informed the first seabed leasing process led by the newly devolved Crown Estate Scotland.

Following an extensive application process, 17 projects have been offered option agreements which reserves the rights to specific areas of seabed for wind farm developments (see map). A total of just under £700m, will be paid to the Scottish Government by the successful applicants in options fees. Initial indications suggest a multi-billion-pound supply chain investment in Scotland. The upcoming Innovation and Targeted Oil and Gas Decarbonisation (INTOG) leasing will also contribute to targets and wider supply chain requirements. As at January 2023, Scotland's offshore wind capacity (operational, pipeline and potential pipeline) is now considered to be 43.66 GW albeit this may be subject to change.

FLOATING OFFSHORE WIND CENTRE OF EXCELLENCE: STRATEGIC INFRASTRUCTURE AND SUPPLY CHAIN DEVELOPMENT – MAY 2022

2.59 This report identifies that floating offshore wind has a number of large, specific land and infrastructure requirements around marshalling, assembly and integration. The report states that the UK does not have the infrastructure capacity to meet forecast activity, but that a number of facilities are well placed for development to meet these needs.

2.60 Specifically, the report identifies *"a particular opportunity to develop the capability of manufacturing steel substructure components in facilities co-located with marshalling and assembly facilities"*. These have key requirements for laydown area, quayside draft, length, bearing capacity, navigational channel depth and width and the availability of suitable wet storage facilities. The total investment in Scotland to 2030 to deliver 142 units or 2.5GW annually requires £1bn for port infrastructure and £450-750m for manufacturing facilities (typical facility £50-250m). These imply factories of 100,000 sq.ft. or more which are particularly large facilities.

2.61 Private investment capital is not a barrier, but there is a timing challenge as the gap between securing first orders to constructing and commissioning a manufacturing facility is similar to or longer than the period to the first components being required. The report suggests solutions such as placing first orders earlier in the process or underwriting/mitigating the risks of delays in first orders (which would likely be component/facility specific). There is also a longer term challenge beyond 2030 which requires greater certainty of policy and demand.

PORT ENHANCEMENTS FOR OFFSHORE WIND (IRONSIDE FARRAR, 2021)

2.62 This report is a follow-on to the Crown Estate Scotland's 2020 'Ports for Offshore Wind' which recognised that there remains a challenge for Scotland and its ports to develop the logistical, infrastructure and technical capabilities necessary to meet the full scale of future demand. The report builds on that research and reviews offshore wind marshalling & assembly capacity across Scottish ports.

2.63 Crown Estate Scotland upper bound projections anticipate that required laydown area could be, subject to continued ScotWind deployment and market/development cycles, 100-200ha by the late 2020s and 200-300ha during the 2030s.

2.64 The Capacity Model for marshalling and assembly considered existing, planned/pipeline and future potential capacity. It concluded that 52ha is readily available and 68ha requires site investment (50% assumed short-medium term). Planned/pipeline identified a further 64 ha. As such, a significant shortfall is identified, even against the estimated lower threshold of potential future demand. For potential future capacity the study reviewed proposals against technical complexity, consenting risk and orders of costs. The location-specific results included in the report are confidential.

2.65 For high value manufacturing, these findings indicate major 'upstream' land and infrastructure investment is required to release even the lower estimates of market potential that might lead to high value manufacturing for the offshore wind sector, i.e. high value manufacturing for offshore wind will be a consequence of energy sector investment.

HYDROGEN POLICY STATEMENT

2.66 Published in 2020, the statement confirms the Scottish Government's strong support for a strategic approach to the development of the hydrogen economy in Scotland. It is becoming increasingly clear that hydrogen will play a major role globally in the transition to net zero, and Scotland's assets, natural, human and physical mean it can be a major player in this emerging global hydrogen market. The policy statement sets an ambition of 5GW[12] installed hydrogen production capacity by 2030 and a 25GW by 2045.

2.67 The development of a hydrogen economy is a substantial economic opportunity for Scotland and could play an important role in developing a sustainable economy. Beyond the production of hydrogen itself the statement notes that there are gaps in the Scottish supply chain. These are predominately in the supply areas bespoke to the design, manufacture and maintenance of hydrogen generation plant. These would be high value added activities as would be the specialist extended supply chains that go with them.

2.68 To address these supply chain gaps, the Scottish Government will support new and innovative indigenous companies as they develop next generation technologies as well as inward investment of manufacturing to Scotland which could not only generate direct jobs and value but may also lead to the establishment of a sustainable, long term local supply chain and stimulate wider supply chain opportunities.

2.69 In addition, the Government supports the establishment of regional clusters of hydrogen activity.

HYDROGEN PRODUCTION AND EXPORT LOCATIONS SITE REQUIREMENTS STUDY (WOOD, 2022) (SUMMARY)

2.70 Against the backdrop of the Hydrogen Policy Statement, this report assesses the required inputs and land areas required for production, related infrastructure and considerations for hydrogen export and planning & consenting considerations. Hydrogen production has been assessed for both renewably powered electrolytic 'green' hydrogen and 'blue' hydrogen, produced from natural gas reformation. The summary report shows types and numbers of transport vessels, timelines and costs for consenting, and case studies of Rotterdam and Hamburg. The short to medium term impacts on the high value manufacturing property market appear to be limited.

[12] 5GW of hydrogen would produce energy equivalent to 15% of Scotland's total energy demand

SE/SCOTTISH DEVELOPMENT INTERNATIONAL, BATTERY GIGAFACTORY PRESENTATION (2022), (NOT PUBLIC)

2.71 This presentation shows the anticipated rapid growth in the EV battery market. It is anticipated that the UK demand will be 50GWh per annum by 2030 and up to 140GWh by 2040, equivalent to 8 UK gigafactories. Site requirements for these are 25-50ha and larger, with strategic road access, multi-modal transport, abnormal (high) power supply including electricity (seek high levels of renewable power) and gas, water supply, low environmental risks, skilled labour and the ability to cluster with suppliers. There are long lead-in times for the development of these factories.

2.72 As such, gigafactories are purpose-built and have very specific locational requirements. Scotland has a mixed sites offer with power supply the main deficit and its market share would likely be one or none.

2.73 Any activity in this sector is likely to stimulate growth in the “manufacture of motor vehicles” and “manufacture of electrical equipment” (batteries and charging equipment) sub-sectors.

TRANSPORT DECARBONISATION

2.74 In February 2022 it was announced that Transport Scotland will be investing £62m in the electrification of Scotland’s bus fleet. The Scottish Government has also committed £60m to investing in electric vehicle charging infrastructure over the next four years which could also create new opportunities in supply chain associated with electric vehicles.

2.75 In August 2022, it was revealed that ScotRail plans to replace 65% of its train fleet by 2035. As part of this programme, ScotRail will decarbonise its entire train fleet which will help the Scottish Government deliver a key milestone in transitioning to a net zero economy. All existing diesel trains will be withdrawn and replaced with new trains powered by overhead electric wires, batteries or hydrogen. There is a strong aspiration for the supply chain to be located in Scotland.

HEAT IN BUILDINGS STRATEGY

2.76 Published in 2021, the Heat in Buildings Strategy sets out the Scottish Government’s vision for the future of heat in buildings, and the actions it is proposing in the buildings sector to deliver these commitments, maximize economic opportunities and ensure a just transition. Its vision is *“that by 2045 our homes and buildings are cleaner, greener and easy to heat, with our homes no longer contributing to climate change, as part of the wider transition to net zero”.*

2.77 The Government’s established ‘fabric first’ approach is critical to the transition, reducing demand for energy, making homes warmer and easier to heat, and preparing them for zero emissions technology. However, the strategy acknowledges there also needs to be a focus on heating system change.

2.78 Central to delivering this vision is an ambitious programme of at least £1.8 billion investment over the course of this Parliament to make homes easier and greener to heat – progressing commitments both to decarbonise the heating in 1 million homes by 2030 and to remove poor energy efficiency as a driver of fuel poverty.

HEAT PUMPS AND HEAT NETWORKS ASSEMBLIES AND KEY COMPONENT ANALYSIS

2.79 In 2022, SE published a report by Ramboll which presents the findings from technical and market analyses of key components from heat pumps and heat networks. The markets for heat pumps and networks are expected to grow rapidly in the coming years and decades, primarily driven by macro-trends of decarbonisation and security of energy supply. The key components within both technologies are also expected to benefit from this strong growth.

2.80 The study identifies compressors and control systems within heat pumps as the most promising components for potential Scottish market entrants, and pre-insulated steel pipes and control systems for heat networks. This is primarily due to innovation potential and share of total market value.

2.81 In 2020, Scotland had sold a total of 21,000 heat pumps, and heat pumps sales are expected to grow at an average growth rate of almost 63% until 2026. The high growth rates are driven by governmental targets of installing a total of 200,000 new heat pumps per year by 2030[13].

2.82 In Scotland, the estimated market size for heat pumps in 2026 is £358.65m. For the UK, this estimated market size is £1,830.76m. Both Scotland and the UK are emerging markets however there is also demand from abroad. France is currently the leading European country on heat pump sales but is also expecting continuously high growth levels. By comparison, Denmark is a more mature market with a higher market penetration of heat pumps, but with steady markets in new sales and retrofits.

2.83 With regards to heat networks, the report estimates that the total Scottish heat network market size from 2022 – 2030 is an estimated £5.2bn. This is based on the national targets of heat networks accounting for 3% of current heat demand by 2027 and 8% by 2030. The Scottish Government will also set a target for 2035 which will be confirmed in 2023 following consultation. At a UK level, the total heat network market size from 2022 – 2030 is an estimated £26.7bn.

UK DEFENCE AND SECURITY INDUSTRIAL STRATEGY

2.84 As part of its Levelling Up Agenda, the UK Government is committed to spreading opportunity to every region and nation of the UK, creating economic growth that is distributed more equitably across the UK. The defence sector in particular has a wide ranging regional footprint and support high-value, highly skilled jobs across the UK. The orders for Offshore Patrol Vessels and Type 26 and Type 31 frigates will sustain thousands of jobs in Scottish shipyards and the wider supply chain into the 2030s, while HMNB Clyde is home for the UK's submarine fleet and is one of the largest employers in Scotland, with the number of people employed there due to rise to 8,200 by 2022.

2.85 In addition, Babcock delivers submarine maintenance and support as well as site management at HMNB Clyde. The company is also working on the dismantling project for the UK's decommissioned submarines, with initial dismantling activity underway at the company's Rosyth Dockyard, Fife.

2.86 In November 2022, the UK Government also confirmed it will order 5 more Type 26 frigates from BAE systems in a £4.2bn contract for the Royal Navy. These ships will be built on the Clyde and the Ministry of Defence estimates that the contract will support 1,700 jobs over the next decade at BAE Systems sites in Govan and Scotstoun in Glasgow.

SUMMARY

2.87 This section has summarised a number of national, regional and sectoral strategies as applicable to high value manufacturing. They demonstrate the size of the economic opportunity available to Scotland as it builds on its strengths in sectors such as energy, healthtech, space, food and drink innovation and moves to take advantage of global trends in relation to net zero, digital, health and wellbeing and advanced manufacturing. In particular, the opportunities and planned investment associated with offshore wind hydrogen are particularly exciting for Scotland. The ability to respond to these opportunities and trends is reliant on a number of factors. There will be requirements for the development of new products including investment in innovation and R&D and support will also be required to help businesses do things smarter (i.e. through improved processes and robotics etc.) and to scale up and expand. The provision of suitable property and sites will be a key enabler (or inhibitor) of Scotland's ability to respond to these opportunities and will include the need for bespoke space for some sectors, e.g. offshore wind and life sciences, as well as more general high value manufacturing supply.

[13] Heat Pump Sector Deal Expert Advisory Group: final report, Scottish Government, 2021

2.88 Scotland is competing on an international stage in terms of attracting inward investment. To succeed in this market, Scotland needs to leverage its strengths across all regions particularly around clusters in key target sectors. This can have positive effects that often grow with the critical mass of expertise in a given location including a labour market with specialised skills, local supplier networks with specialised capabilities, and a knowledge pool driven by business innovation activities and knowledge institutions. This approach can also help to achieve the “inclusive growth” desired by the Scottish Government.

03

ECONOMIC BASELINE

INTRODUCTION

3.1 In 2019, manufacturing contributed £12.8 billion Gross Value Added (GVA) to the Scottish economy and employed around 169,000 people. Past trends suggest that the sub-sectors with the most potential to drive high value growth in the future include beverages, life sciences and advanced engineering.

3.2 This section provides a statistical profile of the manufacturing sector in Scotland prepared by BiGGAR Economics. It is extracted from BiGGAR's full report and includes a general overview of the sector and detail on the contribution it makes to the Scottish economy.

OVERVIEW

3.3 In 2019 (the latest year for which statistics are available) Scotland's manufacturing sector, had a turnover of £35.1 billion, contributed £12.8 billion Gross Value Added (GVA) to the Scottish economy and employed around 169,000 people[14]. This accounts for almost 15% of Scottish turnover, nearly 13% of GVA and a little over 9% of employment. This is slightly below the average for the EU (15% of GDP), putting Scotland on a par with countries such as Sweden, Belgium and Estonia[15].

3.4 The relative scale of manufacturing (in terms of sector share of GVA) has declined over the past 10 years from a recent[16] high of 15.6% in 2009. This decline is reflected in the value of Scotland's manufactured exports. In 2019, the value of Scotland's manufactured exports was £29.4 billion. Although the value of manufactured exports increased by 21% since 2009, the share of manufactured exports as a proportion of total exports declined, with manufacturing now accounting for around a third of total exports (compared to 37% in 2009)[17].

3.5 Productivity in the sector remains relatively high. In 2019, GVA/head in the sector (a measure of productivity) was £75,680, 41% higher than the Scottish average (£53,520). Average wages and salaries in the manufacturing sector (£30,515) are also higher than the average for Scotland (£22,981).

3.6 In 2020, there were almost 19,900 manufacturing businesses in Scotland, accounting for 5% of all businesses in Scotland. However, this includes businesses with no employees[18] and as these businesses are unlikely to have the same industrial space requirements, they have been excluded from the rest of the analysis. A breakdown of manufacturing businesses by employee size band is provided in Table 1. The data relates to the latest year for which statistics are available, 2020.

[14] Scottish Government (2021), Scottish Annual Business Statistics: Tables 2008-2019
[15] World Bank (2022), World Development Indicators (2022)
[16] Historically manufacturing's share of employment was much higher, over 30% in the 1960s/70s.
[17] Over the same period total exports to the EU and other international markets increased by around 25%.
[18] Businesses with no employees are sole proprietors or partnerships comprising only the owner-managers or companies comprising only the employee director.

TABLE 1: NUMBER OF MANUFACTURING BUSINESSES IN SCOTLAND BY SIZE BAND

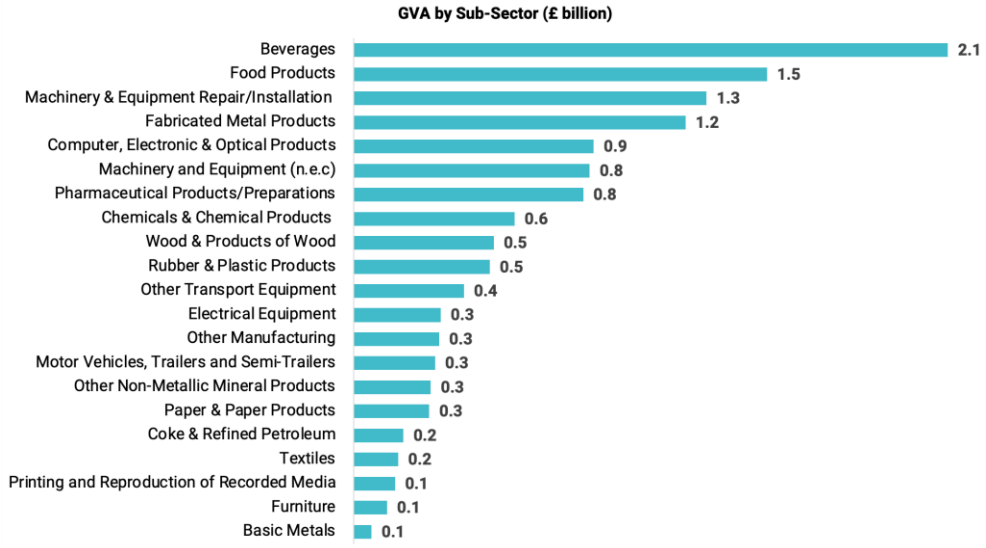
EMPLOYEE SIZEBAND	NO. OF BUSINESSES	AVERAGE TURNOVER	AVERAGE EMPLOYMENT
Micro 1-9 (less than 10)	4,075	389,700	4
Small 10-49 (less than 50)	1,345	2,392,600	21
Medium 50-249 (less than 250)	565	17,143,400	81
Large 250+	245	11,395,900	354
Total	**6,230**		

Source: Scottish Government, Business in Scotland 2020 (Note: excludes companies with no employees)

SUB-SECTORS

3.7 The manufacturing sector is composed of 23 sub-sectors in economic statistics published by the ONS and Scottish Government. Figure 6 below shows GVA by manufacturing sub-sectors. Four sub-sectors contribute almost half of the total value added by the manufacturing sector: manufacture of beverages; manufacture of food products; repair or installation of machinery and equipment; and fabricated metal products. The manufacture of beverages sub-sector is primarily focused on the production of spirits.

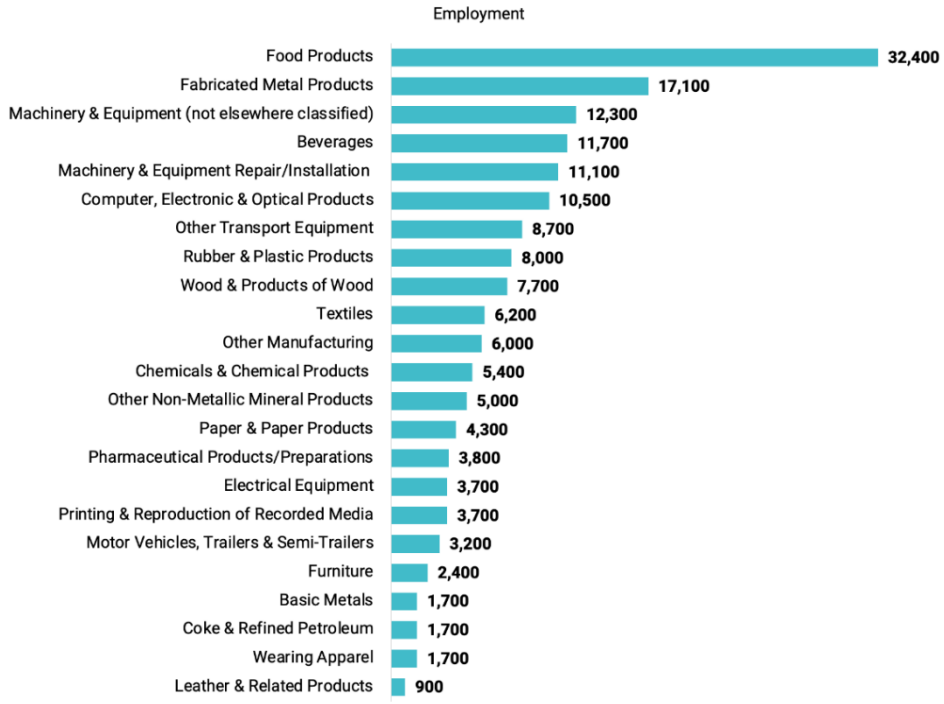
FIGURE 6: GVA BY MANUFACTURING SUB-SECTORS (£ BILLION)



Source: Scottish Government (2020), Scottish Annual Business Statistics

3.8 In terms of employment however, manufacturing of food products is the largest sub-sector, employing 19% of all employees in manufacturing. Manufacturing of fabricated metal products is the second largest sub-sector, employing 17,100 people, followed by manufacturing of machinery and equipment (not elsewhere classified) with 12,300 employees.

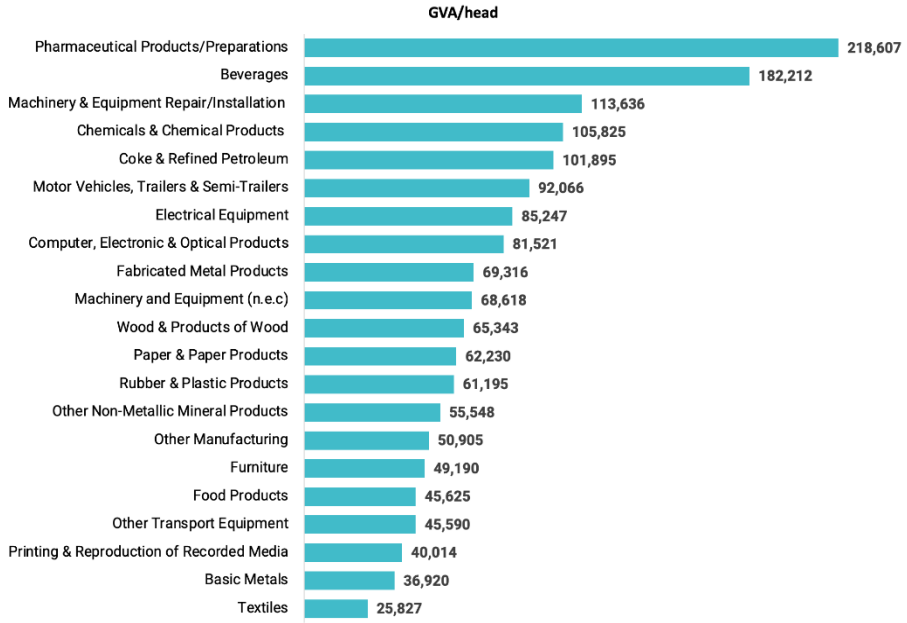
FIGURE 7: EMPLOYMENT BY MANUFACTURING SUB-SECTORS



Source: Scottish Government (2020), Scottish Annual Business Statistics

3.9 GVA/head provides an indication of the productivity of a sector. As discussed earlier, average GVA/head in the manufacturing sector was £75,680. There is considerable variation however across sub-sectors, with manufacturing of pharmaceutical products the most productive sector (189% more productive than the average), followed by manufacturing of beverages. Manufacture of textiles and manufacture of basic metals are the least productive sectors, 66% and 51% less productive respectively than the average for the sector. Broadly this would indicate that technology intensive sub-sectors are most relevant to high value manufacturing.

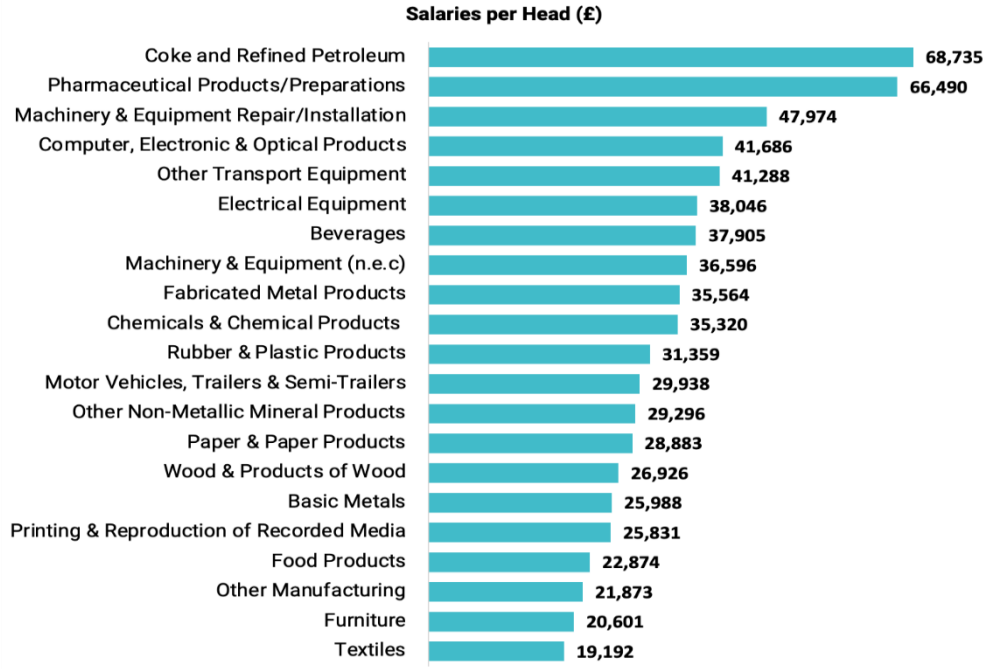
FIGURE 8: GVA/HEAD BY MANUFACTURING SUB-SECTORS (£)



Source: Scottish Government (2020), Scottish Annual Business Statistics

3.10 Figure 9 depicts gross wages and salaries per head by manufacturing sub-sectors. The manufacture of food products sector which contributes the second highest total GVA and highest employment also has one of the lowest salaries per head (£22,784). The highest salaries are in the manufacture of coke and refined petroleum, pharmaceuticals and in the manufacturing of equipment sub-sectors.

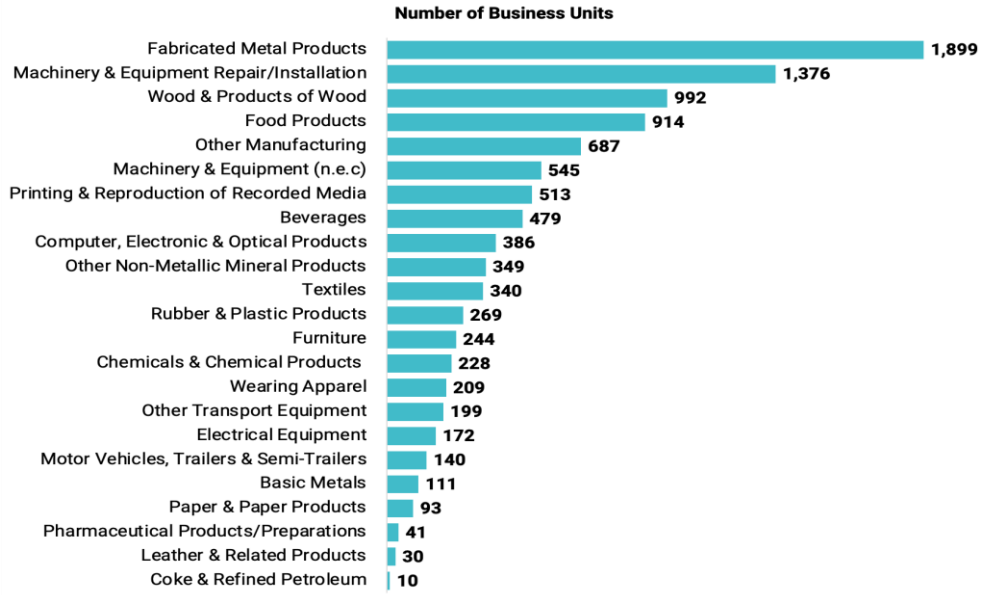
FIGURE 9: SALARIES PER HEAD BY MANUFACTURING SUB-SECTORS (£)



Source: Scottish Government (2020), Scottish Annual Business Statistics

3.11 Five sub-sectors account for almost 60% of manufacturing business units in Scotland: fabricated metal products; machinery and equipment repair or installation; wood and products of wood; food products and other manufacturing. The fabricated metal products sub-sector accounts for 9% of GVA in the manufacturing sector and 19% of business units. Average employment per business unit is 30 employees, with a detailed breakdown by sub-sector provided in Figure 10.

FIGURE 10: NUMBER OF BUSINESS UNITS BY SUB-SECTOR



Source: Scottish Government (2020), Scottish Annual Business Statistics

3.12 Looking at the change in GVA since 2009 indicates that significant growth has taken place in some sub-sectors while others have experienced decline. The largest growth has been in the manufacture of coke and refined petroleum sub-sector, though it should be noted this growth peaked in 2014 and has been declining since. The pharmaceutical products and preparations sector has also experienced significant growth, with its GVA in 2019 almost four times higher than it was in 2009. The manufacture of motor vehicles has experienced a doubling of its GVA since 2009. For both sub-sectors GVA has been growing steadily each year. Declines in GVA have been experienced in the manufacture of chemicals, basic metals and other transport sub-sectors. The manufacture of beverages has also experienced a decline in GVA.

TABLE 2: EMPLOYMENT PER BUSINESS UNIT BY SUB-SECTOR

SUB-SECTOR	EMPLOYMENT PER BUSINESS UNIT
Printing & Reproduction of Recorded Media	7
Wood & Products of Wood	8
Machinery & Equipment Repair/Installation	8
Wearing Apparel	8
Other Manufacturing	9
Fabricated Metal Products	9
Furniture	10
Other Non-Metallic Mineral Products	14
Basic Metals	15
Textiles	18
Electrical Equipment	22
Machinery & Equipment (n.e.c)	23
Motor Vehicles, Trailers & Semi-Trailers	23
Chemicals & Chemical Products	24
Beverages	24
Computer, Electronic & Optical Products	27
Rubber & Plastic Products	30
Leather & Related Products	30
Food Products	35
Other Transport Equipment	44
Paper & Paper Products	46
Pharmaceutical Products/Preparations	93
Coke & Refined Petroleum	170
Average	**30**

Source: Scottish Government (2020), Scottish Annual Business Statistics

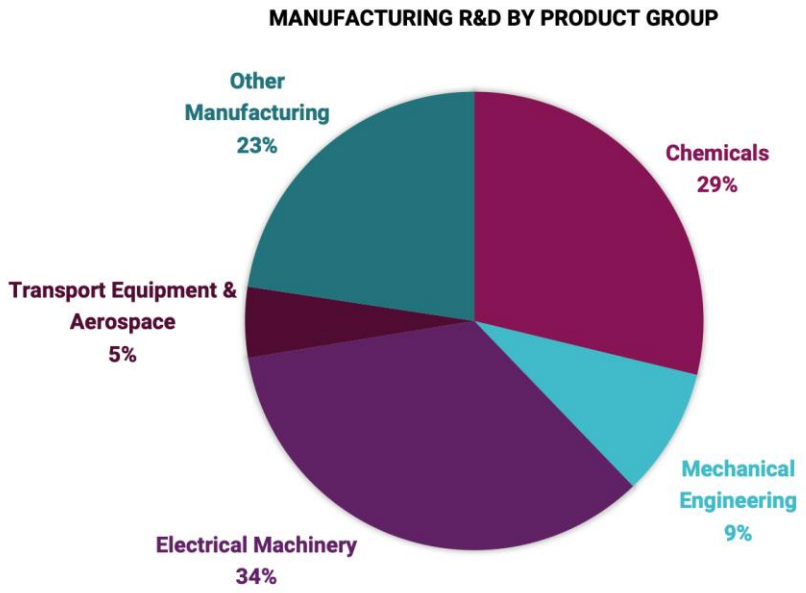
TABLE 3: PERCENTAGE CHANGE IN GVA SINCE 2009 BY SUB-SECTOR

SUB-SECTOR	% CHANGE IN GVA
Wearing Apparel	-100%
Leather & Related Products	-100%
Chemicals & Chemical Products	-58%
Basic Metals	-51%
Other Transport Equipment	-48%
Printing & Reproduction of Recorded Media	-28%
Beverages	-17%
Machinery & Equipment (n.e.c)	-14%
Fabricated Metal Products	-5%
Paper & Paper Products	-4%
Textiles	-2%
Other Non-Metallic Mineral Products	-2%
Computer, Electronic & Optical Products	8%
Food Products	13%
Machinery & Equipment Repair/Installation	28%
Rubber & Plastic Products	28%
Electrical Equipment	42%
Furniture	66%
Other Manufacturing	68%
Wood & Products of Wood and Cork	69%
Motor Vehicles, Trailers & Semi-Trailers	119%
Pharmaceutical Products/Preparations	290%
Coke and Refined Petroleum	1613%

Source: Scottish Government (2020), Scottish Annual Business Statistics

3.13 Expenditure on research and development (R&D) provides an indication of the competitiveness and potential growth of a sector or industry. Overall 47% of all R&D expenditure in Scotland is in manufacturing (amounting to £668.5 million). Figure 11 provides a breakdown of manufacturing R&D in Scotland by broad product group. This indicates that 34% of manufacturing R&D is in electrical machinery, 29% in chemicals and 23% in other manufacturing.

FIGURE 11: EXPENDITURE ON MANUFACTURING R&D, 2022



Source: Scottish Government (2022), Business Enterprise Research & Development Expenditure

3.14 The data presented in this section highlights the importance of several sub-sectors in the manufacturing sector. Namely, manufacturing of beverages makes a significant overall GVA contribution to the sector and is one of the most productive sub-sectors.

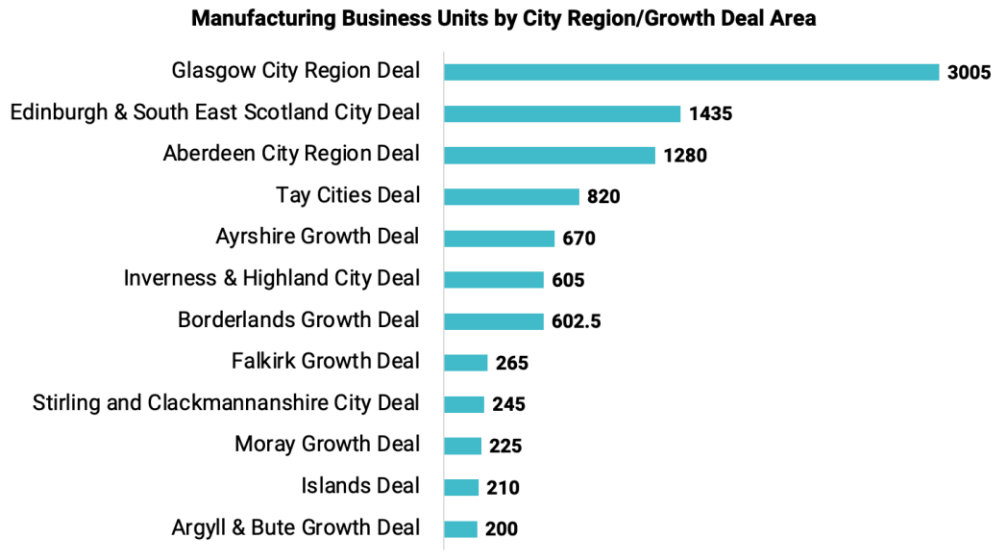
3.15 The manufacture of pharmaceuticals, which is part of the wider life sciences sector, has experienced significant growth, has high levels of R&D expenditure and salaries per head, as well being one of the most productive sub-sectors. Manufacturing of chemicals and chemical products has not experienced growth but remains one of the most productive sub-sectors with a high R&D intensity.

3.16 The data also indicates that sub-sectors related to engineering, such as the manufacture of fabricated metal products, machinery and equipment, electrical equipment and computer, electronic and optical products have high R&D intensity and make a significant GVA contribution. Almost all of these sub-sectors have experienced growth (apart from fabricated metal products) and salaries per head across all of them are significantly higher than the Scottish average. Notably, the sub-sector with the highest number of business units in Scotland is the manufacture of fabricated metal products.

GEOGRAPHIC DISTRIBUTION

3.17 Geographically, the greatest concentration of manufacturing activity in terms of the number of business units is in the West of Scotland. Almost a third (31%) of manufacturing business units are located in the Glasgow City Region Deal area. At local authority level, particular concentrations of activity exist in Glasgow City, Fife, Aberdeenshire and South Lanarkshire. Employment in manufacturing is also concentrated in these areas.

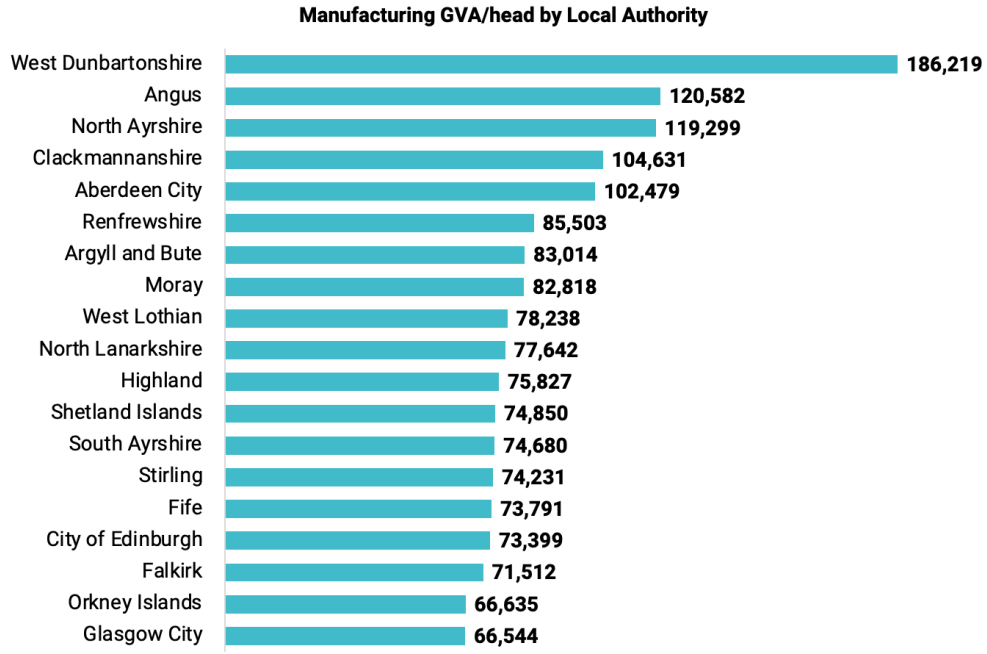
FIGURE 12: MANUFACTURING BUSINESS UNITS BY AREA



Source: Scottish Government (2020), Scottish Annual Business Statistics

3.18 However, the scale of activity does not correlate closely with sector productivity with GVA/head highest in West Dunbartonshire (£186,200) followed by Angus (120,580) and North Ayrshire (£119,300).

FIGURE 13: MANUFACTURING GVA/HEAD BY LOCAL AUTHORITY (£)



Source: Scottish Government (2020), Scottish Annual Business Statistics. (Note: local authorities with GVA/head below £66,000 have been excluded here).

3.19 In terms of manufacturing sub-sectors:

- Food and beverages: Aberdeenshire has the highest concentration of business units (126) while Glasgow City employs the most people in this sub-sector;

- Computer, electronic and electrical equipment: the City of Edinburgh has the highest number of employees, followed by Fife. Glasgow City has the highest number of business units (64), followed by Fife (61);
- Basic and fabricated metals, machinery, motor vehicles and other transport equipment: Aberdeenshire has the highest number of business units (315), followed by Glasgow City (236) and Fife (206). However, Glasgow City has the highest number of employees (5,500) followed by Fife (5,100).

HIGH VALUE MANUFACTURING: DEFINING THE SECTOR

3.20 Manufacturing as we understand it has developed over the years with the distinction between manufacturing and services becoming less clear. This is because increasingly, high-value producers produce goods and components as well as offering installation, repair and servicing alongside. Related to this, economic statistics consider different sectors and sub-sectors of the economy, which are not necessarily the same as an industry, which can be comprised of several sub-sectors.

3.21 However, to define high value manufacturing, an approach which simplifies these issues is likely to be most effective. The World Bank defines **high value manufacturing as the manufacture of high-technology products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments, and electrical machinery**.

3.22 This definition of high value manufacturing would suggest focusing on sub-sectors with high levels of R&D expenditure and high levels of productivity as evidenced by GVA/head or salaries per head. For Scotland, this would be the manufacturing of beverages sector, life sciences (manufacture of pharmaceuticals and chemicals/chemical products) and engineering (manufacture of fabricated metal products, electrical equipment, machinery and computer, electronic and optical products and other manufacturing).

SUMMARY

3.23 As noted in Section 2, there are significant opportunities for Scotland to grow its high value manufacturing sector in the coming years, which have the potential to support the development of a wellbeing economy.

3.24 Although this section has focused primarily on trends within Scotland's manufacturing sector, it is important that these are not viewed in isolation. High value manufacturing is highly integrated with both upstream activities like research, development and testing and downstream activities like servicing and after-sales support. For the sector to thrive in the future it will be important that different components of the sector are effectively connected within a wider innovation ecosystem.

3.25 An important general point emerging from this analysis is the relatively high productivity and wage levels within the manufacturing sector compared to the Scottish economy. In 2019, GVA/head in the sector was 41% higher than the Scottish average while average wages for the sector were around a third higher. Increasing productivity and reducing inequality are both important elements of a wellbeing economy so growing Scotland's manufacturing sector has the potential to contribute to this important policy priority, particularly if growth is concentrated in less affluent parts of the country.

04

PROPERTY MARKET ANALYSIS

INTRODUCTION

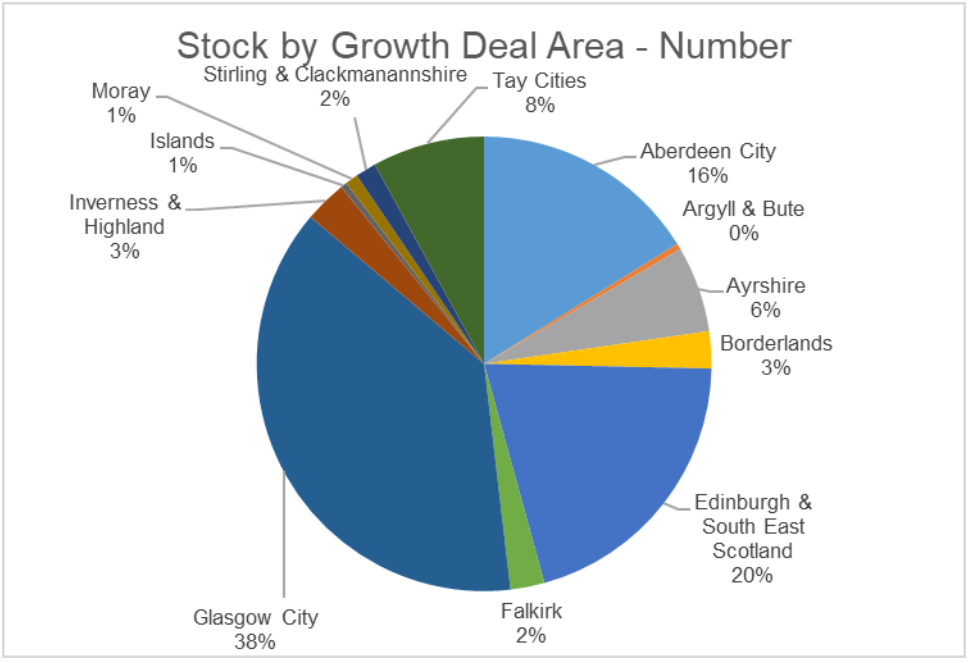
4.1 This section assesses stock, supply, take-up (sales and lettings) and demand for industrial and manufacturing property of 15,000 sq.ft. or larger in Scotland. The Appendix contains data cuts for Scotland's 12 City Region and Growth Deal territories.

STOCK

4.2 Scotland's total stock of industrial units - both occupied and vacant - of 15,000 sq.ft. or larger is estimated at 130 million sq.ft. (around 12 million sq.m.)[19]. At average occupation rates that could accommodate 300,000 – 350,000 employees. This is all types of business which occupy industrial space and not just manufacturers. There are 2,400 properties identified.

4.3 Figure 14A analyses this stock by Growth Deal Area, the majority lie in the Central belt. Glasgow City Region Deal has the largest by number with 38%, followed by Edinburgh & South East Scotland City Region Deal with 20%. Aberdeen City Region Deal has 16%, followed by Tay Cities Deal with 8%, Ayrshire Growth Deal with 6% and Inverness & Highland City Region Deal and Borderlands Growth Deal with 3% each. All remaining Deal areas have between <1% and 2%.

FIGURE 14A: STOCK NUMBER BY SIZEBAND

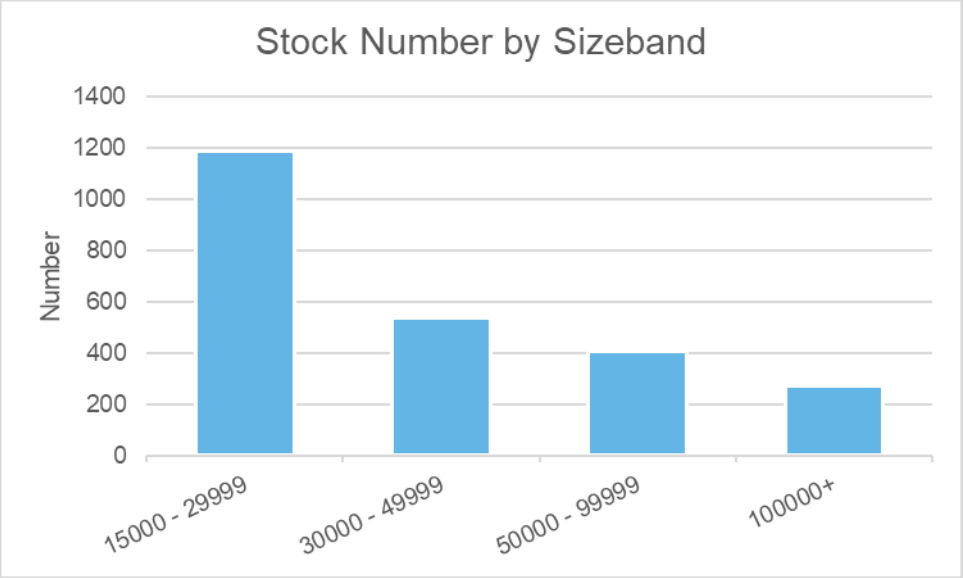


Source: Ryden / CoStar

4.4 Figure 14B analyses the stock by sizeband. Approximately half of the stock is units of 15,000 - 29,999 sq.ft. There are also notable proportions / numbers in larger sizebands: 30,000 – 49,999 sq.ft. (500+); 50,000 -99,999 sq.ft. (400+); and indeed 100,000 sq.ft. (270+) and above.

[19] At this high level of analysis of stock and supply there will be other assets say for example in ports with permitted development rights, refineries with multiple and linked facilities, and other types of production or extractive plants, which might in theory be considered as industrial buildings/ structures which are not picked up here. Logistics buildings are included here.

FIGURE 14B: STOCK NUMBER BY SIZEBAND

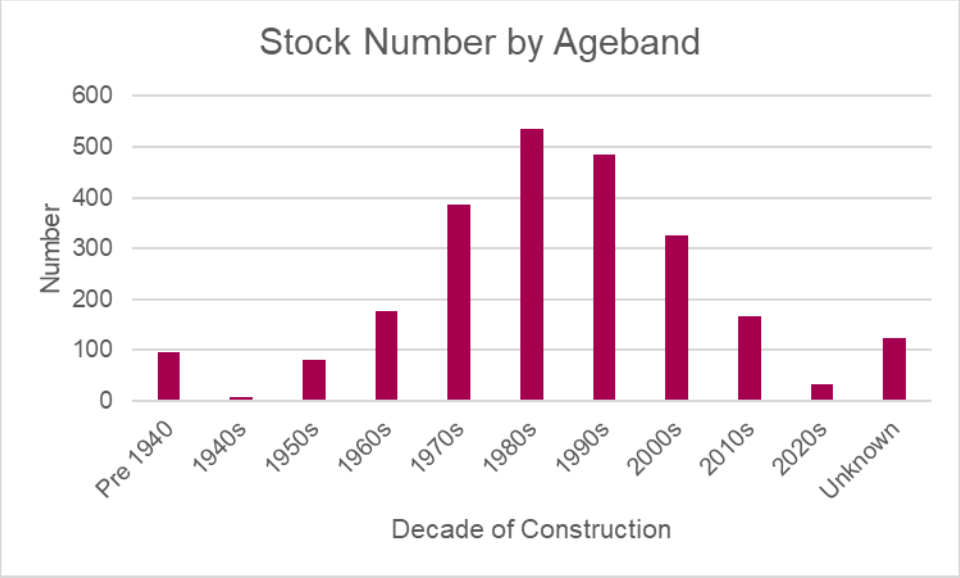


Source: Ryden / CoStar

4.5 The age of the industrial stock provides a guide to its modernity and potentially whether it is fit-for-purpose. Figure 15 shows that of the industrial stock currently standing, the most active development period was the 1980s, followed by the 1990s then the 1970s. A significant proportion has been built since 2000 but it is clear that the large majority is around 20 to 50 years old.

4.6 Whether that older stock is actually obsolete is a complex question. The original building design relative to current occupier requirements (for example the eaves height), the lifespan of the components of the building, and of course maintenance and refurbishment all impact upon its useful life. However, based upon detailed market studies, older industrial properties are more likely to have some form(s) of physical or functional obsolescence. Environmental obsolescence is a more recent and increasing consideration.

FIGURE 15: STOCK NUMBER BY AGEBAND



Source: Ryden / CoStar

4.7 CoStar uses a star rating to grade industrial property. The range is from 1-star (lowest) up to 5-star (highest). The ratings cover a building's architectural design, structures and systems, amenities and

management. Four and 5-star buildings for example are newer on above average rents with high eaves, flexible of tenants and uses, and land for access, manoeuvre and expansion:

- There is one 5-star building in Scotland, the Amazon Fulfilment Centre in Dunfermline.

- 4-star units comprise 3% of stock, examples include Leonardo at Crewe Toll in Edinburgh, BrewDog at Ellon and Aggrekko at Lomondgate, Dumbarton.

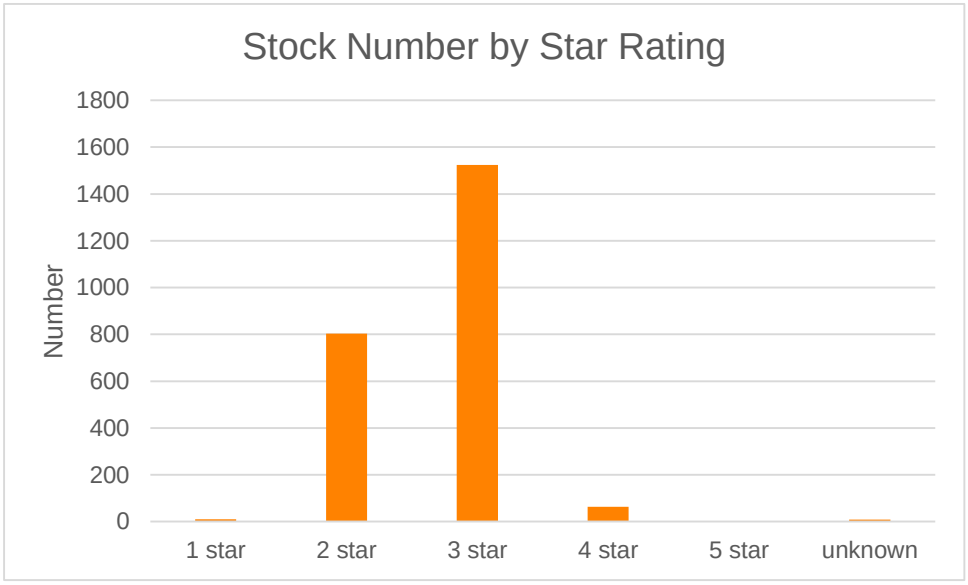
4.8 As noted, these high quality buildings have all been built for specific end users.

4.9 As seen on Figure 16, the vast majority of Scotland's industrial buildings of 15,000 sq.ft. or larger is either 3-star (63%) or 2-star (33%). The summary definitions of a 3-star property (top) and a 2-star property (bottom) are shown in the text box:

- Smaller structures with lower eaves heights.
- Limited land for expansion and access.
- Average or near average market rents.

- Suitable for smaller, unique industrial uses.
- Limited functionality.
- Lowest rents in market.

FIGURE 16: STOCK NUMBER BY STAR RATING



Source: Ryden / CoStar

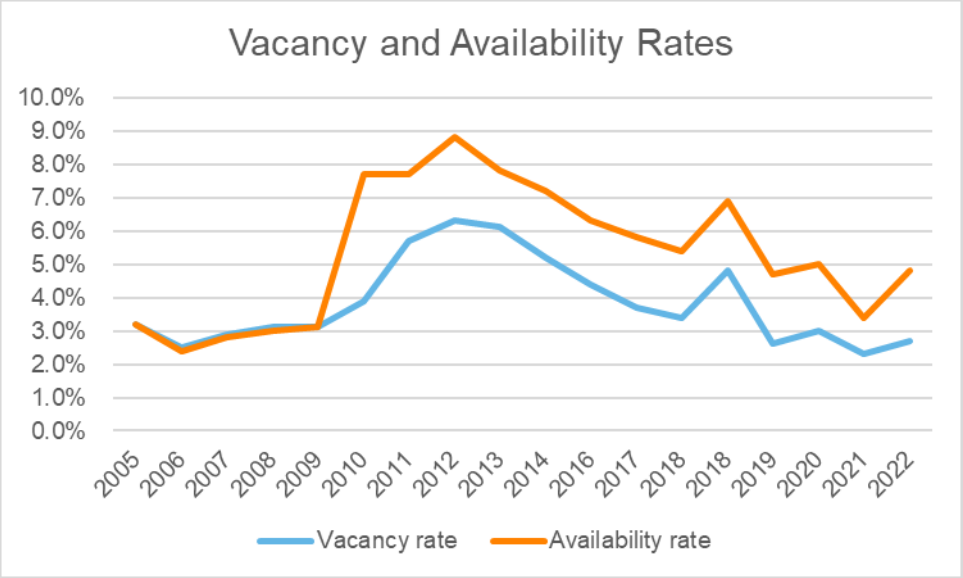
4.10 The ownership of Scotland's industrial stock is not analysed here, but is well understood. Industrial property can be: owner-occupied either by preference or because it is too specialist to be provided by the market; or it can leased to occupiers by public or private landlords. The most important structural market shift was the mass development of new property from the 1950s-1990s by the Scottish Development Agency and (five) New Town Development Corporations, then the sale of their estates to the private sector. Development by other public sector organisations such as SE, URCs and local authorities has tended to be more local and is often still in public ownership. Private developers have tended to build selectively, and only at scale by exception, for example for Aberdeen's offshore industry, with SE with financial support, or at (former) Enterprise Zones. These origins of the industrial stock mainly in historic mass public sector development largely explain its age and quality characteristics.

SUPPLY

4.11 The current supply of industrial units of 15,000 sq.ft. or larger has been assessed for this report. There is currently 6.4 million sq.ft. in 151 units[20] on the market. Not all of these marketed units are currently vacant as some are being marketed ahead of the vacancy arising. 83% of units are available for lease and 7% for sale, with the remainder available for either lease or sale.

4.12 The 151 units on the market represent 6% of the total stock by unit numbers (2,400) or 4.9% of floorspace. These are very low availability rates which have fallen from 8.8% over the 10 years since 2012, Figure 17, with actual vacancy rates being even lower still at 3.2%. Availability is rising again due to the construction of new units (CoStar).

FIGURE 17: LONG RUN VACANCY AND AVAILABILITY RATES

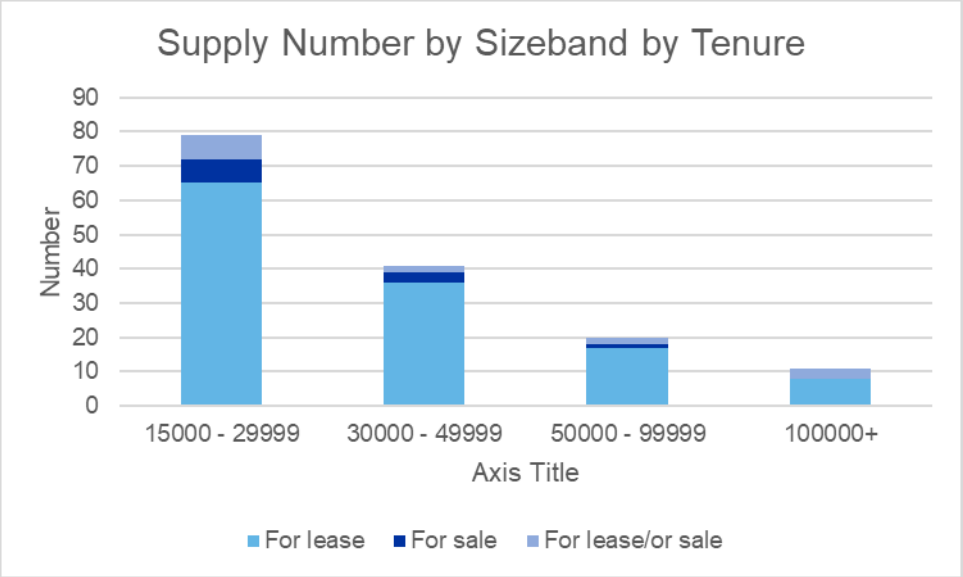


Source : Ryden / CoStar

4.13 Figure 18 depicts the current supply of units by sizeband. The shape of supply is broadly similar to the stock chart (Figure 14) above with just over half of the units in the 15,000 – 29,999 sq.ft. sizeband and notable numbers in each of the larger sizebands. While this does not offer a view on the specification or location of the available units, in size terms at least there are no glaring supply gaps.

[20] The 150 units on the market includes 5 units which are currently under construction. Fourteen units which are currently under offer are no longer being marketed so are not counted as part of the current supply. The McVities factory in Glasgow which has now closed is not on the market so is not included.

FIGURE 18: SUPPLY BY SIZEBAND BY TENURE

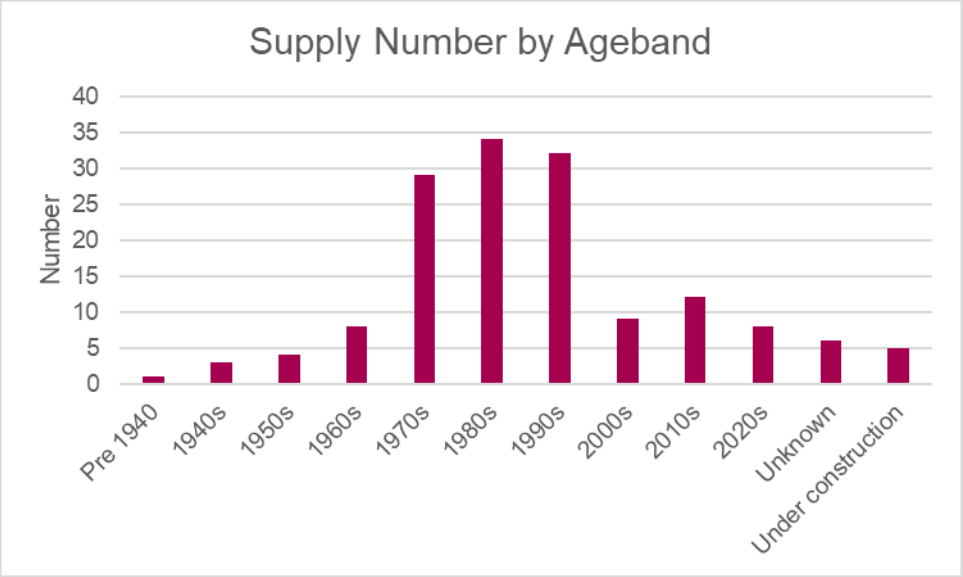


Source: Ryden / CoStar

4.14 Figures 19 and 20 repeat the earlier analyses of property age and star ratings, this time for supply of buildings on the markets. Comparing those:

4.14.1 The stock contains nearly 100 properties which were built before 1940, but very few of these are currently on the market. There is evidence of redevelopment opportunities in the marketed units. 1970s to 1990s properties dominate supply as well as stock. Supply has a lower proportion of 2000s properties, presumably as those more modern buildings are still in use by occupiers. Supply also contains new (2020s) and emerging (under construction) industrial properties. Aside from these skews at either end of the age distribution, the age profile of current supply is similar to that of the underlying stock.

FIGURE 19: SUPPLY BY AGEBAND



Source: Ryden / CoStar

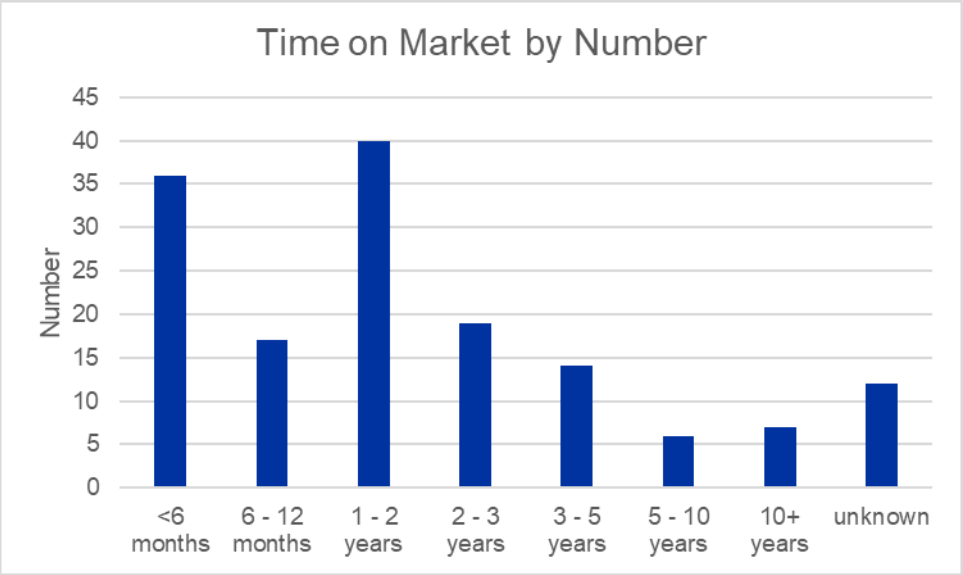
4.14.2 Supply of industrial property by star rating is also similar to stock. The very large majority of the 150 industrial properties >/= 15,000 sq.ft. currently on the market are rated either 3-star (65%) or 2-star (31%). Only 3 buildings (2%) are rated as 4-star, and are all in Aberdeen: Marine House, ABZ Business Park; Unit 2 Crawpeel Road, Aberdeen One Logistics Park; and Gateway Drive, Aberdeen Gateway Business Park.

FIGURE 20: SUPPLY NUMBER BY STAR RATING

Source: Ryden / CoStar

4.14.3 The time on the market for these 151 available premises also provides an interesting insight (Figure 21). Two thirds (67% excluding unknowns) have been on the market for less than 2 years which seems reasonable, however 23% have been marketed for 2-5 years and 9% for 5 years or more. 13 units have been on the market for an unknown length of time. These void periods during a strong market suggest that some of the properties are not appealing to occupiers.

FIGURE 21: TIME ON MARKET



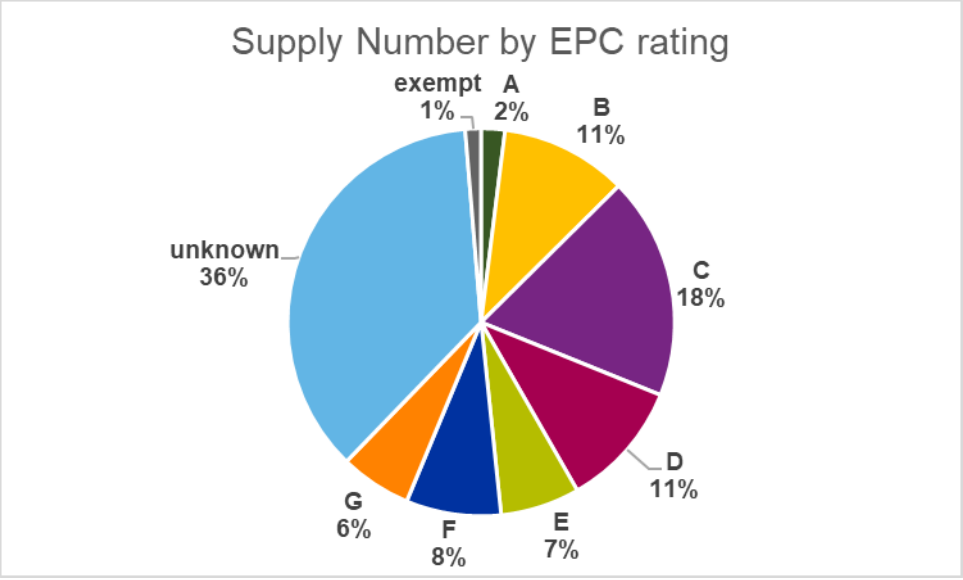
Source: Ryden / CoStar

4.14.4 Energy performance is an increasingly important feature of industrial buildings, both in terms of carbon emissions and the revenue costs of operation. Energy Performance Certificates (EPCs) are a statutory requirement for marketing, the Scottish Government states *When an building is to be sold or let, the energy performance indicator (the energy efficiency rating for a dwelling or the building energy performance rating for a non-domestic buildings) must be included in the commercial property adverts, and provided to anyone who enquires about buying or selling the property*, and provide a further guide to the modernity of industrial premises. The rating is based on the buildings characteristics (the fabric) and its services (eg. heating, ventilation, lighting); A is best, G is worst. Figure 22 groups the EPC ratings[21] of the 151 buildings on the market :

- 1% are exempt from EPC requirements (for example a 1970s agricultural building).
- 13% (19 buildings) achieve A or B ratings. These buildings are very energy efficient.
- 36% (54 buildings) have mid-range EPC ratings of C, D or E.
- 14% (22 buildings) have poor EPC ratings of F or G. These buildings could be termed 'environmentally obsolete' without appropriate improvements.
- The research has been unable to identify the EPC ratings for a substantial 36% (55 buildings) of properties on the market. While these may have a rating, it is not recorded in either the marketing details or identifiable on the Scottish EPC Database[22]. Only 4 are under construction and not yet rated. The others were built 1970s to 2010s with no obvious reason for having no EPC although it could be guessed that quite a few may be poorer quality buildings requiring investment.
- This means that half of the marketed industrial buildings >/=15,000 sq.ft. in Scotland have EPC ratings which are either low or are to be confirmed.

Table 4 provides examples from each of the categories A-G plus an unrated building.

FIGURE 22: SUPPLY NUMBER BY EPC RATING



Source: Ryden / CoStar / Scottish EPC Register

[21] EPC ratings were obtained from marketing particulars or a search on https://www.scottishepcregister.org.uk
[22] https://www.scottishepcregister.org.uk/

TABLE 4: SUPPLY EXAMPLES OF EPC RATING

EPC RATING	PROPERTY		SIZE (SQ.FT.)	DECADE BUILT	PROPERTY DESCRIPTION
A	Phase 2 Gartcosh Industrial Park, Glasgow		16,098	2020s	One of two new-build available units, the other is 24,784 sq.ft. Built to a high specification by Fusion Assets.
B	West 100, Hillington Park, Glasgow		37,989	2020s	New build terrace with 3 units of c. 12,610 sq.ft. combinable into a larger unit of 37,989 sq.ft. For lease £8.50 per sq.ft. A fourth unit is let to a manufacturer. Built by Muir Construction for Frasers Property.
C	Howe Moss Drive, Dyce, Aberdeen		15,778	1990s	Steel framed workshop with 2-storey office and extension added in 2007. Includes clean workshop
D	Arrol Road, Dundee		45,296	1970s	Substantial 3-bay warehouse and 2-storey office. Development potential for refurbishment and sub-division
E	Clydebank Business Park, Clydebank		42,182	1990s	Standalone industrial / warehouse facility, to be refurbished, can be sub-divided into 2 units
F	Southfield Industrial Estate, Glenrothes		53,854	1970s	3 interconnecting units, each of capable of sub-division, on a 5.73 acre yard. For lease, may sell
G	Third Avenue, Heatherhouse Industrial Estate, Irvine		36,250	1960s	Single storey detached industrial unit. Development opportunity
Unrated	Gourdieburn, Potterton, Aberdeen		15,881	1970s	Mid-terraced industrial unit of steel portal frame construction. Agricultural building, ideal for storage

Source: Ryden / CoStar / Scottish EPC Register

4.14.5 As a further measure of the units currently on the market, the mean asking rent is £5.98 per sq.ft. This reflects basic premises rather than prime modern units.

4.14.6 As a single illustration of both supply and stock of occupied premises, the industrial building shown represents the 'average' in terms of age, quality, type and location:

- 74 Loanbank Quadrant, Govan Glasgow
- Decade of construction 1980s
- Detached industrial and office facility
- EPC rating C
- 54,373 sq.ft. available

4.15 Supply of units by Growth Deal area is in Table 5. Aberdeen City Region and Glasgow City Region Growth Deal areas both have the largest (and similar) numbers of available units. Both the Edinburgh and Tay Cities regions have noted numbers of units available. Other regions have notably low supply at between 0 and 4 units currently available.

TABLE 5: AVAILABLE UNITS IN EACH GROWTH DEAL AREA *Source: Ryden / CoStar*

GROWTH DEAL LOCATION	NUMBER	FLOORSPACE (SQ.FT.)
Aberdeen City Region Deal	52	1,809,593
Argyll & Bute Growth Deal	1	213,720
Ayrshire Growth Deal	4	123,715
Borderlands Growth Deal	3	222,205
Edinburgh & South East Scotland City Region Deal	22	987,211
Falkirk Growth Deal	3	275,342
Glasgow City Region Deal	47	1,854,134
Inverness & Highland City Region Deal	1	25,019
Islands Deal	0	0
Moray Growth Deal	0	0
Stirling & Clackmannanshire City Region Deal	0	0
Tay Cities Deal	20	913,900

Totals do not sum to total supply due to overlapping Growth Deal areas. Scottish Borders is included in both Edinburgh & South East Scotland City Region Deal and Borderlands. Borderlands excludes the regions in England. North East Fife is included in Tay Cities Deal while the remainder of Fife is in Edinburgh & South East Scotland City Region Deal

4.16 The spread of available industrial units is shown on Figure 23, the majority sit across the central belt and up the east coast of Scotland to Aberdeen.

FIGURE 23: LOCATION OF AVAILABLE UNITS *Source: Ryden / Google Maps*

DEMAND

4.17 This section considers manufacturing demand for industrial premises. The analysis comprises both transactions completed and requirements placed with agencies.

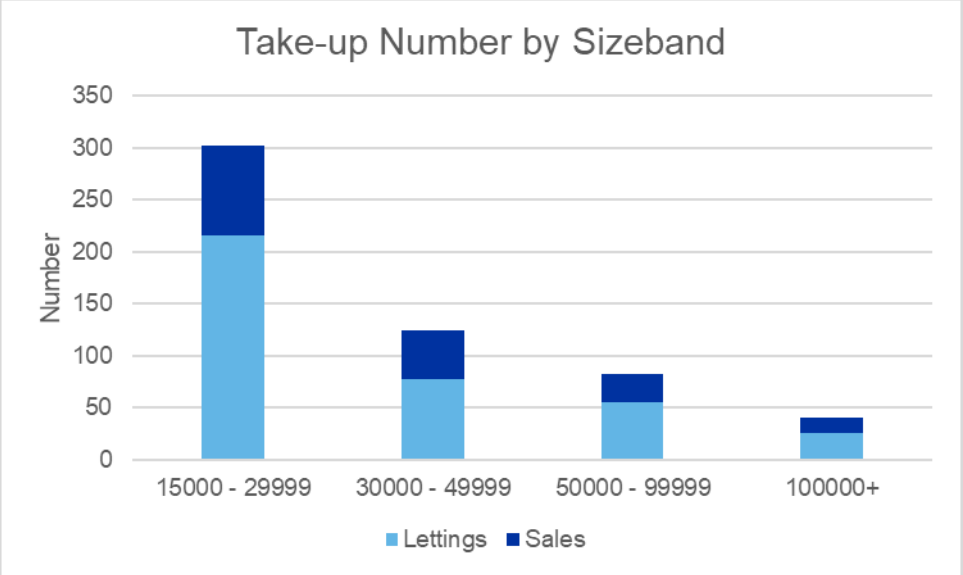
4.18 The transactions (deals) analysis has been developed specifically for this study. It compiles sales and lettings of industrial property >/= 15,000 sq.ft. in Scotland since January 2017. The subset of sales and lettings to manufacturers is then identified.

4.19 Total take-up of industrial units >/= 15,000 sq.ft. since January 2017 totals:

- 24.18 million sq.ft. in 551 transactions.
- This equates to an annual average of 4.1 million sq.ft. in 94 units
- The average transaction size is 44,100 sq.ft.
- 374 lettings and 177 sales[23] The proportion of sales is higher than supply, and compared to the wider property market.

4.20 Figure 24 illustrates this take-up by sizeband. The majority of units sold or leased are 15,000 to 29,999 sq.ft. There is a close match between this chart and the supply chart earlier, although that is not unexpected as take-up will tend to mirror what is available.

FIGURE 24: TAKE-UP BY SIZEBAND

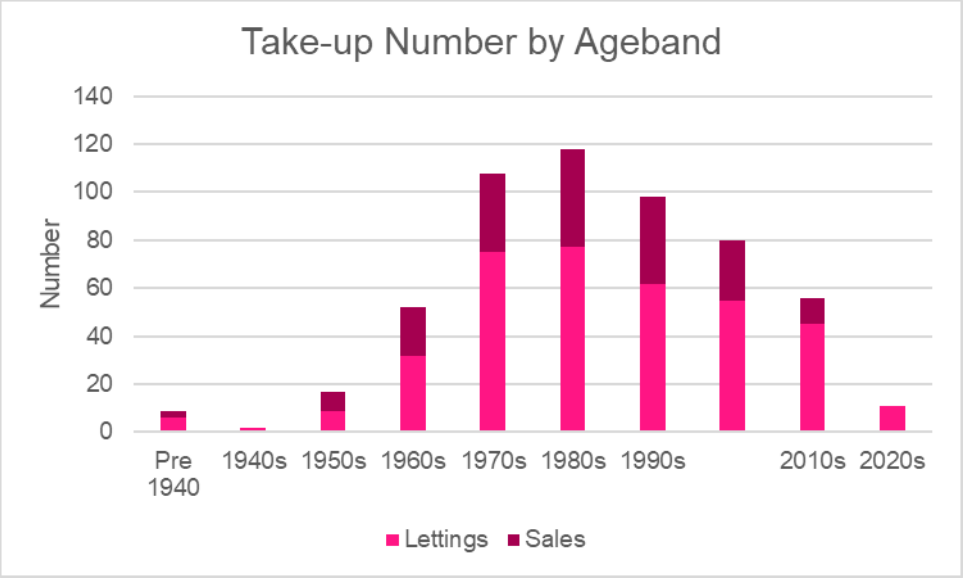


Source: Ryden / CoStar

4.21 Take-up of units by ageband is shown on Figure 25. This broadly matches the current supply pattern which was shown on Figure 19 in terms of peaking 1970s-90s when most of the stock was built; although as expected there is a modest skew towards more modern premises with those built since 2000 being 19% of supply but attracting 27% of demand.

[23] The initial data trawl identified 200 industrial properties >/= 15,000 sq.ft. sold since January 2017. These were inspected to remove properties which were clearly purchased for redevelopment or as investments rather than for occupation.

FIGURE 25: TAKE-UP BY AGEBAND



Source: Ryden / CoStar

4.22 The rents paid for these properties and the lease durations agreed are important market signals about occupiers and for developers, although again can be skewed by the properties which are available.

4.22.1 The mean[24] rent achieved across 374 lettings is £5.11 per sq.ft. This is 13% below the current mean asking rent of £5.98 sq.ft., probably as rents have risen since 2017. Rents of £5-6 per sq.ft. are only half (or less) of the rents now required for speculative new-build industrial development.

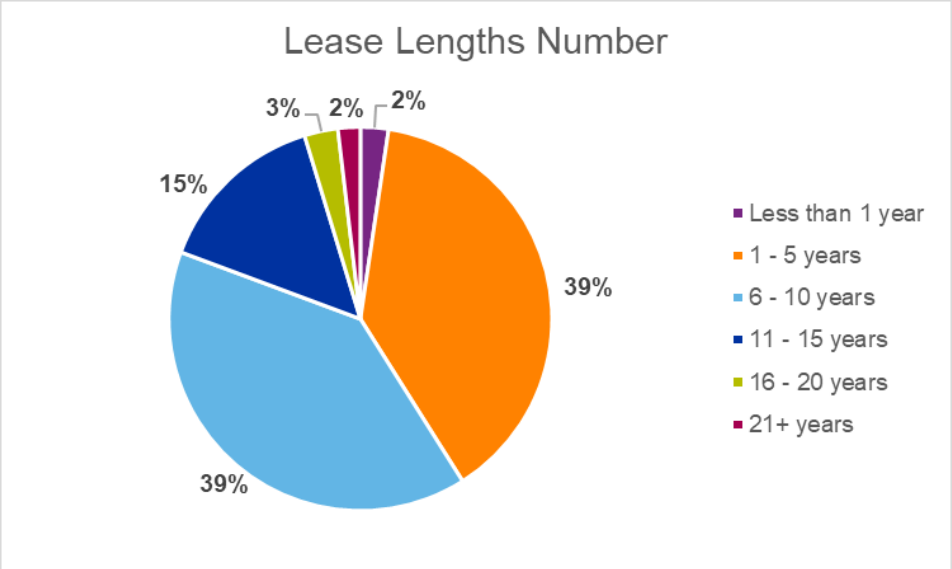
4.22.2 The average sales rate is £34 per sq.ft. which is around one-third of current build costs.

4.22.3 Lease lengths for the 374 letting transactions are analysed on Figure 26. Most are either up to 5 years (41%) or 6-10 years (39%). A further 15% are 11-15 years' duration and only 5% are longer than 15 years.

4.22.4 Industrial deals are therefore at much lower rents and prices and on shorter leases than would be required to fully fund new development, reflecting the fact that this largely second-hand market is composed mainly of older industrial buildings. New industrial development is considered in Section 5.

[24] This is the simple average and is not weighted by floorspace either here or for supply.

FIGURE 26: LEASE LENGTHS



Source: Ryden / CoStar

4.23 Take-up of units by Growth Deal area is in Table 6. Glasgow City Region had the majority with 58% of all take-up by floorspace and 50% by number. Edinburgh & South East Scotland City Region Deal had 20% of floorspace at 19% by number; followed by Aberdeen City Region with 9% of floorspace 14% by number.

TABLE 6: TAKE-UP OF UNITS IN EACH GROWTH DEAL AREA

GROWTH DEAL LOCATION	NUMBER	FLOORSPACE (SQ.FT.)
Aberdeen City Region Deal	78	2,113,007
Argyll & Bute Growth Deal	0	0
Ayrshire Growth Deal	30	887,806
Borderlands Growth Deal	12	378,001
Edinburgh & South East Scotland City Region Deal	107	4,940,406
Falkirk Growth Deal	11	564,462
Glasgow City Region Deal	277	14,101,271
Inverness & Highland City Region Deal	9	315,016
Islands Deal	0	0
Moray Growth Deal	1	16,202
Stirling & Clackmannanshire City Region Deal	5	175,030
Tay Cities Deal	26	879,552

Totals do not sum to total supply due to overlapping Growth Deal areas: Scottish Borders is included in both Edinburgh & South East Scotland City Region Deal and Borderlands. Borderlands excludes the regions in England. North East Fife is included in Tay Cities Deal while the remainder of Fife is in Edinburgh & South East Scotland City Region Deal
Source: Ryden / CoStar

MANUFACTURING TAKE-UP

4.24 Each of the deals has been inspected and classed as either manufacturing (116), other sectors (388) or unknown (47). The classification is:

- Manufacturers include engineering, aerospace, food & drink (but not distribution warehouses), textiles (but not factory shops or distribution), life sciences (manufacturing not research), photonics, packaging (manufacture of) and maritime (fabrication not supply/ installation/ service).

- Non-manufacturing occupiers include storage & distribution, trades, logistics, utilities and services as well as many general businesses simply occupying affordable units.

Some judgement is required, as for example a process or fabrication industries may or may not manufacture finished components or products.

4.25 Using this classification, 116 (**23%**) of the 504 known occupiers are manufacturers:

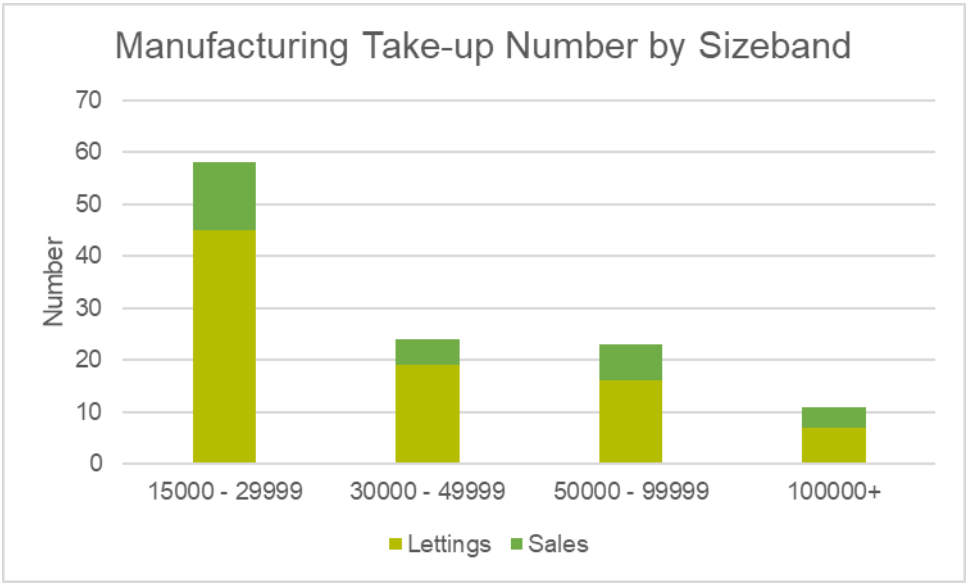
- There are approximately 20 manufacturing property deals on average year.

- Manufacturers took slightly larger premises (mean 46,200 sq.ft.) than the general market.

- Manufacturers took slightly newer premises than the general market.

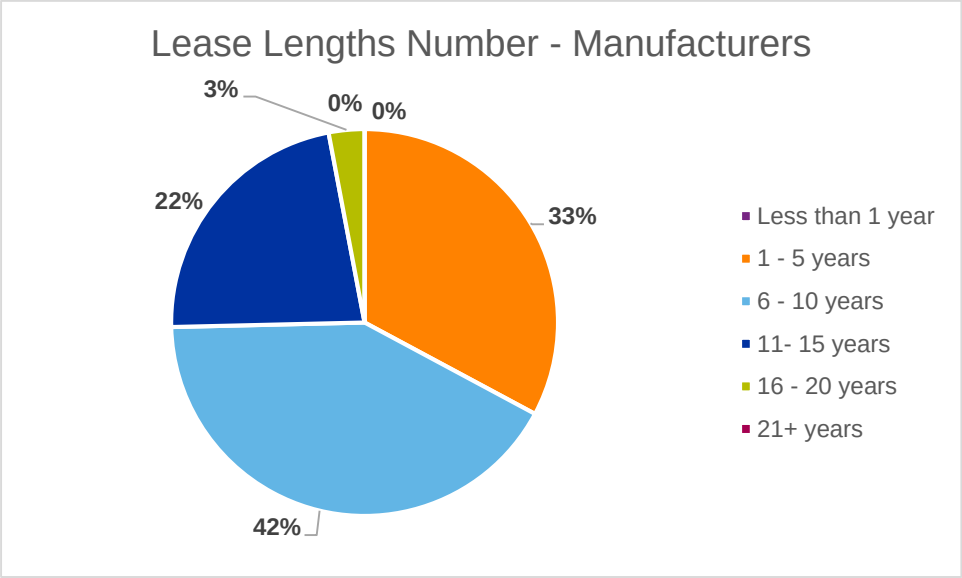
- Three-quarters of deals to manufacturers were leased, one quarter were sold (Figure 27). Of those leased the mean rent was £4.86 per sq.ft. and 75% of leases were up 10 years (Figure 28).

FIGURE 27: DEMAND FROM MANUFACTURERS



Source: Ryden / CoStar

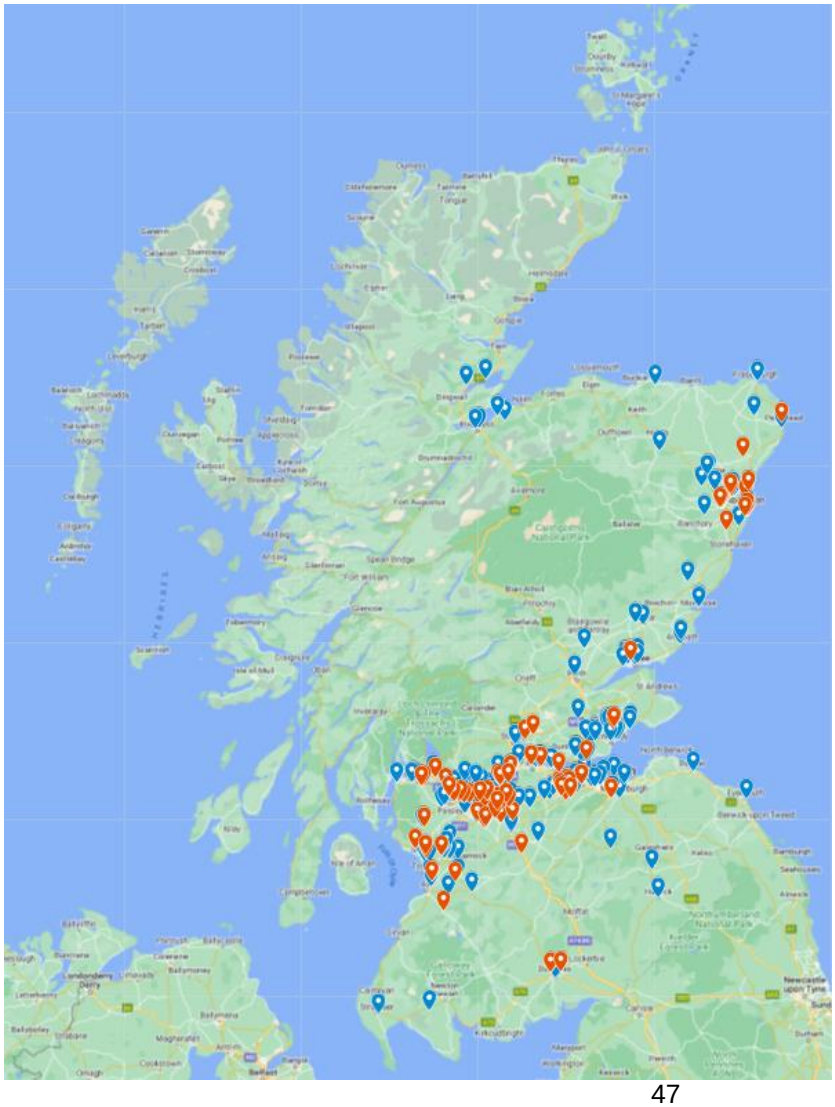
FIGURE 28: LEASE LENGTHS TO MANUFACTURERS



Source: Ryden / CoStar

4.26 The spread of units taken-up in Table 6 above is shown on a map on Figure 29. The flags are split into red (manufacturers) and blue (other occupiers). Clear concentrations of manufacturing take-up of buildings can be seen firstly in West and Central Scotland, and secondly around Aberdeen.

FIGURE 29: LOCATION OF UNITS TAKEN-UP *Source: Ryden / Google Maps*



4.27 A selection of examples of take-up by manufacturing companies is shown in Table 7. The buildings taken are typically 2-3 star properties of 15,000 – 50,000 sq.ft. Two are however new buildings. Sectors include engineering, space and life sciences.

TABLE 7: EXAMPLES OF MANUFACTURING TRANSACTIONS

PROPERTY		SIZE (SQ.FT)	DETAILS
Firth Road, Houstoun Industrial Estate, Livingston		16,600	Let in July 2022 to Livingston Precision Engineering on a 4-year lease at £4.30 per sq.ft. Built 1970s, 3-star rating
Fifty Pitches Road, Cardonald Park, Glasgow		18,755	Let in April 2022 to Aeropair on a 10-year lease. Built 2000s, 3-star rating, EPC rating C (HVM)
Howe Moss Drive, Kirkhill Industrial Estate, Dyce, Aberdeen		22,679	Let in April 2022 to Metrol Technology Ltd on a 1-year lease at £9 per sq.ft. Built 1980s, 3-star, EPC rating C
104 Hillington West, Hillington Park, Glasgow		25,467	Let in February 2022 to Kayfoam Ltd on a 10-year lease at £8.50 per sq.ft. Built 2022, 3-star rating, EPC rating B (HVM)
2 Southhook Road, Kilmarnock		15,507	Let in August 2021 to CP (Electric) Ltd (FuseBox) on a 10-year lease at £5.25 per sq.ft. Built 1990s, 3-star, EPC rating E
Macadam Square, Livingston		27,300	Let in July 2021 to Valneva on a 10-year lease. Built 1990s, 3-star rating, EPC rating B. In addition Valneva purchased a unit at Oakbank Park (HVM)
Drum Mains Park, Cumbernauld		51,140	Let in July 2021 to Skyrora on a 12-year lease. Built 1980s, 2-star rating, EPC rating B (HVM)
Fraser Road, Kirkton Campus, Livingston		51,401	Sold in April 2021 to Impact Laboratories Ltd for £1.75m. Built 1990s, 3-star rating, EPC rating E
Unit 5 Cambuslang Road, Rutherglen Links, Glasgow		15,000	Let in April 2021 to Mallatite on a 15-year lease at £7.50 per sq.ft. Built 2020s, 3-star rating
Cartside Avenue, Inchinnan Business Park, Renfrew		21,485	Let in September 2017 to Vascutek, and purchased by them in March 2020 for £3m. Built 1992, 3-star rating (HVM)
Queen Anne Drive, Newbridge, Edinburgh		51,671	Lease renewal in June 2020 to Honeywell International for a further 10-years at £5.60 per sq.ft. Built 1990s, 2-star rating

Source: Ryden / CoStar

OCCUPIER ENQUIRIES

4.28 Occupier enquiries for land and property measure current demand and signal future activity. While they do not guarantee a future investment, they provide stronger evidence than surveys. As with the take-up analysis above, both general industrial enquiries and specific manufacturing enquiries are analysed.

4.29 As examples, current requirements for a manufacturing and production premises in the Edinburgh area, and a manufacturing and distribution unit in the Glasgow area are shown. It can be seen that premises for manufacturing have some specific design considerations (and others not listed such as concrete ground floors, power supply and roller shutter doors, plus any specific to the manufacturing process). 'D&B' indicates that developers with land could offer a design-and-build option, which available to well-capitalised businesses such as this plc on the basis of a purchase or a long lease commitment. Notably, the D&B option is for the full 40,000 sq.ft. rather than the range for an existing building, perhaps reflecting long term growth requirements.

LOCATION	Edinburgh
USE	Manufacturing and Production
SIZE	20,000 – 40,000 sq.ft.
SPECIFICATION	Preference for existing building Will consider D & B (40,000 sq.ft.) 7 - 8m eaves height Detached property Secure yard Office content 5 - 10%
TIMING	2023 - 2024 depending on solution
TENURE	Leasehold (Plc Covenant)

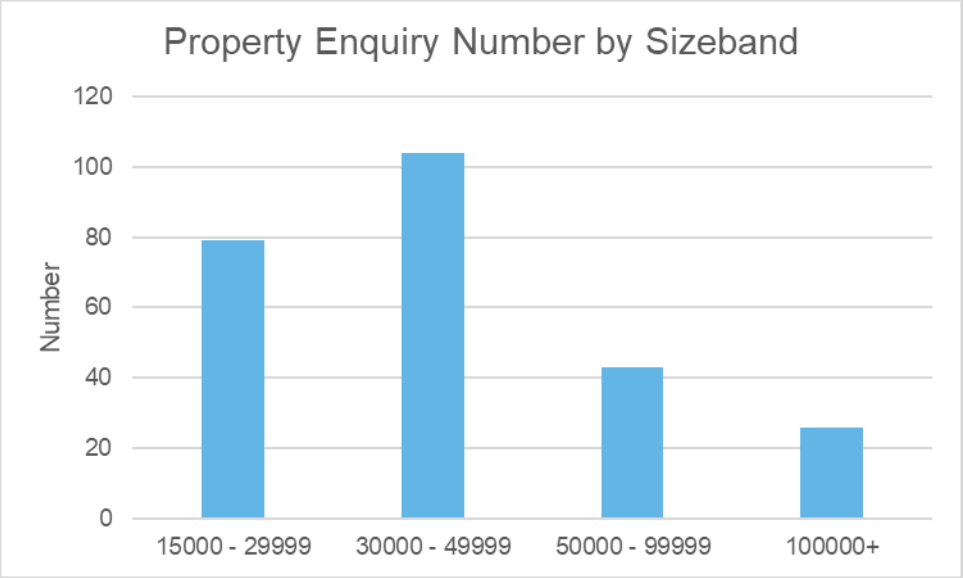
LOCATION	South & West of Glasgow
USE	Manufacturing and Distribution
SIZE	8,000 – 10,000 sq.ft.
SPECIFICATION	200 KVA requirement Yard and car parking Office content Minimum 5.5 m eaves
TIMING	3 – 4 months
TENURE	Leasehold or Heritable

4.30 The general market analysis uses Ryden's in-house database, Alcium Agency Pilot, which records thousands of enquiries for property. Since January 2020, 252 enquiries have been recorded for industrial property in Scotland of >/= 15,000 sq.ft. The total requirement is 10 – 17 million sq.ft. (due to enquiries stating ranges rather fixed sizes).

4.31 Figure 30 shows these enquiries grouped into sizebands. The peak demand is for units of 30,000 – 49,999 sq.ft. rather than 15,000 – 29,999 sq.ft. seen within the transactions analysed above, however caution is required as this could reflect the particular unit sizes which are being marketed.

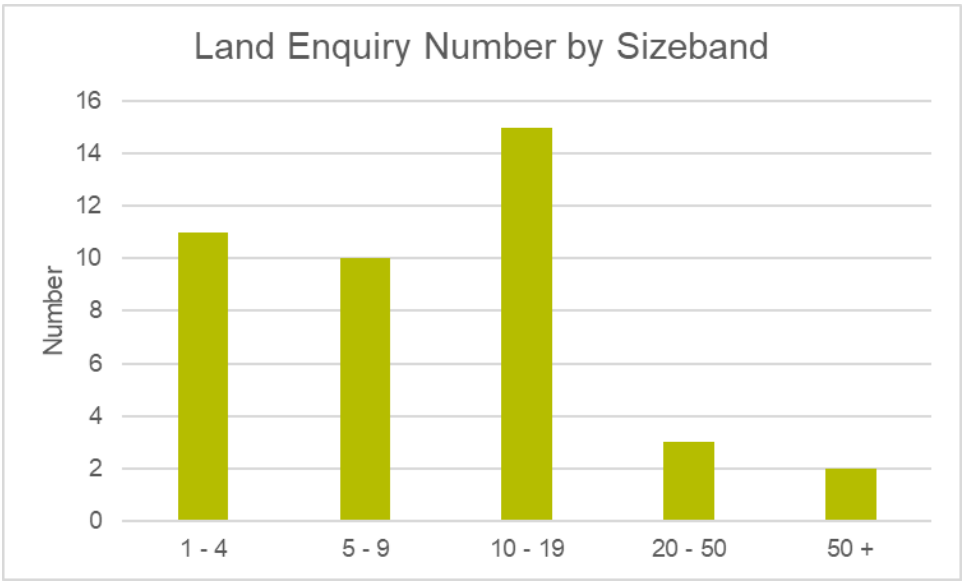
4.32 A smaller number of enquiries (41) was received for land for industrial development (Figure 31). Many seek larger sites including a peak at 10-19 acres. These may be the larger and perhaps more specialist requirements (for example energy facilities) which are not being met by standard buildings on the market. The total land requirement on the chart is 230 – 790 acres.

FIGURE 30: ALL INDUSTRIAL ENQUIRIES SINCE JANUARY 2020



Source: Ryden

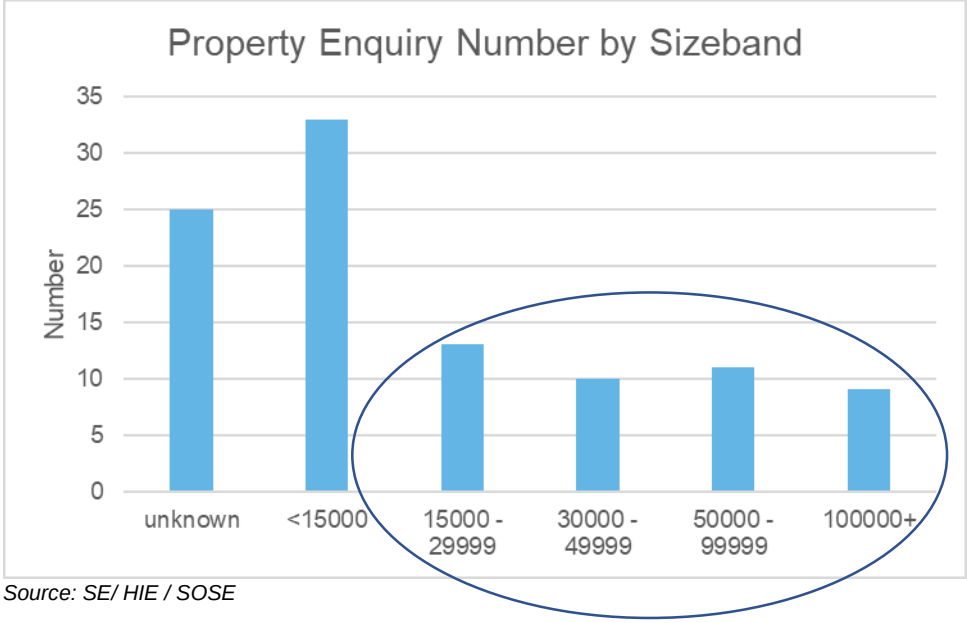
FIGURE 31: INDUSTRIAL LAND ENQUIRIES SINCE JANUARY 2020



Source: Ryden

4.33 Moving on to high value manufacturing specifically, the client group comprising SE, HIE and SOSE provided anonymised enquiries received from this type of occupier since 2020 (2022 for SOSE). The total number of relevant property enquiries received was 101. The total size requirement is 4.5 million sq.ft. Of this, 43 sought premises >/= 15,000 sq.ft. (Figure 32). A Technology & Engineering requirement (for a fabrication facility) in the HIE area has been fulfilled.

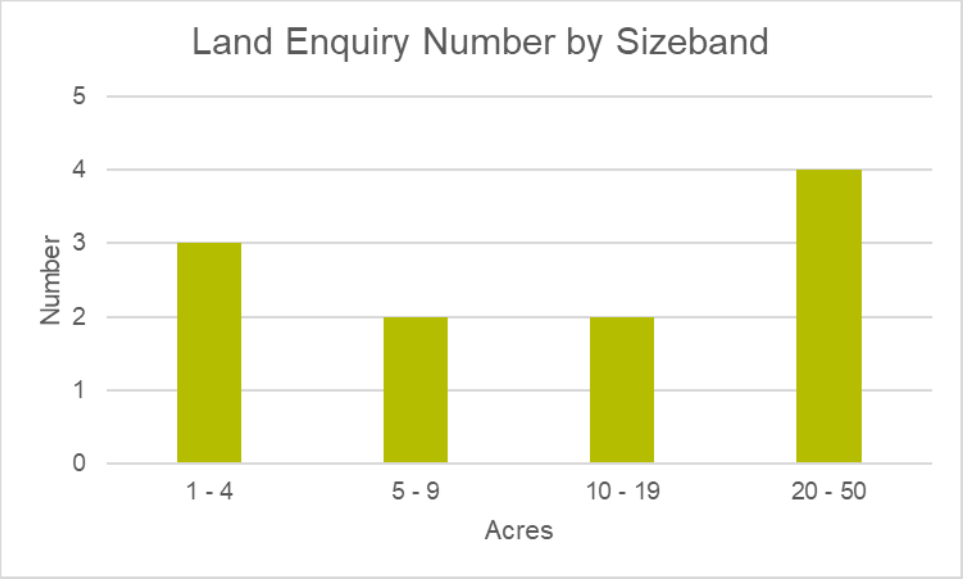
FIGURE 32: HVM PROPERTY ENQUIRIES



Source: SE/ HIE / SOSE

4.34 Enterprise agencies also received 11 enquiries from high value manufacturers for development land totalling 299 – 527 acres (Figure 33). Half sought larger sites of 10 acres or more, which mirrors the Ryden data for all industrial enquiries shown above.

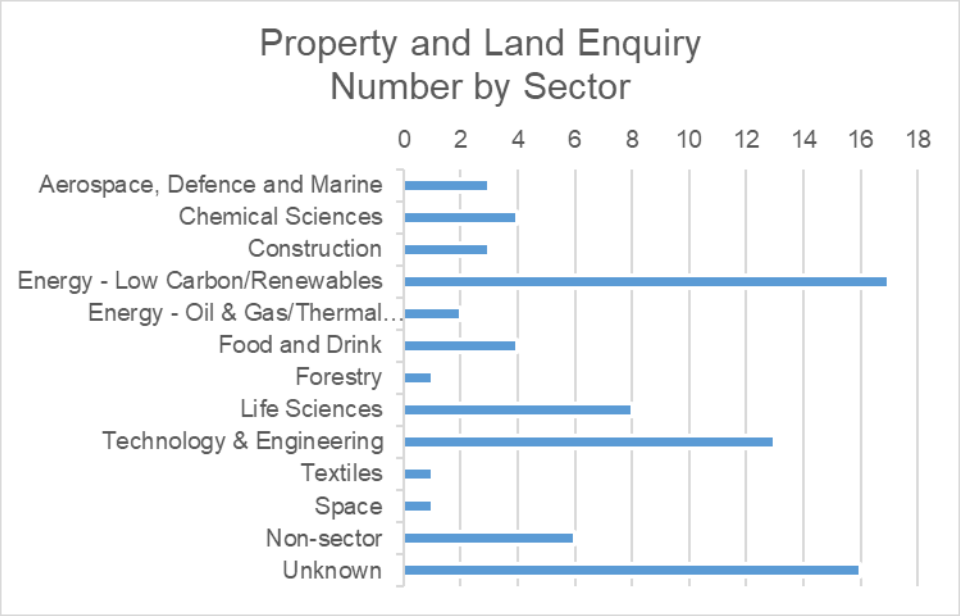
FIGURE 33: HVM LAND ENQUIRIES



Source: SE/ HIE / SOSE

4.35 The property enquiries for 15,000 sq.ft. or more and land enquiries for 1 acre or more (which is roughly equivalent) have been analysed by sector (Figure 34). Enquiries from the energy sector are highest in number, followed by technology and engineering. Life sciences is next, with other sector enquiries in the low single figures each.

FIGURE 34: PROPERTY AND LAND ENQUIRIES BY SECTOR



Source: SE/ HIE / SOSE

4.36 The demand from high value manufacturing sectors is notable, but demand for medium to larger premises from any one sub-sector is not deep. Applying a conversion (success) rate to any of the sectors would indicate the potential to secure 1 or 2 projects; perhaps more in the larger sectors such as energy. This of course is based upon only 2.5 years enquiries and there will be continuing and – if economic projections and sector strategies are correct - growing demand to meet in future.

4.37 Over the longer term, EY's annual attractiveness survey reports growing FDI activity in manufacturing to sit as the second most active sector after business services, with 35 projects secured in Scotland in the last year and noted potential for reinvestment among manufacturing businesses.

SUMMARY

4.38 Scotland' industrial property stock (all floorspace) is large, and ageing. The current vacancy rate for industrial units of 15,000 sq.ft. is low and the quality of the buildings tends towards older and basic, mirroring the stock. Some of the supply may be approaching obsolescence and indeed has been on the market for an extended period. This is a concern for high value manufacturers who may typically seek modern, productive, environmentally efficient premises.

4.39 Analysis of all property transactions since January 2017 indicates that manufacturing, using a loose classification, may account for around 20-25% of the industrial property market in this size bracket. High value manufacturing is a smaller proportion and is in competition with a wide range of other industries for available premises of any quality. Interestingly though, there is no evidence that manufacturers take the better quality premises on the market as the characteristics (properties, rents and lease terms) of the lettings and sales to those occupiers are very similar to the rest of the market. That may highlight a large gap between the financial commitments to take an older second-hand building, and what would be required to secure a new, state-of-the-art high value manufacturing building. In geographic terms there is a concentration of take-up in West and Central Scotland, and around Aberdeen (due to the energy industry).

4.40 Enquiries for high manufacturing premises made to enterprise agencies are notable overall, but are not particularly deep across any of the specialist sub-sectors, other than energy and technology/engineering.

05

NEW DEVELOPMENT FOR HIGH VALUE MANUFACTURING

INTRODUCTION

5.1 Section 4 analysed the market for existing industrial buildings. This section considers development land and both speculative and purpose-built (bespoke) new development, including a range of examples.

DEVELOPMENT SITES

5.2 Alongside the supply of existing premises, land for high value manufacturing investment is required to support new development. There are many thousands of hectares of allocated employment land across Scotland, much of that only partly or un-serviced. The Client Brief was to identify larger sites with 10-20 acres (5-10 acres in the HIE and SOSE territories) which are immediately available to manufacturers. Prime sites with only plots available and strategic sites which are committed but not yet ready for investment are not included[25] . The identified sites listed in Table 8 over the following pages have not been checked against manufacturing uses in terms of consenting and services.

5.3 In total there are 26 identified larger serviced, marketed sites with the potential to accommodate manufacturing uses. The sites are located across Central Scotland (9), Fife (5), Tayside (1), Highlands (3 using a lower size threshold), Aberdeen area (3), Ayrshire (3) and 2 in South of Scotland. In overall spatial terms, the supply of potential locations in the core Central Belt particularly around Glasgow seems relatively low in comparison with the share of the industrial and manufacturing property market in that location. A very wide range of plots size is marketed across these sites. Only AMIDS is specifically targeting manufacturers, with the other sites open to a range of employment and perhaps commercial uses. There is some public sector ownership in the forms of enterprise agencies and local authorities, otherwise the locations are in private landownership.

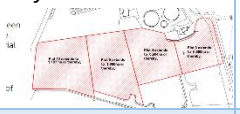
5.4 There is no formal analysis of land take-up[26] for industry to measure against this supply of larger sites, however Ryden is aware that the portfolios of strategic sites established during the 1990s are being eroded. New sites being brought forward principally through City and Growth Deals are typically not yet market-ready. Large, legacy sites do exist in Scotland's New Towns; some are being re-promoted for employment uses and some for alternative uses.

[25] For example, among the many sites sieved out, Ravenscraig in Lanarkshire is strategic but is not immediately developable, Machrihanish in Argyll & Bute has large existing buildings on site and Clyde Gateway East in Glasgow has plots left but those below the 10-20 acre range set.

[26] Employment land take-up data contained in local planning authority employment land audits is aggregated by Heads of Planning Scotland. Manufacturing take-up is not separately available.

TABLE 8: SERVICED AND PROMOTED DEVELOPMENT SITES

SITE	SIZE (ACRES)	DESCRIPTION
ABZ Business Park, Aberdeen 	54	Actively being marketed, Ryden. Fully serviced sites and bespoke building solutions available for sale or for lease on flexible arrangements subject to certain minimum requirements. Design and specifications can be tailored to meet individual requirements. From 1 acre+
The Core, Berryhills Crescent, Bridge of Don 	20	Actively being marketed, J & E Shepherd. The available site comprises a plot of land approximately 100 acres in size. Design and build opportunities are available from 5,000 to over 100,000 sq.ft. of office and industrial buildings in a variety of combinations. Outline Planning consent exists for business development within Classes 4, 5 and 6
Thainstone Business Park, A96 Inverurie 	65	Actively being marketed, CBRE. Fully serviced sites and bespoke building solutions can be made available for sale or for lease on flexible arrangements, subject to certain minimum requirements.
Moorfield North Industrial Park, Kilmarnock  Ayrshire Engineering Park, Moorfield Phase 3	10	Actively being marketed, Graham & Sibbald. Fully serviced development sites for sale: 8 acres and 2 acres. The Ayrshire Engineering Park will provide expansion and development of Moorfield Industrial Park in Kilmarnock, creating serviced and high quality business space, with a range of units to support the advanced manufacturing and light engineering sectors in Ayrshire. Provision of high quality industrial premises for engineering and manufacturing companies; a fully-developed site with the required access and utilities infrastructure, high-spec digital connectivity and up to 113,400 sq.ft. of units for growth and expansion of the existing engineering business base, and to attract inward investment.
I3, Irvine 	90	Site 2 Strategic Investment Campus. 205 acres, a 90 acre development site has been created, including a 50 acre level development platform. Identified as a business and industry employment location with simplified and accelerated planning policies and procedures are in place for Use Classes 4, 5 and 6.
Ravenscraig, Motherwell 	100	Actively being marketed, Ryden. Up to 100 acres of land for employment use, in varying plot sizes. Plots have servicing to the nearest road end and are available for immediate development.
Aerospace Park, Dow Road, Prestwick 	22	Actively being marketed, Colliers. Fully serviced plots available for bespoke commercial development ranging from 1.7 acres to 7.09 acres. Strategic site adjacent to Prestwick Airport. The site has planning permission for aerospace or airport related development consistent with Use Classes 4, 5 and 6
Neilson Square, Deans Industrial Estate, Livingston 	43.8	Actively being marketed, Lambert Smith Hampton. Strategically located commercial development site. Sites from 0.5 acres. Design and build opportunities available. Planning permission in principle for up to 425,000 sq.ft. of Class 4 and 5 development.
J4 M8 Distribution and Business Park, Strand Drive, Bathgate 	20	Actively being marketed, Ryden and JLL. The plot comprises 20 acres of development land from 3.55 acres suitable for design and build opportunities. Can accommodate buildings from 35,000 - 200,000 sq.ft.

Heartlands Business Park, Whitburn 	100 from 1 acre to 10 acres	Actively being marketed, Colliers. Has planning for 1.5m sq.ft. of commercial accommodation. West Lothian Council approved the sale of 12.64 hectares of land in August 2022 to Henry Boot Developments Limited. This will allow the firm to develop industrial and associated office accommodation on the site, ready for business looking to expand or relocate.
Fife Interchange, Dunfermline 	42	Actively being marketed, Ryden. Fife Interchange South is fully serviced and ready for development, allocated for industrial and employment uses suitable for Class 4 (Office/Light Industrial), Class 5 (General Industrial) and Class 6 (Storage and Distribution). The site can be disposed as a whole or sub-divided into individual plots. Fife Interchange North is under offer
Queensferry One, Rosyth 	120	Actively being marketed. CBRE. Strategic development site of 120 acres. Plots of 1 to 90 acres on a design and build basis for sale or lease. The masterplan provides scope for a variety of uses and the LDP allocates the majority for Class 4 (business), Class 5 (general industrial), Class 6 (storage and distribution) & associated uses. Fully serviced sites are immediately available
Levenmouth Business Park, Buckhaven 	20	Actively being marketed, Fife Council/ Invest Fife. Allocated for business uses suitable for Class 4 (Office/Light Industrial), Class 5 (General Industrial) and Class 6 (Storage and Distribution). Serviced land from 2 acres
Dunnikier Business Park, Kirkcaldy 	10.37	Actively being marketed, Fife Council. 4 plots for sale: Plot 3 1.62 acres; Plot 4 2.18 acres; Plot 9 2.62 acres; Plot 10 2.74 acres. Could be combined to provide a development opportunity for a single occupier. Suitable for Class 4 business uses. Serviced site.
Westfield, near Glenrothes 	25, from 2	Actively being marketed, Ryden. Brownfield site which benefits from Planning Permission in Principle. Development platforms will be available from 2 - 25 acres and there is also an additional phase 2 area. Planning consent for Use Classes 4 (Business), 5 (General Industrial) and 6 (Storage & Distribution) in addition to other employment related uses. The site is particularly suitable for industrial uses requiring significant energy provision. For sale / let
Tom McDonald Avenue, Dundee 	14	Actively being marketed, Graham & Sibbald. Set in a strategic location within the medical school and research community. Available as a whole or in part
Glenbervie Business Park, Larbert 	30.64	Actively being marketed, Colliers. 4 remaining sites: a large site accessed off North Broomage Roundabout of 30 acres with a preference to sell to an occupier or developer. The small sites (Plots 5, 6 and 7) are accessed via the Bellsdyke Roundabout and are currently serviced by the main Business Park road. Individual development sites are available to purchase, one of these is the large former single user site.
Abbotsford Business Park, Falkirk 	29	Actively being marketed, Colliers. c 29 acres of brownfield land formerly occupied by Alcan and used in the processing of aluminium. The site has been cleared, remediated and new services provided. Potential for office and industrial development, zoned for Class 4, 5 & 6 uses.
Gartcosh Business Interchange, Glasgow 	67.48	Actively being marketed, Colliers. Situated on M73 Corridor with access to a 4-way interchange. Distributor roads built and some plots remediated. Guala Closures is to develop a superfactory here.

Advanced Manufacturing Innovation District Scotland, Renfrewshire 	52	Actively being marketed, Scottish Enterprise. Collaborative project to create Scotland's home for manufacturing innovation, attracting advanced manufacturing companies to locate and invest in Scotland**.** Significant, flexible development opportunities on a greenfield site: Range of property delivery options including Self Build; Design and Build; and Build to Lease; Flexible to accommodate a range of sizes and types of building.
Coddington Crescent, Eurocentral 	130	Actively being marketed, SE/ Avison Young. Sites from 6 acres. Variety of serviced plots, for Sale or to Let and ready to accommodate production and distribution business. Land purchase opportunity. Ground lease opportunity. Design and Build packages.
Inverness Airport Business Park, Inverness 	47.6	Actively being marketed, Graham & Sibbald. Fully serviced plots for sale on a 125 year ground lease. Suitable for range of commercial uses. Plots from 0.5 – 20 acres. Phase 1 is 36 acres with planning permission for office / industrial units within Use Classes 4, 5 and 6. Aerospace Development Zone is 7.4 acres of serviced land set aside for companies operating within the Aerospace, Space and Defence sectors
Plot 5 Enterprise Park, Forres 	6.1	Actively being marketed, Graham & Sibbald. High amenity development site located within the Enterprise Park. Suitable for Use Class 4 – Business Use. HIE owned - range of sites zoned for business/industry. A range of sites, however, those within scope of the study are 6.1, 10.16 and 10.77 acres.
Elgin Business Park, Elgin 	6	Actively being marketed. 4 plots remain available, with 5 acres contiguous.
Gilnockie Business Park, Heathhall Industrial Estate, Dumfries 	10	Actively being marketed, JHS Law. Development site of approximately 22 acres which has been partially developed out. 10 acres remain available of which individual plots can be made available. For offices, commercial & industrial use. For sale or rent.
Gunsgreenhill Industrial Estate, Eyemouth 	5	Actively being marketed, Scottish Borders Council. 5 acres available in various plot sizes.

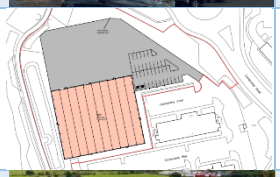
Source: Ryden / Agents / Local Authorities

NEW SPECULATIVE DEVELOPMENT

5.5 Speculative development is undertaken at risk without an occupier signed up. Developers tend to favour terraces of smaller units that appeal to a wide range of occupiers, including trades / quasi-retail who often pay the highest rents. However, a number of new developments are underway which could provide modern, high specification industrial units of 15,000 sq.ft. or larger. This can also be important from an economic development perspective by providing new modern units ready to occupy in the short term.

5.6 Table 9 on the next page summarises the relevant schemes currently on site in Edinburgh, Glasgow, Cambuslang, Gartcosh and Motherwell.

TABLE 9: INDUSTRIAL UNITS UNDER CONSTRUCTION (15,000 sq.ft. and larger)

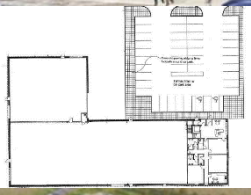
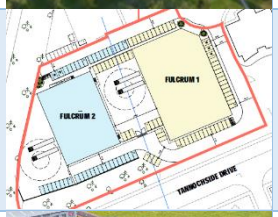
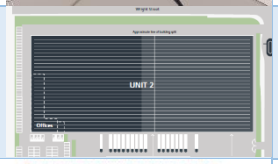
DEVELOPMENT		DETAILS
13-15 Bankhead Avenue, Capital Park, Edinburgh		3 units totalling 15,721 sq.ft. under construction, each unit c. 5,000 sq.ft. in a terrace. Capital Park will comprise 18 new high specification trade counter and industrial/warehouse units centrally located in Edinburgh.
16-18 Bankhead Avenue, Capital Park, Edinburgh		3 units totalling 42,479 sq.ft. under construction, units from 10,821 – 14,504 sq.ft. in a terrace. Completion due Spring 2023
75 Stanley Street, Kinning Park, Glasgow		Class 6 warehouse totalling 53,745 sq.ft.
3 Cambuslang Court, Cambuslang Investment Park, Cambuslang		35,000 sq.ft. unit by Colhoun Estates (Cambuslang) Ltd. For lease at £10 per sq.ft. Available September 2023. First year rates free.
Link Park, Motherwell		New build industrial and logistics warehouse totalling 47,565 sq.ft. in a 5.9 acre site. Targeting an EPC rating of A. The unit has been pre-let to Coop for a distribution warehouse on an 18-year lease at £12.15 per sq.ft. Joint venture between Tulchan Developments and Fusion Assets, forward funded by Realty Income Corporation. Short-term sub-lease available, first year rates free
Ellismuir Way, Tannochside Park, Glasgow		42,345 sq.ft. industrial warehouse with high quality office under construction and due for completion March 2023. For lease / may sell
Dalmarnock North, Clyde Gateway, Glasgow		Harris Finance are constructing two units to provide 5,000 sq.ft. and 10,000 sq.ft. at £9.50 per sq.ft and a further phase providing a single unit of 30,000 sq.ft.
Gartcosh Industrial Park, Gartcosh, North Lanarkshire		Development by Fusion Assets. Phase 1 : 60,000 sq.ft. new build Class 4, 5 and 6 business and industrial floorspace, let to DX. Phase 2 : two buildings 16,098 sq.ft. and 24,748 sq.ft. available.

5.7 LKJGF Table 10 on the following two pages extends the speculative development analysis to proposals which are not yet under construction. Notably, the market appetite for speculative development had not only continued but had expanded geographically to include locations such as Perth, Uphall and Falkirk. However, the development market has recently experienced sharply rising costs in tandem with falling capital values due to higher interest rates, and may now also face a period of more subdued activity.

5.8 The economics of each project will vary, but the general build cost for an advance factory of 15,000 sq.ft. with high office content is around £1.7 – 2.3 million[27], plus site cost and manufacturer's fit-out. A shell building would cost less but require much more expenditure on completion and fit-out. For speculative development where the developer takes the project risk, rents had moved above £10 per sq.ft. and in some cases are now £14-15 per sq.ft. These substantially increased levels of rents will not be affordable for some occupiers, potentially including manufacturers who would need to compete in the open market with other types of business to secure a new unit to occupy, before incurring any additional fit-out costs.

[27] Building Cost Information Service December 2022 mean price £1,215 / sq.m. and upper quartile £1,618.

TABLE 10: PROPOSED INDUSTRIAL UNITS (15,000 sq.ft. and larger)

DEVELOPMENT		DETAILS
Unit 8 & 9 Venture Drive, Kingshill Commercial Park, Westhill		15,500 sq.ft. and 15,560 sq.ft. high spec industrial units with office space by Knight Property Group
Broadfold 1, Bridge of Don		18,550 sq.ft. in total warehouse 12,100 sq.ft. with office (6,450 sq.ft.) and yard space. For lease £12.40 per sq.ft.
Hill of Tramaud, Bridge of Don		Proposed detached industrial unit with high quality office space and yard, totalling 20,073 sq.ft.
Blackdog, Aberdeen		Total of 38,750 sq.ft. proposed in units from 2,570 sq.ft. Flexible, high-quality industrial units available to pre-let
Fulcrum One and Two, Ellismuir Way Tannochside Park, Glasgow		Two industrial and logistics warehouses. 18,611 sq.ft. and 27,857 sq.ft. Targeting an EPC rating of 'A'. Planning permission granted.
Langlands Gate, East Kilbride, Glasgow		28,010 sq.ft. industrial unit with offices by Knight Property Group
Belgrave Logistics Park, Bellshill		53,735 sq.ft. warehouse unit with offices
Connect 70, Bellshill Industrial Estate, Bellshill		69,589 sq.ft. industrial and logistics warehouse and office accommodation on a 4.13 acre site.
Unit 2 Westway, Wright Street, Renfrew		202,230 sq.ft. industrial warehouse unit. Targeting an EPC rating of A
Gartcosh Industrial Park, Gartcosh, North Lanarkshire		Proposed Phase 3 development by Fusion Assets. Four units totalling c. 62,000 sq.ft., from 9,945 sq.ft., suitable for Class 4, 5 and 6 uses.
Orchard Park, Eurocentral		Tulchan Developments received planning permission for a new industrial and logistics development totalling 353,000 sq.ft in five buildings on a 24 acre prime site. Units will range from 42,500 to 122,500 sq.ft.

Block 1, Dunalastair Industrial Estate, Chapelhall		18,977 sq.ft. in a terrace sub-divisible into smaller units from 2,314 sq.ft. For lease £8.50 per sq.ft. Two smaller terraces are also proposed here.
Arran Road, North Muirton Industrial Estate, Perth		Class 4, 5 and 6 units proposed totalling 80,000 sq.ft. in units from 5,000 sq.ft. Design & build packages.
Victoria Green Business Park, Carnoustie		Business Park development by D J Laing. Suitable for Class 4 Business, Class 5 General Industrial and Class 6 Storage and Distribution business types. Most units will range 1,037 – 9,700 sq.ft., with one 16,000 sq.ft. unit proposed.
Evolution 5, Hillington Park, Glasgow		22,270 sq.ft. over five trade counter units from 4,759 sq.ft.
Uphall Business Park, Uphall		40,740 sq.ft. in 11 units from 1,905 sq.ft. available individually or combined
Abbotsford Business Park, Falkirk		21,440 sq.ft. over two terraces in 16 units from 1,065 sq.ft. Only once terrace could combine to at least 15,000 sq.ft.

5.9 These challenging development economics and the large portfolio of older buildings brings greater focus onto refurbishment of existing buildings (which may benefit embedded carbon and existing locations too). Rehabilitation of a 15,000 sq.ft. unit is currently estimated at £0.7 – 1.0 million plus any fit-out (or upgrade) cost to the occupier. In prime locations where demand and rents can justify the investment, such refurbishment is well underway, for example Hillington, Westway in Renfrew and in the east Glenrothes and Inverkeithing. Many other examples in cities, larger towns and former New Towns of different degrees of refurbishment to different types of industrial building will exist. To a large extent their potential for refurbishment will depend upon physical obsolescence such as the materials and condition of the frame, roofing, cladding and heating systems, and also functional obsolescence in terms of access, floor loadings, eaves height and a unit configuration able to accommodate modern production facilities.

5.10 **Pioneer Group** is an example of a specialist speculative developer operating in the life sciences sector. The Group was formed in 2021, following the merger of US property firm Harrison Street and the UK collective Trinity Investment Management and the acquisition of BioCity. It is now the UK's largest life sciences business park group and aims to replicate its successful North America model. The company build and operate life science technology campuses across Europe. They currently operate across 10 locations across the UK and Ireland and have a portfolio which includes 2.6m sq.ft. of life science space. A further 300,000 sq.ft. are under development and 2m sq.ft. are planned for the future. Pioneer Group *provides "life sciences real estate"* within an *"innovation ecosystem"* which means that the company does not only invest in real estate but supports tech transfer and accelerator programmes with a scalable ecosystem linking key universities, public bodies and the NHS with venture capital investment and global partners.

- In Scotland, Pioneer Group own and operate BioCity in Lanarkshire and Edinburgh's Technopole which represent c. 110,000 sqft of commercial space. Biocity Glasgow (20 acres) is located just off the M8 at Chapelhall and is a former MSD research facility. It provides office and lab space on an "easy in-easy out" basis with opportunities to scale up or back at short notice. The site is designed to support companies looking to commercialise opportunities in life sciences, MedTech, digital health, healthcare and wellness. It also offers a number of shared facilities specific to the sector such as a drying oven, gas and waste solvent stores, ice machine and water purification system. Edinburgh Technopole (126

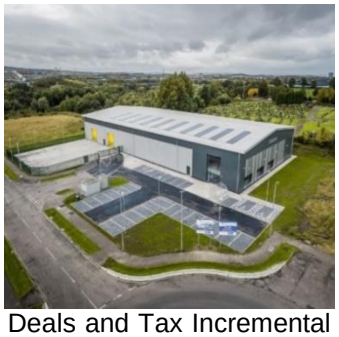
acres) is located c. 30 minutes from Edinburgh and comprises 10 buildings including the Grade A listed Bush House and the Cottages, providing serviced office spaces. Edinburgh Technopole is part of the Midlothian Science Zone, a centre of research excellence in animal health and life sciences. There is 90% occupancy across BioCity Glasgow and Edinburgh Technopole.

- Pioneer Group are keen to respond to the lack of start-up, follow-on and scale-up space during Scotland's *"golden age"* and work with existing tenants and the pipeline of companies from other sites. Whilst they prefer a headlease or pre-let to building speculatively they are currently providing shell buildings suitable for a mix of uses. This includes at Edinburgh Technopole where work has begun on a new 20,000 sqft lab facility branded Moubray. Planning permission also exists for the company to deliver a further 20,000 sqft of space on site. It is understood that this new development will cater to all segments of the market - from start-ups to blue-chip companies - by incorporating "flexible layouts" and fully-fitted Grade A space. Ogilvie Construction is undertaking the works.

- Pioneer Group note that for businesses requiring facilities beyond "Cat A or B spec" properties need to be built around the manufacturing process. However, that bespoke need can change as the company and product change. For other companies, shell properties can be suitable and if physical parameters are suitable then retro-fit has advantages of timescale and cost.

ECONOMIC DEVELOPMENT AGENCIES

5.11 Economic development agencies may also undertake speculative development. In recent years this has tended to be highly focused on regeneration areas or target sectors. The undernoted are recent manufacturing sector direct interventions in Scotland, and some examples from other regions.



5.12 As a response to Scotland's Manufacturing Action Plan, Scottish Enterprise worked with East Ayrshire Council at Moorfield and Clyde Gateway URC at Clyde Gateway East to deliver **pilot projects** with conditions that they should be leased to **manufacturers** and clawback provisions if the buildings were sold. Three buildings totalling 80,000 sq.ft. were developed 2017-19 and let prior to or shortly after completion, confirming occupational demand. Development in a city location was shown to have the potential to become financially viable while development in the wider region has a viability gap. SE has recognised the importance of this and is targeting a bespoke delivery approach with partners and funding mechanisms (Growth Deals and Tax Incremental Financing) in 4 further locations across Central Scotland.

5.13 Michelin Scotland Innovation Parc (**MSIP**) is a current example of the reuse of an existing factory by a public-private partnership. The Michelin factory in Dundee closed its doors in 2020 after more than half a century of tyre production in the city. MSIP is an ambitious joint venture between Michelin, Dundee City Council and Scottish Enterprise which will see the re-purposing of an existing factory of 750,000 sq.ft. (32 ha site) and the creation of a new 215,000 sq.ft. developer/investor proposition to form an Innovation Parc. This is an industrial regeneration project which will see collaboration across innovation, manufacturing and skills development focused on sustainable mobility and decarbonisation. MSIP has refurbished two of the medium sized buildings of circa 20,000 sq.ft. to create the Innovation Labs and the Skills Academy which act as launch pads for the ideas and training in the greener transport technologies of the future. The Skills Academy is supported by academic partners at Dundee and Angus College, Abertay University, University of Dundee and University of St Andrews. Meanwhile the Innovation Labs offer 14 labs starting at 860 sq.ft. designed for short-term, flexible project use, they offer shared amenities and collaborative spaces for meeting and relaxing. This is incubation space rather than standard accommodation to lease. Next step accommodation can be provided in the Fulhame Building which is a development of 6 industrial units for light manufacturing, offering space for companies looking to take their first step into an industrial unit

with ambitions to growth. Each unit is between 1,900 – 3,900 sq.ft. Larger industrial buildings are also available, or have been occupied, including:

- Johnston Building – 11,800 sq.ft. - self-contained unit (currently reserved)
- De Rivaz Building – 20,344 sq.ft.
- Parker Building – 28,500 sq.ft. - will house the Accelerator labs and can be modified into smaller units
- Volta Building - 40,204 sq.ft. – currently split into 2 workshops (currently reserved)
- Bolton Building – 56,512 sq.ft.
- Cavendish Building – 100,000 sq.ft. – built in 2017 and can be split into individual units depending on need
- Telkes and Foote Buildings – 215,000 sq.ft. – built in 2017 and currently divided into 2 workshops

The Blyth Building has undergone a £1m renovation to offer open flexible office space. As well as being a workspace for the MSIP team, it offers multiple hot desks, networking space and flexible meeting rooms.

In July 2022, it was announced that AMTE Power will undertake a state of the art fit out of an existing building at MSIP for the production of high performance battery cells for the UK's energy transition. The 'megafactory' will produce up to 215 high-skilled jobs on site and 800 more across the supply chain.

MSIP also offers low carbon energy options with wind turbines on site offering reduced energy costs. The neighbouring MEB Energy waste plant is also configured to provide sustainable heat to MSIP through a steam pipeline.

This is an important example of reusing existing factory space to regrow onsite activity into a target sector.

5.14 The Advanced Manufacturing Innovation District Scotland (**AMIDS**) is a collaborative project, led by Renfrewshire Council, to create Scotland's home for manufacturing innovation. The aim is to attract advanced manufacturing companies to locate and invest in the area and become a primary location for manufacturing research and development. AMIDS includes:

- Netherton, a new development on land between the White Cart river and Glasgow Airport, is home to two new world-class innovation centres - the National Manufacturing Institute Scotland (NMIS) and the Medicines Manufacturing Innovation Centre. Both facilities are part of the High Value Manufacturing Catapult. The 52-hectare Netherton site is owned by the Council and public sector funding has been provided in order to improve access to the site and provide a state-of-the-art low carbon District Heating Network supplying heat and hot water 90% greener than a gas boiler. In accordance with the masterplan, there is the potential to develop up to 1.6m sqft of commercial floorspace. Outline planning consent for the envisaged development has been obtained. The Council is currently going through a procurement exercise in order to identify a Joint Venture Development Partner to help develop the site and enable the delivery of buildings. The partners are keen to produce flexible space on the site with a ladder of building sizes to allow company to move up the hierarchy as their business grows.

- Inchinnan Business Park and Westway are established business areas which are home to a number of world-class high-value manufacturing businesses including Boeing, Rolls Royce, Thermo Fisher Scientific, Peak Scientific and Terumo Aortic.

5.15 Looking further afield, high value manufacturing is widely recognised as a growth sector across the rest of the **UK and Ireland**. The project brief did not stipulate regional / national comparators but the research process did uncover interesting and relevant examples. Numerous regions are investing in innovation centres to building upon key sector and research and development strengths. Follow-on investment into medium to large units is also evident in some instances:

5.15.1 Two technology buildings in Ireland are currently being marketed by the Irish Development Agency (IDA). These are brand-new detached buildings with high eaves production / warehousing space, high office content, strong environmental credentials and expansion room. As part of the Irish Government's 150 million Euro Regional Property Programme commencing in 2015, advance buildings (both offices and factories) were provided across nine locations. The 2019 programme then targeted a further nine locations. The Border area with Northern Ireland is a particular focus (including the Border Enterprise Development Fund 2020 – BEDF which is funding the Advanced Manufacturing and Technology Centre of Excellence in Dundalk). The two buildings currently being marketed by the IDA are:

- **Monaghan Advance Building Solution**[28], IDA Monaghan Business & Technology Park, Knockaconny. Approx. 15,684 sq.ft. on a site area of c. 3.11 acres with additional lands adjoining the site offering opportunity for expansion. Office content approx. 30% (2-storey) Raised access floor, suspended ceilings, stairs and lift, lighting and natural ventilation. Clear internal eaves height approx. 7. 36m. 29 Parking spaces, x2 e-car spaces with terminals, x2 disability spaces, dedicated bicycle storage. Energy Rating (BER) Certification A3 Designed to achieve LEED CS accreditation and nZEB compliance.

- **Advance Building Solution, Dundalk**[29], IDA Dundalk Science & Technology Park. Approx. 34,918 sq.ft. on a site area of c.4.45 acres with opportunity for expansion (subject to planning). Detached, production/technology building with accommodation to include technology area, offices, core, plant area, toilets, welfare facilities and reception. Office context c.24%. Production area eaves height of c. 10.1 metres. Roller shutter doors (5.1m) and service yard with turning space. Surface car parking for 77 cars, 2x EV charging terminals and cycle parking onsite. Energy Rating (BER) Certification TBC Designed to achieve LEED CS accreditation and nZEB compliance.

IDA Ireland's Executive Director Mary Buckley: "IDA Ireland's advanced building solutions offer ready-for-occupation, high specification, flexible and sustainable property solutions, suitable for high value manufacturing and global business services to support the winning of investments from FDI clients."

5.15.2 The North East of England has a strong economic development focus on manufacturing:

- The most prominent example is the International Advanced Manufacturing Park (**IAMP** iampnortheast.co.uk) in Sunderland which the North East Local Economic Partnership (NELEP) is seeking to diversify around the Nissan car plant including building a battery plant which has been the subject of attention recently as it seeks to secure funding. There is substantial material available on this location however the scale of the current and planned manufacturing activity is probably unique in the north of the UK.

[28] https://www.idaireland.com/scale-with-ida/properties/list/monaghan-advance-building-solution
[29] https://www.idaireland.com/scale-with-ida/properties/list/dundalk-advance-building-solution

- Further south in Middlesborough, **TeesAMP** (Teeside Advanced Manufacturing Park) is a Tees Valley Combined Authority, publicly-funded development of 15 units on the 27 acre former Ironmasters site which commenced in 2014. The location is well-positioned for a regional catchment via trunk roads, rail (within walking distance) and air travel. At the time of writing 14 of the 15 units totalling 156,000 sq.ft. were occupied. The use of the modern units (pictured) is not restricted but some have attracted "*manufacturing companies that are transforming technologies and driving innovation*"[30]. Occupiers include Firth Vickers Engineering (Paralloy) in 3 buildings and Press on Vinyl Ltd. A Phase 2 is currently being considered alongside the potential for local development companies and the need for private capital in the current public funding climate.

- **NetPark**, Sedgefield, is located between Sunderland, Durham and Middlesborough (northeasttechnologypark.com/). Netpark is a Durham County Council-owned, broad based technology park with occupiers in life sciences, electronics, semi-conductors, pharmaceuticals and the like. Units are incubation to grow-on space sized at 300 to 3,000 sq.ft. Research has identified that as companies move into production there is an opportunity for a major development to accommodate science-based R&D, manufacturing and support functions. The Phase 3 (pictured) business case is founded upon growth of existing businesses, as inward investment demand is difficult to confirm until there is a timeline and buildings on site. The programme is for 240,000 sq.ft. of speculative manufacturing buildings (EPC rating 'B') ready for fit-out, in units of 10,000 – 40,000 sq.ft. at a cost of £60 million. Current rents at Netpark are £12-14 per sq.ft.

- Ryden is aware that NELEP is to launch a **Commercial Property Investment Fund** (CPIF) to support office and industrial speculative development through loans and if required incentive support such as rental guarantees. A pilot project to support the delivery of 330,000 sq.ft. of accommodation is currently underway: northeastlep.co.uk/projects-and-funding/projects/commercial-property-investment-fund-pilo/

HIGH VALUE MANUFACTURING DEVELOPMENT ROUND-UP

5.16 Some high value manufacturers with specific requirements due to either high specification or lack of market supply will deliver their own property solutions, in partnership with a developer or contractor. This section provides a round-up of activity in the purpose-built (bespoke) market including relocations, consolidations, new market entrants, refurbishment and extensions, and a current example of speculative development for a specialist industry. In general terms these are among the larger, more specialist and in some cases more location-sensitive manufacturing investments. Some of the more extended commentaries below are based upon direct consultation with the occupiers in question. The development round-up should be read alongside the wider market analysis in Section 4 in order to form a fully rounded view of the scale and nature of the market and property solutions for high value manufacturers.

5.16.1 Telecom firm **Mangata Networks** will locate its new facility at Prestwick International Aerospace Park (PIAP). The new facility for building satellites is expected to create 575 aerospace jobs in Ayrshire. From this engineering hub, Mangata plans to establish an operations centre that will manage its satellite systems and global network. Construction will begin in early 2023 with manufacturing and operations teams set to move in from late 2024.The £83.7m funding for Mangata comprises £54.5m from SE and £29.2m

[30] Source: TeesAMP case study provided by consultee

from the Ayrshire Growth Deal, via South Ayrshire Council. It was made available on commercial terms and is expected to be repaid by Mangata over the next 15 years.

5.16.2 The car manufacturer **Munro Vehicles** is bringing mass production back to Scotland in order to produce electric 4x4 vehicles. The company states it will hand-build 50 cars in East Kilbride next year before moving to a purpose built factory near Glasgow. It aims to produce 250 units in 2024, then ramp up to 2,500 a year by 2027. Munro launched in 2019 with private funding and received a further injection of capital in late 2021 through London based Elbow Beach Capital.

5.16.3 **Guala Closures**, a major supplier to the whisky industry, is set to build a £36m 'superfactory' in North Lanarkshire. The move is expected to secure the jobs of more than 400 staff working at its existing sites in Bridge of Allan and Kirkintilloch. Under the plans they will be relocated to the new 220,000 sq.ft. plant at Gartcosh. The bottle cap supplier's investment includes a £3.3m grant from SE. Construction of the factory at Gartcosh Business Interchange is expected to be completed by the end of December 2023, with operations due to begin from January 2024.

5.16.4 **Mitsubishi Electric Air Conditioning Systems Europe** is investing £15.3m in its existing Livingston manufacturing facility in order to increase its productivity, efficiency and research and development capabilities. The move is part of a drive to meet increasing European and UK demand for its low carbon heat pumps. As part of the project, Mitsubishi will develop a 'smart factory' which will allow for automation and use of robotics, 'internet of things' sensors to provide real time data as well as lower its own manufacturing emissions. SE is supporting Mitsubishi's investment project with a grant of £1.8 million. This will create 55 new jobs and protect 324 existing jobs. These jobs are well-paid technical and engineering roles and will be required to manage and operate the new processes developed during the project.

5.16.5 **Muir Group** has commenced construction at Plot J1, Eurocentral on a new facility for **Board24**, a subsidiary of the Logson Group. Board24 are the largest sheet feeder in the UK, supplying corrugated board to specification across 3 locations in England and Scotland. The new 108,500 sq.ft. design to suit building incorporates a new BHS corrugator and full material handling system which will enable the business to significantly increase volumes compared to its existing facility in Larkhall. The new facility will also meet modern environmental standards. The facility is being developed and constructed on a 5.7-acre site by Hermiston Securities Ltd and Muir Construction, both subsidiaries of the Muir Group. The site formed part of the recent purchase by the Group of 22 acres of development land at Eurocentral.

5.16.6 **Sacia Pack** is establishing a new £50m purpose-built production facility located in Livingston, West Lothian for its packaging business division. The new 9.1 ha. site will offer the latest technologies, whilst at the same time increasing Saica´s commitment to the creation of sustainable packaging solutions in Scotland. Changes in customer demand, aging facilities and challenges associated with existing site locations led the company to take a major step in order to increase Saica Pack´s capacity and offering for its customers. The Scottish packaging business will be transitioning from a two-site structure with the de-commissioning of its Edinburgh and Milngavie sites, to one main plant in Livingston. The site was formerly home to a distribution centre for a supermarket with the main building being retained and refurbished, while several extensions and modifications are being made to accommodate equipment. Robertson was awarded the construction contract.

5.16.7 Originally formed as Microlase Scotland, a spin-out from Strathclyde University, the now US owned **Coherent** is a leading global supplier of lasers and photonics technology used in a wide variety of materials processing, scientific and other applications. In 2003, it opened its first Scottish facility at the West of Scotland Science Park for original

equipment manufacturing and scientific solid-state laser production. The new 32,000 sq.ft. building includes a 4,000 sq.ft. clean room for manufacturing solid lasers and employed 46 highly skilled staff. Following a period of high growth, Coherent purchased adjacent land and added a large single storey extension which increased their floor space to 77,000 sq.ft. Around half of the space is now used for operations with the balance made up by R&D and office space. The new combined facility now includes a 6,000 sq.ft. Class 1,000 clean room and high specification carbon-neutral laboratories. The site now employs 200 people in highly skilled jobs with plans to increase job numbers to 400 over the next few years. The development and occupation was achieved during the pandemic without ceasing production in the existing unit. The acquisition of land allowed for the creation of a bespoke facility which wouldn't have been possible with a speculative building.

5.16.8 **Caledonian Industries** is a long-established materials technology and manufacturing organisation specialising in the production of gaskets, seals, packaging, acoustic control products and engineering plastic components. The company originally located in Hillington Park in the 1970s with its HQ premises located at Atholl Avenue. These premises are approximately 35,000 sq.ft. (10,000 sq.ft. mezzanine) with an 80%:20% split between manufacturing and office space. In 2016, the firm acquired **Kayfoam**, a supplier of converted polyurethane and polyethylene foams which added 3 further buildings to its operations within Hillington Park. With work now being split across 4 buildings and the Kayfoam buildings under threat of demolition, Caledonian Industries was keen to rationalise its property portfolio. Remaining in Hillington Park was important to the company as it wanted to retain its HQ building which it owned but also ensure staff retention and continuity. Initially, the company considered expanding its HQ facility however the costs involved provide prohibitive. In early 2022, Caledonian Industries leased the newly developed West 104 at Hillington Park. This 25,000 sq.ft. unit is part of the wider West 100 and 200 development of 132,774 sq.ft. being undertaken by Frasers Property. This has allowed the company to consolidate its office function within its HQ building and provide a dedicated manufacturing facility for Kayfoam in close proximity. Whilst the company's overall property footprint has decreased it now has modern premises which are suitable for a growing high value manufacturing organisation.

5.16.9 **HydraSun** is a market leader in the provision of integrated fluid transfer, power and control solutions. Although specialising in the oil and gas sector, HydraSun is diversifying and having a major drive in relation to hydrogen technology. The company has its headquarters in Aberdeen where it has recently opened its own purpose-built skills academy within Aberdeen's Gateway Business Park. The skills academy will offer courses for customer employees and Hydrasun's own team making a skills transition into hydrogen based technologies. Hydrasun recently opened premises at Cambuslang Business Park (c. 38,000 sq.ft.) which is now their second largest branch. This facility is home to HydraSun's integrated instrumentation solutions team which designs and manufactures a range of instrumentation and hydraulic systems. It also operates a trade counter from the premises and is able to house a significant storage facility for its holding stock. Hydrasun also operates a further manufacturing facility (c. 15,000 sq.ft.) within Myrtlefield Industrial Estate, Aviemore.

5.17 Finally, the undernoted examples of purpose-built high value manufacturing units were not pursued as case studies for this project but emerged through the market analysis:

- **Danfoss Power Solutions:** 16,000 sq.ft. purpose built units at Edgefield Industrial Estate in Loanhead and £25 million state-of-the-art manufacturing, research, and development facility at Shawfair, Midlothian near Edinburgh.

- **Alpha Solway**: 106,000 sq.ft. facility at Gilnockie Business Park, Heathhall in Dumfries

- **Valneva**: New Multi Vaccine Facility (MVF), adjacent to the existing vaccine facility at Oakbank Park Road, Livingston

- **Edrington Macallan Distillery**: £140 million distillery and visitor experience, opened 2018 at Easter Elchies estate in Speyside

- **BASF Pharma (Callanish) Ltd**: Work is underway by HIE to build the a new 5,920 sq.ft. extension to its factory at Breasclete, Callanish on Isle of Lewis

- **Cullen Eco-Friendly Packaging**: The firm is investing £15 million in a new innovation and design hub, as well as an additional factory at Dawsholm Industrial Estate, Glasgow

- **Cademuir Engineering**: New 26,000 sq.ft. modern, high quality and sustainable factory and office building on a 2.5 acre site at Tweedbank Industrial Estate, Galashiels

SUMMARY

5.18 Analysis of larger, marketed, serviced development sites with the potential to accommodate manufacturers identifies suitable locations across parts of Scotland, although in the context that all except AMIDS are open to any employment and potentially other uses. A wide range of plot sizes is available across these locations to suit different sizes of investment (although a very large and location-sensitive manufacturer may have very few options). The core Central Scotland area does not have a large number or choice of sites given its market share in particular around Glasgow, and it is known that strategic site supply in that urban area is dwindling while new strategic sites are still at earlier stages of servicing and promotion.

5.19 The speculative industrial market had been gathering momentum and considering a wider range of sizes and locations, however recent moves in interest rates have adversely affected development economics and the market is expected to soften considerably over the next period. Although it is based on a very brief review, there is some evidence that economic development agencies in other territories are considering follow-up space for high value existing or mobile businesses requiring manufacturing units.

5.20 In the constrained market context for good quality industrial buildings which was identified in Section 4, and the limited supply of speculative new units, some high value manufacturers opt to build new, either on their existing site/ complex or on a new site. A wide range of examples confirms that purpose built/ bespoke solutions are a major part of the high value manufacturing property market, driven by considerations such as large scale, specialism and location-specific requirements.

06

FUNDING

6.1 This section outlines potential funding sources for high value manufacturing infrastructure focusing on the provision of land and property. Public sector intervention in the property market is often required in areas where market failure exists in order to support economic development. Market failure is common in Scotland outside of city centres and strategic transport corridors. Public sector intervention has moved from large scale development in the 20th Century to selective support for target locations and sectors, allied to economic strategies.

6.2 However, in recent years this landscape and the funds available has altered as a result of Brexit and the Covid-19 pandemic. Britain's exit from the European Union in January 2020 means it cannot participate in the next round of European Union Structural Funds for which the Scottish Government was the managing authority. This has affected funds such as SPRUCE and LEADER with SPRUCE in particular being a previously important funding source for the refurbishment or conversion of employment space. In its commitment to fully replacing European funding levels, the UK Government has introduced several new funding streams as part of its Levelling Up agenda which are applicable to the whole of the UK. This means that the UK Government is now more actively involved in economic development in Scotland than was the case previously.

6.3 With regard to the Covid-19 pandemic a number of funders have had to change their funding objectives to simply maintain business-as-usual and a number of one-off emergency funds were created by the Scottish Government.

6.4 The policy landscape has also moved on. In Scotland, there is an increased focus on net zero and other agendas including a greater focus on place, e.g. Clyde Mission, community wealth building and natural capital which has resulted in a number of funders reviewing their objectives and re-casting grant programmes. The recovery from the pandemic is set to be green and inclusive.

6.5 Following the review of available funding sources, funding gaps are also identified.

UK GOVERNMENT

LEVELLING UP FUND

6.6 Levelling Up is the UK Government's moral, social and economic programme which aims to spread opportunity more equally across the UK.

6.7 The Levelling Up Fund was launched in 2021 and is a capital fund designed to directly support communities across the UK with capital investment in local infrastructure. It is open to all areas of the UK and seeks to regenerate town centres and high streets, invest in local transport schemes and create, renew and upgrade local cultural and heritage assets. Projects should also be aligned to and support net zero goals.

6.8 The Fund will provide £4.8bn of capital investment across the UK over the next 5 financial years for local infrastructure projects with £800m of this ring-fenced for Scotland, Wales and Northern Ireland. It is anticipated that all funding provided from the Fund will be spent by 31 March 2024 with the potential exception of larger schemes into 2024-25.

6.9 The focus is on projects that require up to £20m of funding however bids between £20m-£50m will be accepted for transport projects only, e.g. roads schemes.

6.10 In Scotland, funding will be delivered through local authorities and all areas are eligible. Bidders are encouraged to collaborate with neighbouring authorities on cross boundary schemes and to submit joint proposals across their local areas where appropriate.

6.11 The amount of funding each area receives will be determined on a competitive basis with funding targeted towards places with the most significant need as measured by an index which takes into account need for economic recovery and growth, need for improved transport connectivity and need for regeneration. This index places areas into a category 1, 2 or 3, with category 1 representing places with the highest level of identified need. The Levelling Up Index for Scotland is shown below.

Priority Category	Local Authorities
1	Dumfries & Galloway, Dundee City, East Ayrshire, Falkirk, Glasgow City, Inverclyde, North Ayrshire, North Lanarkshire, Renfrewshire, Scottish Borders, South Ayrshire, South Lanarkshire, West Dunbartonshire
2	Aberdeen City, Angus, Argyll & Bute, Clackmannanshire, East Lothian, East Renfrewshire, Fife, Midlothian, Moray, Na h-Eileanan Siar, Stirling, West Lothian
3	Aberdeenshire, City of Edinburgh, East Dunbartonshire, Highland, Orkney Islands, Perth & Kinross, Shetland Islands

6.12 These bandings form part of the criteria for assessing bids.

6.13 The first round of successful bidders was announced in October 2021 with c. £1.7bn awarded across the UK. Eight projects led by Scottish local authorities received funding worth just under £172m (around 10% of the total value of awards). This included almost £39m for Renfrewshire Council to provide new, improved and high-quality transport links connecting residential, educational, employment, cultural, retail and leisure centres at the Advanced Manufacturing District Scotland (AMIDS). Building on prior investment from the UK Government, Scottish Government and Renfrewshire Council, AMIDS South will help reduce carbon emissions, support growth and improve the experience of transport users across Paisley, Renfrew and Inchinnan.

6.14 The application deadline for second round of the Levelling up Fund was August 2022. It has been reported that over 500 bids were received for this round and the results have yet to be announced.

6.15 Whilst this fund does not specifically target the manufacturing sector, the funding award to Renfrewshire Council demonstrates how it can be used to benefit the sector and aid the provision of sites and property through infrastructure improvements.

6.16 Since the launch of the fund, the UK has had a change of Prime Minister but commitment to the Levelling Up agenda has been reiterated. However, it should be acknowledged that those projects which received funding as part of the first round are now being threatened with rising inflation and the Government is having to review all budgets in order to deal with prevailing economic conditions.

UK SHARED PROSPERITY FUND

6.17 The UK Shared Prosperity Fund (UKSPF) is another pillar of the UK Government's Levelling Up agenda and a component of its support for places across the UK. It provides £2.6 billion of new funding for local investment by March 2025, with all areas of the UK receiving an allocation from the Fund via a funding formula rather than a competition.

6.18 The primary goal of the UKSPF is to build pride in place and increase life chances across the UK. Underneath this overarching aim there are three UKSPF investment priorities: communities and place; supporting local business; and people and skills.

6.19 All places across the UK will receive a conditional allocation from the UKSPF and will be asked to set out

measurable outcomes that reflect local needs and opportunities. These should inform the interventions they wish to deliver. Within the context of the Fund's aims, each place will have flexibility to invest across a range of activities that represent the right solutions to improve local pride in place, increase life chances, to help spread and create opportunity, and a sense of community and belonging. The balance of priorities should reflect local need and opportunity. These interventions will be set out in an investment plan submitted to the UK government for approval.

6.20 Investment made under this Fund should also demonstrate the extent of contribution to net zero and nature recovery objectives.

6.21 Communities across Scotland will benefit from £212m over three years (2022/23-2024/25). Under the supporting local business investment priority, the following are included in the list of eligible interventions:

- Funding for the development and support of appropriate innovation infrastructure at the local level.
- Investing in enterprise infrastructure and employment/innovation site development projects.
- Strengthening local entrepreneurial ecosystems and supporting businesses at all stages of their development to start, sustain, grow and innovate, including through local networks.

6.22 As such, funding for business property and infrastructure are eligible costs under the fund however this needs to be balanced against the area's other priorities.

6.23 Scottish Council's submitted investment plans over the Summer of 2022 which have now been approved. Many of these plans were prepared by the City and Growth Deal regions and therefore complement these plans. As part of the Glasgow City Region UKSPF Investment Plan 2022, Glasgow City Council notes it will "strengthen early stage tech businesses directly with grants for accommodation…".

INNOVATION ACCELERATOR

6.24 In February 2022, the UK Government announced that Glasgow was to become one of its three 'innovation accelerators' as part of its plans to level up the country. Backed by £100m funding, the three accelerator centres (which also include Manchester and the Midlands) intended to be new centres for innovation, research and development which will drive-up prosperity and opportunity for local people. There is also an expectation that national funding will help to lever at least a 2:1 investment from the private sector.

6.25 The Glasgow City Region has established a partnership to assess local innovation strengths, ensure strong business representation, and develop proposals for its funding bid. The Innovation Partnership has agreed a set of key sectors for growth and new opportunities, which are:

- Advanced manufacturing
- Fintech
- Space
- 6G
- Nano fabrication
- Precision medicine
- Photonics
- Quantum tech
- Sustainability

6.26 A long list of specific projects within the sectoral areas above is being developed with full business case required by the end of 2022. The provision of infrastructure, sites or property could form part of these plans.

GREEN FREEPORTS

6.27 Green Freeports are designed to boost innovation and inclusive growth within communities, while supporting Fair Work First practices, creating new green jobs, upholding the highest environmental protections and supporting economic transformation.

6.28 A Green Freeport is a large zoned area within a defined boundary which includes a rail, sea or airport. Operators and businesses in the zone can benefit from a package of tax and other incentives through a combination of devolved and reserved levers. They allow goods to be imported, manufactured and re-exported without being subject to checks, paper work or import taxes (tariffs). This means raw materials can be imported, then engineered into whole products for export. Typically, companies operating in the zone pay lower taxes, such as reduced VAT and lower rates of employment tax.

6.29 Green Freeports are an adaptation of the UK Government's Freeport model and is backed by up to £52m of seed funding from the UK Government. The Green Freeports must contribute to four policy objectives:

- Promoting regeneration and high-quality job creation (lead policy objective)
- Promoting decarbonisation and a just transition to a net zero economy
- Establishing hubs for global trade and investment
- Fostering an innovative environment

6.30 On 13th January 2023, it was announced that Opportunity Cromarty Firth and Forth Green Freeport have secured Green Freeport designation. The Inverness and Cromarty Firth Green Freeport will focus on industries around offshore wind, hydrogen and nuclear, covering sea ports in the region as well as Inverness Airport. It is expected to create 25,000 jobs and generate up to £4.8 billion in investment for the area. The Forth Green Freeport will be based around renewables manufacturing, alternative fuels, carbon capture and shipbuilding, as well as a new creative hub. The site includes the ports at Grangemouth, Rosyth and Leith, as well as Edinburgh Airport and a site at Burntisland in Fife. This is expected to attract up to £6 billion of investment and create 50,000 jobs in the area.

6.31 Quayside sites are an important component enabling large-scale advanced manufacturing for many of these sectors particularly offshore wind and hydrogen sectors. It is likely that new infrastructure and sites will be enabled as part of the funding awarded to the successful Green Freeports.

6.32 The UK Government has also mooted the topic of Investment Zones however in Scotland the interaction between these and Green Freeports is to be agreed. It is unclear currently whether additional Investment Zones will also be created in Scotland. Under this scheme currently plans are for companies in designated areas to benefit from full business rates relief on newly occupied or expanded premises. In turn, local authorities that host the zones would receive 100% of the business rates growth, above an agreed baseline, for a set period (25 years is proposed).

SCOTTISH GOVERNMENT

PLACE BASED INVESTMENT PROGRAMME

6.33 Announced in February 2021, the Place Based Investment Programme (PBIP) is being used to link and align place-based funding initiatives within the Scottish Government. Its aim is to ensure that all place based investments are shaped by the needs and aspirations of local communities and accelerate Scottish Government ambitions for place, 20-minute neighbourhoods, town centre action, community led regeneration and community wealth building. It includes the continued delivery of the Regeneration Capital Grant Fund as well as Place Based Investment Programme funding to local government, and the ongoing sponsorship of Clyde Gateway Urban Regeneration Company. It replaces the previous Town Centre Capital Fund.

6.34 The Place Principle, which underpins this approach, was adopted by Scottish Government and COSLA as a basis for collaborative working to ensure that future local investment is relevant to local communities for the benefit of local people. Bringing relevant services, enterprise, and communities together to make towns, villages, and neighbourhoods more viable. The PBIP alongside the developing Place Framework are designed to make the Place Principle real.

6.35 The main objectives of the programme are:

- Link and align place-based initiatives and establish a coherent local framework to implement the Place Principle
- Support place policy ambitions such as town centre revitalisation, community led regeneration, 20-minute neighbourhoods and Community Wealth Building
- Ensure that all place-based investments are shaped by the needs and aspirations of local communities
- Accelerate ambitions for net zero, wellbeing and inclusive economic development, tackling inequality and disadvantage, community involvement and ownership

6.36 The PBIP is supported by an initial £325m capital over 5 years (commencing 2021/22) with funds being allocated to local authorities by the Scottish Government. Allocations are based on a weighted formula based on the number of towns and population in a local authority area and deprivation indices.

6.37 The PBIP aims to invest in centres or neighbourhoods connected with 2 categories of settlement:

i. Rural settings with smaller populations, dependent on larger geographical areas for support, for example:

- Small Towns with a limited range of non-specialised facilities
- Villages with very limited, or non-existent, access to facilities

ii. Urban settings with sizeable populations, for example:

- Regional Capitals with extensive provision supporting a wide geographical area
- Larger Towns with a comprehensive range of dedicated services and facilities.
- Individual Neighbourhoods with limited access to relevant local provision.

6.38 Fife Council is using part of its PBIP funding (£300,000) to upgrade 12,000 sq.ft. of enterprise estate within Lochgelly Business Park to make them more energy efficient. Again, whilst the funding can be used for property projects, including the improvement of existing stock, its use for this purpose would be balanced against other needs in the area which meet the funding criteria.

VACANT AND DERELICT LAND FUND

6.39 Glasgow City Council, North Lanarkshire Council, South Lanarkshire Council, North Ayrshire Council and Fife Council are eligible for funding from the Sottish Government's Vacant and Derelict Land Fund (VDLF) which aims to tackle long-term vacant and derelict land in Scotland. The objectives of the fund are:

- To stimulate economic growth
- Create jobs
- Promote environmental justice and improved quality of life
- To support communities to flourish and tackle inequalities

6.40 For 2022 – 2023, the 5 local authorities will receive a share of £7.6m reflecting the extent of vacant and derelict land in these areas and levels of deprivation. It is an element of the local government budget settlement, as agreed with Scottish Government.

6.41 VDLF projects are long term (typically a minimum of 3-5 years), complex and often commercially sensitive due particularly to the fund's role in delivering patient capital to enable acquisition and remediation of derelict sites which present complex ground conditions.

6.42 In its Regeneration Delivery Plan Funding Proposals 2022/23, North Ayrshire Council identifies £280,000 from the VDLF for the i3 Investment Area. This funding will contribute to the development delivery of the i3 Flexible Business Space in the strategic investment campus.

VACANT AND DERELICT LAND INVESTMENT PROGRAMME

6.43 The Vacant and Derelict Land Investment Programme (VDLIP) is a Scottish Government capital programme scheduled across five years to help with tackling persistent VDL and supporting place based approaches to delivering regeneration and sustainable inclusive growth, as part of a 'just transition' to net-zero by 2045. It is being established in the context of Scotland's economic recovery being a green recovery, i.e. tackling climate change and providing opportunities for new work and growth in today's challenging global market.

6.44 The VDLIP has been established in the above context and with four pillars of action:

- Sustained place-based approaches
- Urban Green spaces
- Community-led regeneration
- Low carbon developments and renewables

6.45 The total level of funding over the 5 years is £50 million.

6.46 The VDLIP is available to all 32 Scottish Local Authorities and Clyde Gateway URC. Proposals should align with the high level criteria agreed with COSLA for the Place Based Investment Programme, including net zero, wellbeing and inclusive economic development, the place principle, tackling inequality and disadvantage, community involvement and ownership, as well as support for town centre revitalisation, better places, and 20 minute neighbourhoods.

6.47 Grants are for capital works with the fund specifically targeting 'long term' (15 years+) VDL. In particular, the Investment Panel may prioritise proposals that involve DUSTE (Derelict and Urban Sites unused since Two Thousand or Earlier) sites, as identified by the VDL Taskforce. Essentially these are Scotland's 'stuck sites'. Many DUSTE sites have been on the Scottish VDL Register for decades and are located in areas of multiple deprivation, which are negatively impacting the area and wellbeing of residents. These sites are captured on the Scottish Land Commission's DUSTE map. There are however many sites that meet the DUSTE criteria but because of their size (>0.1 ha) have never been formally recorded on the register. Proposals for both registered and unregistered DUSTE sites are welcome.

REGENERATION CAPITAL GRANT FUND

6.48 The Regeneration Capital Grant Fund (RCGF) is part of the Scottish Government's Capital Investment Fund and is delivered in partnership with COSLA and local government. The fund aims to support projects that:

- Focus primarily on areas that suffer from high levels of deprivation and disadvantage
- Demonstrate clear community involvement
- Deliver large scale transformational change with strong regeneration outcomes
- Encourage additional investment and address market failure

6.49 The fund has been operative since 2014 and has since resulted in 136 projects across Scotland receiving support. The funding made available across Scotland is c. £20m per annum (additional monies were provided in 2020/21 as an economy recovery stimulus as a result of the Covid-19 pandemic).

6.50 The fund is open to applications from all of Scotland's 32 Local Authorities individually or alternatively if they exercise their functions through Urban Regeneration Companies or other Special Purpose Vehicles.

6.51 The RCGF has been used to pump prime a number of Council (or Council subsidiary) property developments particularly enterprise or community business hubs. However, it has also been used for more commercial projects. In the 2021-22 funding round, Clyde Gateway was awarded £4m to deliver 21,500 sq.ft. of flexible hybrid industrial space at Magenta Business Park, Shawfield. The development will provide 4 units of 5,400 sq.ft. of floorspace with the ability to be further subdivided should the market demand. The buildings will be targeted at engineering development, medical, and digital research sectors.

The Fund has also been used to aid the development of speculative space by Clyde Gateway and Fusion Assets, North Lanarkshire.

SCOTTISH NATIONAL INVESTMENT BANK (SNIB)

6.52 The Scottish National Investment Bank (SNIB) is a development investment bank, established and funded by Scottish Ministers on behalf of the people of Scotland. SNIB has been established to operate commercially, and is operationally dependent from the Scottish Government. It invests in Scottish business, projects and communities to deliver environmental, social and financial returns. Investments in debt and equity are made on commercial terms and all investments must support at least one of SNIB's missions. These are:

- Achieving a just transition to net zero by 2045 – rebalancing the economy towards leadership in sustainable technology, services and industry
- Extending equality of opportunity through improving places by 2040 – invest in places and regeneration to reduce inequalities and improve opportunities and outcomes for people and communities
- Harnessing innovation to allow Scotland's people to flourish by 2040 – invest in innovation and industries of the future for a healthier, more resilient and productive population

6.53 SNIB provides patient (long term) capital to businesses and projects throughout Scotland to support the development of a fairer, more sustainable economy. SNIB launched in November 2020 and since then has been allocated £275m of public capital to invest. The total investment committed since the launch of SNIB is £191.4m

6.54 Typically, the Bank will invest in businesses and projects seeking more than £1m in investment support (debt or equity). The maximum level for projects is £50m. The Bank does not provide grants and is unable to offer investment on sub-commercial terms.

6.55 The Bank invests in businesses based in Scotland, projects based in Scotland, or businesses seeking to move to Scotland. It can invest in all stages and sizes of business but expects to focus its business, demonstrating commercial progress. SNIB's particular focus is on small and medium sized Enterprises (SMEs). Project finance is typically associated with infrastructure and energy investment however it also supports the tertiary education sector in the development of university developed and incubated innovative businesses and projects.

6.56 Relevant projects invested in to date include:

- £30m of funding for the expansion of Aberdeen Harbour, the largest marine infrastructure project in the UK.
- £6m investment to allow Sunamp to scale up production of innovative heat batteries and progress international expansion from their East Lothian base.
- Investment to expand manufacturing base of Nova Innovation, enabling production of innovative tidal turbines, generating zero carbon energy in remote communities.
- £3m investment in IndiNature will enable the company to scale up production at a new manufacturing facility in the Scottish Borders.
- £1m investment in Internet of Things communication and data service provider, R3 IOT, will enable the business to scale up.
- £12.5m investment in Glasgow-based photonics and quantum technology company M Squared.

6.57 In reference to employment land and property, SNIB's role is in supporting the demand side through organisations and projects rather than any direct provision.

TAX AND INCREMENTAL FINANCING INITIATIVES

6.58 The Scottish Futures Trust leads the Tax Incremental Financing (TIF) programme for Scotland as a way of securing infrastructure investment in order to unlock regeneration and inclusive economic growth. TIF seeks to capture locally generated, incremental public sector revenues (e.g. business rates) that would not have arisen were it not for investment in the delivery of 'enabling' public sector infrastructure.

6.59 The use of TIF is normally predicated on a 'but for' test i.e. that but for TIF, the anticipated outcomes from a regeneration and economic perspective would not occur or not occur in the time frames which TIF would enable.

6.60 A TIF project must therefore demonstrate that the enabling infrastructure will generate additional public sector revenues to repay the financing requirements.

6.61 In the employment property market, the Falkirk TIF, led by Falkirk Council will deliver an initial phase of 53,582 sq.ft. of business space. The total area has the potential to deliver up to 400,000 sq.ft. of business space across a number of sites. Fife Council also has a TIF focused on industrial property.

GREEN GROWTH ACCELERATOR

6.62 The Green Growth Accelerator was launched in June 2021 as a new investment programme to help deliver Scotland's just transition to a net-zero emissions economy. The Green Growth Accelerator will speed up delivery of low carbon infrastructure projects across Scotland and provide extra resources and technical support to local authorities to get projects off the ground more quickly. Once fully opened the programme will unlock £200m of public sector investment to drive the transition to net zero – with further investment from private sector also anticipated.

6.63 Developed in collaboration with COSLA, it builds on the principles of the Growth Accelerator model which has already supported major economic investment opportunities including the St James Quarter in Edinburgh and the Waterfront in Dundee.

6.64 Six pilot projects are currently underway to help test the Green Growth Accelerator model. The pilot projects include a hydrogen refuelling module in Aberdeen; hydrogen production infrastructure in the Western Isles; building efficiency upgrades in Edinburgh; natural coastline adaptations in the Highlands; and a water source heat pump retrofit at Strathclyde Park in North Lanarkshire. A further rollout of the model is anticipated for 2022/23.

FUNDING ASSOCIATED WITH NET ZERO

6.65 The Scottish Government offers a number of funding opportunities in order to help meet its statutory commitment for Scotland to be a net zero society by 2045. This includes the Low Carbon Manufacturing Challenge Fund which is a £26 million capital Fund, to be delivered over 5 years, to support manufacturing businesses to play their part in the transition to a net zero carbon emissions economy.

6.66 The key aims of the Fund are:

- to support innovation in low carbon technology, processes and infrastructure and encourage adoption;
- to build on Scotland's existing high level of expertise and reinforce Scotland's status as a leading exponent of efficient and sustainable manufacturing practices;
- to encourage collaboration and high project standards;
- to better enable firms to enter low carbon markets and/or their existing supply chains.

6.67 Again, whilst funds such as this can enable advancement of high value manufacturing products and processes its focus is not on the provision of property or sites for production or scale-up.

CITY REGION AND REGIONAL GROWTH DEALS

6.68 City Region and Regional Growth Deals are bespoke packages of funding and decision making powers negotiated between the Scottish Government, the UK Government and local government designed to bring about long-term strategic approaches to improving regional economies. They are implemented by regional partners and overseen by the Scottish City Region and Growth Deal Delivery Board. There are 6 City Region and 6 Regional Growth Deals which provide 100% coverage of Scotland.

6.69 Each of the Deals agreed in Scotland is tailored to its region, reflecting its individual economic strengths and weaknesses, and comprises a programme of interventions to support positive, transformative change. They are being used to facilitate the development of a number of relevant projects, particularly in the provision of infrastructure. For example, the Glasgow City Region Deal funding delivered the underpinning infrastructure and enhanced connections between the new 52-hectare Netherton and the established business parks at Inchinnan and WestWay as part of the region's Advanced Manufacturing Innovation District Scotland (AMIDS).

6.70 Funding from the Deals is also being used in some instances for the provision of property. For example, the Ayrshire Growth Deal will create additional high quality, secure landside and airside commercial office space at Prestwick to meet projected future growth in the aerospace and space markets. It was also providing start-up units and on-site support as part of the Ayrshire Manufacturing Investment Corridor (AMIC) to support the creation of new businesses and growth of existing businesses in the food and drink sector, as well as the advanced manufacturing sector.

ENTERPRISE AGENCIES

6.71 As a direct response to the Scottish Government's Manufacturing Action Plan, SE agreed that a strategic public sector intervention was required to unlock supply of new manufacturing accommodation. It worked with East Ayrshire Council (Moorfield) and Clyde Gateway URC (Clyde Gateway East) to deliver 3 new buildings as a trial intervention in both a metropolitan and regional/rural location. The pilot was based upon economic development principles and SE provided the minimum possible grant to remove the viability gap and enable development to proceed. In both cases, SE's investment was conditional on partners leasing space to manufacturing companies. More detail was provided on this in Section 5.

6.72 SE's grant was protected with a claw back mechanism to recoup a % of sale price (based on SE's investment against delivery costs) if the asset was sold within a 10-year period. In the case of Clyde Gateway the unit was sold into the investment market following letting and SE subsequently recouped the full grant (£500,000).

6.73 Following this successful pilot, SE and its partners within SOSE and HIE are considering options for future intervention in the sector and are exploring opportunities to provide speculative development at Riverside in Glasgow, Prestwick, AMIDS and BioCampus. SE is also contributing £16m to Clyde Gateway's next 5-year programme of manufacturing space. This report will help inform these interventions.

6.74 In addition to the above, SE has entered Joint Venture arrangements with a view to enabling specific sites. This includes a Joint Venture at Michelin Scotland Innovation Parc with Michelin and Dundee City Council. Again, more detail on this was provided in Section 5.

6.75 More generally, SE provides support to the manufacturing sector as a whole. It operates the Advanced Manufacturing Challenge Fund which aims to fund projects which will have a significant impact on advancing the manufacturing capabilities of SMEs within Scotland and lead to long-term transformational change. It enables SMEs to learn and share new manufacturing technologies, processes and skills that improve productivity and drive inclusive growth. The total investment from 2020-2023 is £15.8m. However, the development of physical buildings are not eligible activities under the funding criteria.

6.76 SE and HIE also work in partnership with the Scottish Funding Council on the Innovation Centres, which support transformational collaboration between universities and businesses. Again, the focus here is on research and development.

JOINT VENTURES

6.77 There are a number of instances of joint ventures being set up across Scotland to enable property development for specific sectors or sites. As noted above, this is a model SE has used previously but it has also been used by a number of local authorities as a way of furthering their employment land and property ambitions. As well as the public sector, JV arrangements can also incorporate universities and the private sector.

6.78 Fusion Assets Limited is a special purpose vehicle developed by North Lanarkshire Council following the closure of Boots' manufacturing operation in Airdrie. Fusion Assets works together with private sector partners through establishing joint ventures for the delivery of property development and land reclamation initiatives.

6.79 This includes the development of Gartcosh Industrial Park, situated at junction 2A on the M73, where Fusion Assets has entered into a JV with J Smart & Co. The JV – Gartcosh Estates LLP, has constructed three new speculative industrial units totalling 60,000 sqft. Fusion Assets purchased the land from SE in 2015 and have spent the last 2 years undertaking a programme of enabling works to bring the site up to a development ready condition. The works included construction of a new access road and ground consolidation and was financed through the Scottish Government's Vacant and Derelict Land Fund. Fusion Assets has drawn up plans for further phases of development on the site totalling some 160,000 sq.ft.

COUNCIL FUNDING SOURCES

PUBLIC WORKS LOAN BOARD

6.80 Councils are able to borrow from the Public Works Loans Board, a national government body and arm of the Treasury, at interest rates lower than those commercially available to the private sector. It is mainly targeted towards capital projects and funding cannot be used to plug gaps in everyday funding of services. CIPFA guidelines are in place however there is no upper limit on borrowing. It is the responsibility of Councillors to ensure funds borrowed appropriately and responsibly. Guidelines for the scheme were tightened at the end of 2020 and local authorities are no longer able to purchase assets purely for yield or investment income.

6.81 A relevant example is of the City of Edinburgh Council which borrowed from the Public Works Loan Board for part funding of the £85m redevelopment and expansion of the Edinburgh International Conference Centre. Completed in 2013, the development includes office and retail space alongside the conference venue. Atria One and Atria Two together comprise almost 200,000 sq.ft. of Grade A office and retail accommodation. At the time, Atria was the largest speculative office development over 100,000 sq.ft. outside of central London and satisfied the need for new Grade A office space in central Edinburgh during the market crash. The buildings are now home to a variety of high quality tenants. In 2016, the Council sold Atria for £105m to Deka Immobilien. Proceeds from the sale were used to pay off borrowing costs, with profits going to a City Strategic Investment Fund which was used (amongst others things) for East Hermiston Business Park. This development, completed in 2017, comprises 16 light industrial units (17,200 sq.ft.) on Council-owned land in Sighthill. The development is fully let and generates c. £140,000 pa in rental income for the Council.

COUNCIL CAPITAL PROGRAMMES

6.82 Local authorities in Scotland receive the majority of their funding from the Scottish Government with the level of support for each authority determined by the Cabinet Secretary for Finance and Constitution. Councils obtain additional income through Council Tax, that the Council sets itself. Council's produce a Capital Expenditure Plan which details their capital funding priorities for a set period (usually 10 years).

6.83 The Fife Council Capital Investment Plan 2021-2031 identifies £43.5m for the Council's Industrial Investment Programme.

COMMUTED SUMS

6.84 Several local authorities across Scotland have policies in place as part of their Local Development Plans that enable them to request commuted sum payments (or land replacement) where employment land is lost. A commuted sum is usually ring-fenced and used only for bringing forward the implementation, or upgrade, of existing and planned employment sites. A good example is Westwood Park, Glenrothes where the Section 75 agreement attached to the residential consent requires the developer to invest £1.2m (via Fife Council) in the remaining industrial land.

SUBSIDY CONTROL BILL

6.85 From 4 January 2023, public funding is subject to a new, UK-wide subsidy control regime which replaces EU State aid rules. The framework for this new regime is provided in the Subsidy Control Act 2022. The Act represents a more flexible approach to subsidy control by adopting a principles based and self-assessment focused approach to compliance. This may have a positive impact on property interventions via aid for local infrastructure schemes.

FUNDING GAPS

6.86 This chapter has outlined the range of funding sources which are potentially available to fund high value manufacturing property, sites and infrastructure. Whilst there is support for the sector and R&D in particular, it is clear that there is no funding source which focuses purely on the provision of sites and property. Where this has been enabled it has tended to be on the back of City/Growth Deal programmes, TIFs and specific Joint Ventures although even in these circumstances a 'cocktail' of funding sources is often required. Where local authorities have access to funds such as the Place Based Investment Fund or the Regeneration Capital Grant Fund the need for the provision of sites and properties needs to be balanced against all other eligible needs within the area which often means it is not a priority for these competitive funds.

07

SUMMARY AND OPTIONS

INTRODUCTION

7.1 This report has investigated the market for high value manufacturing land and property in Scotland. High value manufacturing is growing and the property market response is crucial as manufacturing is a tangible activity which takes place in physical premises – property will enable or inhibit that growth.

7.2 Economic strategies applicable to high value manufacturing demonstrate the size of the opportunity available to Scotland, as the country builds on its strengths in sectors such as energy, healthtech, space, food and drink innovation, and moves to take advantage of global trends in relation to net zero, digital, health and wellbeing and advanced manufacturing. Manufacturing delivers relatively high productivity and wage levels which can contribute to a wellbeing economy. Responding to this opportunity requires not only (upstream) investment in innovation and R&D, but also a wider ecosystem that helps businesses to work smarter, to scale up and expand, and then to integrate with (downstream) activities such as servicing and after-sales support. Suitable property and sites around clusters in target sectors is required to support that manufacturing scale-up and expansion.

7.3 Scotland's stock of existing industrial property is large-scale, but ageing. Manufacturing in all of its forms accounts for an estimated 23% of market activity. High value manufacturing is a smaller proportion and is in competition with other industries for the limited supply of good quality industrial premises.

7.4 A number of large, serviced and marketed development sites with the potential to accommodate high value manufacturers are identified, although only AMIDS is sector-specific while others such as Rosyth include high value manufacturing as a target sector. However, a large, location-sensitive manufacturer may have few options. The core Central Scotland area does not have a large number or choice of sites and the reducing supply of former strategic development sites from the 1990s is a concern. Full delivery of new strategic employment sites through mechanisms such as City and Growth Deals will be critically important to future manufacturing.

7.5 High value manufacturers typically require flexible, digitally connected, environmentally efficient properties. There is however a large gap between the financial commitments currently required for second-hand buildings versus new, state-of-the-art manufacturing premises. The speculative industrial market had been gathering momentum, however recent moves in interest rates have adversely affected that market, further constraining the supply of quality properties.

7.6 Evident demand from high value manufacturers in requirements, transactions and developments is notable but is not particularly deep in any sub-sector, although Scotland's strengths in energy, life sciences and engineering are perhaps emerging. The constrained supply and specialist needs of some high value manufacturers lead to a range of purpose-built solutions alongside the general market.

7.7 Consultations summarised in Appendix B confirm that Scotland's high value manufacturing sectors are expected to achieve significant growth over the next few years. Many are associated with 'green growth', for example renewable energy and carbon reduction. Others include life sciences, space, and food and drink innovation. Growth will bring with it increased demand for sites and properties for manufacturing, not only from domestic companies but also inward investors and therefore consultees were keen for Scotland to be seen internationally as a 'manufacturing hub'. Some of the property considerations around high value manufacturers raised during consultations included the potential to offer shell buildings, a need for partnerships between economic development agencies and developers, the need for evidence of demand, a lack of serviced land, the challenge of bespoke requirements, the challenge of affording more productive new premises and the need to recycle or replace older existing buildings.

7.8 A range of funding sources can support the delivery of high value manufacturing property, sites and supporting infrastructure. However, whilst there is support for the sector and R&D in particular, it is clear that there is no funding source which focuses purely on the provision of sites and property. Where this has been enabled it has tended to be on the back of City/Growth Deal programmes, TIFs and specific Joint Ventures, although even in these circumstances a 'cocktail' of funding sources is often required. Where local authorities have access to funds such as the Place Based Investment Fund or the Regeneration Capital Grant Fund the need for the provision of sites and properties needs to be balanced against all other eligible needs within the area, which often means it is not a priority for these competitive funds.

7.9 **In summary, the evidence in this reports indicates that property development and support will be required to meet the needs of Scotland's high value manufacturing sector. The market may continue to provide a limited supply of secondhand buildings, as well as some shell buildings for general market consumption in prime locations that manufacturers can compete for (at significantly increased rents). The market may also provide design-and-build solutions for established manufacturers able to make the required long term investment. Those instances aside, the unsupported property development and development finance markets are unlikely to meet the growing demands of high value manufacturers for productive modern properties.**

MARKET GEOGRAPHY

7.10 This report has taken a national approach to manufacturing land and property, supported by regional data and local examples. Table 11 on the next page draws together the regional findings across economy, policy/strategy and markets, as an initial guide to sub-national potential. The table is portrayed as a heat map with darker orange indicating stronger markets. While this offers an additional layer of focus for potential interventions, in many instances the correct location will be very local for example for an existing manufacturer or economic cluster. In summary:

7.10.1 The Glasgow City Region stands out for its sectoral scale, diversity and property market activity. The region has one third of Scotland's population and manufacturing businesses but around half of the country's manufacturing property market activity and a tight market for supply.

7.10.2 Ayrshire also stands out as a strong manufacturing market, as do Edinburgh and South East Scotland, and Aberdeen in terms of scale (the latter though without market pressure due to a high supply units). Borderlands and Falkirk are also notable.

7.10.3 While the remaining Deal regions show less market scale or activity, there is specific sectoral potential in local areas – particularly in renewable energy such as offshore wind. In particular, the focus on the market for 15,000 sq.ft. properties may not capture bespoke production sites or smaller supply chain.

TABLE 11: MANUFACTURING PROPERTY HEAT MAP (CITY AND GROWTH DEAL REGIONS)

Deal Region	Bus. units	Policy and strategy: key sectors and locations	Unit take-up (annual) ratio to unit supply (*high = tight market*)	Manufacturing take-up (properties sold or let, annual average)
Aberdeen	1280	Aberdeen (South) Harbour St Fergus Peterhead Energy transition Subsea Engineering	0.3	3.3
Argyll & Bute	200	Clyde Engineering & Innovation Cluster	*No take-up, 1 available*	0
Ayrshire	670	Hunterston Strategic Asset Prestwick Commercial, Irvine 3i, Ayrshire Manufacturing, Ayrshire Engineering, Low carbon infrastructure Aerospace	1.3	1.6
Borderlands	602.5	Chapelcross Power Station Redevelopment Tweedbank Innovation Campus	1.0	0.2
Edinburgh & SE Scotland	1435	Forth Green Freeport Low carbon rail (Fife) Arrol Gibb Innovation Campus Tweedbank Innovation Campus Medical devices & advanced therapies	0.8	3.3
Falkirk	265	Sustainable Manufacturing Campus Grangemouth Strategic Innovation Sites Industrial biotechnology	0.6	0.3
Glasgow City Region	3005	Clyde Gateway URC Clyde Mission Advanced manufacturing generally Precision medicine AMIDS and further City Deal sites	1.0	10.6
Inverness & Highland	605	Cromarty Firth Green Freeport Offshore wind Healthtech Marine Economy Space	1.6 *(only 1 unit available)*	0
Islands	210	Shetland Space Innovation Campus Marine Economy	*No take-up or supply*	0
Moray	225	Moray Manufacturing Innovation Centre Moray Aerospace, Advanced Technology and Innovation Campus	*1 taken-up, no supply*	0
Stirling & Clacks.	245		*5 taken-up, no supply*	0.3
Tay Cities	820	Michelin Scotland Innovation Parc Perth Eco Innovation Park Low carbon transport	0.2	0.2

Notes:

- Manufacturing business unit numbers are from Scottish Annual Business Statistics 2020
- Policy/ Strategy is from: Scotland's Global Capital Investment Plan (2021) (*High Value Manufacturing Key Clusters*); Inward Investment Plan; Growth Deal projects with high value manufacturing as a target (beyond just innovation and strategic infrastructure); major interventions e.g. URCs and Green Freeports (not lesser subsidies eg. Enterprise Areas); NPF4 *Productive Places* National Developments and industrial green transition zones

HEAT MAP PALLETTE	*hot*	*very warm*	*warm*	*cool*

FUTURE DEMAND

7.11 In order to understand what interventions may be required to overcome property market constraints and support Scotland's high value manufacturing sector, it is necessary to project future demand. This is done in Table 12 using:

- **Baseline**. Proven demand for marketed - mainly secondhand but also new speculative - and bespoke premises demonstrated in this report. Through sector innovation and property market constraints it is likely that in future more of these property requirements will need new development or high quality refurbishment. In addition, an estimated 2 bespoke buildings are being developed on average by occupiers each year. The baseline is proven and is thus common to all three market scenarios in the table.

- **Projected**. Additional demand which would emerge if national programmes[31] deliver forecast employment numbers. As this demand is speculative, high, medium and low scenarios are used. The scenarios are proxies for future demand from both these national programme sectors and other high value manufacturing sectors with growth potential.

  The full projected growth would equate to around 3% annual growth in Scotland's manufacturing employment. Consultations identified property as a *secondary* constraint on the manufacturing growth – the principal constraint is people and skills. Property market growth is therefore contingent upon those people constraints being alleviated.

TABLE 12: HIGH VALUE MANUFACTURING PROPERTY NEEDS IN SCOTLAND: FUTURE DEMAND SCENARIOS (ANNUAL)

Market Scenario	Baseline (2ndhand)	Baseline (bespoke)	Refurbishment	New speculative	New bespoke
High	20 units	2 units	750,000 sq.ft.	190,000 sq.ft.	565,000 sq.ft.
Medium	20 units	2 units	500,000 sq.ft.	125,000 sq.ft.	380,000 sq.ft.
Low	20 units	2 units	250,000 sq.ft.	65,000 sq.ft.	190,000 sq.ft.

Figures are rounded to the nearest 5,000 sq.ft.
The baseline demand is for all manufacturing occupiers not just high value manufacturers

7.12 The scenarios show the continuing baseline requirement for manufacturing properties, plus growth scenarios of:

- 250,000 sq.ft. – 750,000 sq.ft. of refurbishment annually. In situations and markets where this is not financially viable, then intervention to support landlords and/or occupiers could be signalled.

- 65,000 – 190,000 sq.ft. of speculative new development annually. While there is no exact standard size for a speculative manufacturing units, indicatively this could comprise say 2 to 6 units each year.

- 190,000 – 565,000 sq.ft. bespoke (purpose built) development. These tend to be larger buildings for major producers or tier 1 supply chain.

As a guide to the market scale of the potential requirement, the total refurbishment and new-build programme under the high scenario equates to 0.75% of Scotland's industrial stock each year, the medium scenario 0.5% and the low scenario 0.25%.

[31] Offshore wind energy, space, hydrogen and green heat. Other high value manufacturing sectors are proxied via these sector employment forecasts. Actual growth, timing and resultant property requirements may vary greatly.

OPTIONS AND SCORING

7.13 A number of options are available for market interventions to ensure that the land and property needs of high value manufacturers can be met. The options assessed are:

0. Do minimum
1. Selective site servicing
2. Selective speculative development
3. Competitive property fund
4. Bespoke support
5. National development programme
6. National refurbishment programme

These are not all mutually exclusive: complementary or mixed options could be pursued, particularly to suit the needs of different market areas and manufacturing sectors.

7.14 The options are scored using the following criteria; the first two criteria which assess each options potential to meet sectoral market needs are weighted highest:

- Market demand fit (out of 10 points) against the needs proven and projected in this report.
- Sector focus (/10) in terms of being sufficiently targeting to high value manufacturing sectors.
- Economic impact (/5) as an *ex ante* guide to whether the option should directly support outcomes.
- Costs, value for money and leverage (/5) is a very high level consideration of the scale of financial intervention and its potential market impact (without yet knowing the sources of funding)
- Timing (/5) indicates the likelihood of the option meeting market needs as those arise; this is particularly important for inward investors seeking a short time-to-market in regional competition
- Design/ specification control (/5) is the general extent to which the needs of high value manufacturers might be met under the broad option
- Deliverability (/5) is the practicality of undertaking the option in the market place
- Risk (/5) is the chance that the option will or will not deliver the required outcomes

The maximum potential score for an option is therefore 50 points. Scoring is provided in Table 13 on the next page.

TABLE 13: HIGH VALUE MANUFACTURING PROPERTY NEEDS IN SCOTLAND: MARKET INVERVENTION OPTIONS

Option	Description	Criteria and scoring								
		Market demand fit / 10	Sector focus / 10	Economic Impact / 5	Cost/ VFM/ leverage / 5	Timing / 5	Design/ specification control / 5	Deliverability / 5	Risk/ 5 (lowest)	**Total / 50**
0 Do Minimum	Reactive to occupier needs and/or developer proposals	3	3	1	5	2	3	5	4	**26**
1 Selective site servicing	Full servicing of key manufacturing sites	5	6	2	2	2	2	4	2	**25**
2 Selective speculative development	SE/ HIE/ SOSE led speculative development at key manufacturing sites	7	6	3	3	4	5	4	3	**35**
3 Competitive property fund	Calls-based fund for advance developer and bespoke occupier / developer support	8	8	3	4	4	4	5	3	**39**
4 Bespoke support	Package of support to manufacturing occupiers	6	8	2	4	4	2	4	3	**33**
5 National development programme	Scotland-wide industrial development programme targeted at manufacturing	9	6	5	2	2	3	0	1	**28**
6 National refurbishment programme	Provide support nationally for public or private landlord refurbishment	7	6	3	4	4	2	2	4	**32**

7.15 The options and their allocated scores are discussed below:

Option 0: Do minimum (score 26/50)

The do minimum option is similar to the existing, reactive position where SE has supported investors such as Magnata and partners such as Clyde Gateway[32]. The range of support mechanisms could include grants, rental guarantees for developers and unsecured loans. However, given property market failure and growing demand, it is likely that pressures to intervene will simply increase while growth opportunities will be constrained and perhaps lost.

The option achieves an adequate score in the Table as it would support some high value manufacturing property market activity, while minimising financial outlay and risk.

[32] Now under consideration by Scottish Enterprise for a further 5-year programme of a least 3 development schemes to provide at least 120,000 sq.ft. of new development targeted at high value manufacturers.

Option 1: Selective site servicing (score 25/50)

Selective site servicing would deliver full servicing and development-ready plots of varying sizes at strategic manufacturing sites. The sites would require to be identified although many are already prioritised in economic development strategy and investment. Despite that, it is not yet apparent that the next wave of strategic sites, for example those emerging through growth deals, will provide much beyond external infrastructure. Some of the candidate sites are noted in Section 5 and in the Table 11 heat map in this section.

The selective site servicing option achieves an adequate score but in fact is an essential prerequisite to new development which could stand alone but would be better married to a development option, or it would be entirely dependent on viable propositions from developers for speculative buildings and occupiers, which could create some tension between high value manufacturing aspirations and general market investment proposals.

Option 2: Selective speculative development (score 35/50)

Speculative development is crucial to provide investor-ready buildings to accommodate growth and modernisation, particularly for mobile investors who may have short time horizons to get to market. This would provide 15,000 – 40,000 sq.ft. stand-alone buildings led by production space with high office content, potential for R&D / clean room space and expansion potential. In principle, all sectors other than large scale engineering - such as aviation or renewable energy assembly - could occupy such assuming that they are designed with some flexibility.

Selective speculative development would be targeted at the most effective high value manufacturing sites. These would be similar to the economic development sites noted at Option 1 although there could be a particular focus on areas of denser innovation and manufacturing sector activity (demand side drivers) and those likely to offer the potential for public and/or private development partners (supply side drivers). Table 12 provided an initial guide to the potential size of the development programme.

Potential interventions include direct speculative development where market failure is absolute and/or developing in joint venture partnership locally with public and/or private development partners (who in some instances may own the target sites). Contributions to joint ventures could include equity, rental guarantees, loans and grants (the latter including from other sources beyond the development agencies). There could also be the potential to retain leased buildings (solely or shared) for investment income and future disposal to create capital returns for reinvestment.

The selective speculative development option scores well. It offers good potential to meet projected marketed demand (assume that user restrictions are in place for a period of time) and some sector targeting with correctly specified buildings, although it does have higher costs and risks than the less interventionist ‘do minimum’ option.

There could be a natural relationship between Option 1 and Option 2 by mixing site servicing and speculative development at key high value manufacturing sites.

Option 3: Competitive property fund (score 39/50)

A calls-based competitive property fund operated by SE, HIE and SOSE would ask developers to bring forward proposals for the same type of accommodation noted under Option 2.

The competitive property fund delivers the highest score against the criteria. As the call would be for speculative development proposals to enter into a restrictive (‘ring fencing’) agreement for a period of time for high value manufacturers, there is a high likelihood that the locations, buildings and target demand would provide a good fit with the sector (and indeed may bring good access to latent demand).

The ability to control costs and risks to deliver buildings to specification and on time is good as it would be subject to agreement.

The potential weaknesses to address with the competitive property fund would be market awareness and appetite, and site ownership to accommodate development; both of those single strong partnership with the wider public sector particularly local authorities, growth deal programme boards and regeneration agencies, and new entrants i.e. Green Freeports. Without access to developable land and a pipeline of opportunities there could be a risk of under-subscription.

Option 4: Bespoke support (score 33/50)

Bespoke support would offer a package of options to assist with the delivery of new and upgraded premises for high value manufacturing occupiers. This could take a variety of forms including grants, loans, access to other funding sources which support for example carbon reduction, and non-property support for example in fit-out and process equipment. For new premises there may also be a developer involved providing a design-and-build solution which would bring into scope further grant or loan options as well as rental guarantee and (in instances of absolute failure and economic development imperative) headleases.

It is not possible to build a defined programme around this bespoke option, and in some ways it is simply a formalised and mainstreamed version of 'do minimum' which would seek much greater awareness, eligibility and take-up of enhanced funding streams. The funding commitment would be very difficult to assess other than through cap-and-competition.

Bespoke support scores well due principally to the control over the sectoral focus and the direct targeting of the support; it does not provide new 'market' properties for other occupiers nor does it necessarily afford much control over the creation of best-in-classes manufacturing premises.

Option 5: National development programme (score 28/50)

A national development programme would seek to provide speculative new manufacturing premises at scale across Scotland, in anticipation of the national programmes and other sectors driving strong demand which the existing stock and markets cannot meet. In comparison with Option 1 (selective speculative development) it would be less selective and not focus exclusively on key sites, instead evoking a supply-led approach to ensure that high value manufacturing demand is not constrained.

Development could be fully-funded in locations of absolute market failure, through to one or more joint ventures with developers in areas where subsidy is sufficient to support development and ensure a period of ring-fencing of new development for manufacturing. The joint venture support could comprise equity, rental guarantees, loans and grants (the latter including from other sources beyond the development agencies). As with Option 2 here could also be the potential to retain leased buildings (solely or shared) for investment income and future disposal to create capital returns for reinvestment, potentially at significant scale for Option 5.

A national development programme scores adequately well in Table 13. It would provide for market demand and deliver economic development, though not as targeted as with other options, but with the cost, risk, timing and deliverability presenting major challenges (indeed running counter to prevailing economic development strategy since the early 1990s).

Option 6: National refurbishment programme (32/50)

A national refurbishment programme would seek to upgrade significant proportions of the existing industrial stock to deliver modern, fit-for-purpose accommodation for high value manufacturers. Refurbishment would vary significantly from basic new systems, cladding and roofing (the most effective energy investment) to extend the lifespan and promote energy efficiency, up to rebuilding around a frame.

Industry collaboration and innovation would help to optimise solutions and costs for refurbishment and retro-fitting of manufacturing processes.

There is a potential fit with general (rather than highly specified) market demand and the potential to intervene comparatively quickly and at lower cost and risk than building new.

The key challenges with this option are the extent to which the refurbished accommodation would genuinely meet the needs of investing high value manufacturers - signalling the need for design innovation and pilot projects - and crucially, access to stock. Most industrial stock is occupied and is in private ownership (mainly landlords but also occupiers), meaning that the moment of intervention would be when a vacancy is about to arise, to support the landlord's refurbishment in return for the unit(s) being ring-fenced for high value manufacturing for an agreed period of time. Without prejudice, it is possible that a refurbishment assessment against high value manufacturing needs may equally conclude that demolition to allow new development is the only feasible option.

The national refurbishment programme scores reasonably well as an opportunity to accommodate high value manufacturing demand at a comparatively low intervention rate and paced over time. Moreover, while a national 'offer' could be made, this in practice might become similar to Option 3 but as a calls-based approach for existing rather than (or indeed sitting alongside) new-build speculative units.

In addition to general industrial units, purpose-built factories occasionally come to the market when a business fails or relocates. Michelin Scotland Innovation Parc is an excellent live example of this. Similar approaches to further vacated large factories could form part of a refurbishment programme – or a separate initiative for particular cases – if the surplus factory is sufficiently modern and adaptable to make such investment worthwhile for target sectors or manufacturing more generally.

7.16 The rank order of options following the scoring is:

1st Competitive property fund

2nd Selective speculative development

3rd Bespoke support

4th National refurbishment programme

5th National development programme

6th Do minimum

7th Selective site servicing (*partial solution*)

The scoring of Options 4 and 6 is also potentially influenced by whether policy objectives seeking net zero carbon and promoting fabric-first over new development are to be incorporated formally into the assessment. Introducing that and awarding a score out of 5 points would not alter the rank order of the options, assuming that the new-build options also achieve some points based upon low / net zero carbon and energy efficient designs. It would however improve the scoring of the bespoke support option (4), and would significantly improve the scoring and potentially the ranking of the national refurbishment programme (6).

WIDER CONSIDERATIONS

7.17 Whichever option or options is preferred, there are a number of wider considerations emerging from this study into high value manufacturing land and property needs:

7.17.1 From a trawl of City and Growth Deals, a number are providing innovation and strategic infrastructure that should lead to high value manufacturing investment, but there is little evidence of full site servicing to enable immediate development, and less of actual follow-on development to attract occupiers. Explicit consideration of manufacturing needs should form part of the next iterations of growth deal projects, informed by regional economic strategies. The next round of strategic sites is emerging but requires greater prioritisation and investment if it is to attract high value manufacturers, and indeed if land supply in active market areas is not to become a medium term constraint, noting that it can take a number of years to access and service land even it is already identified within the development plan system (if it is not identified then the gestation period could be a at least a full LDP cycle ie. 10 years). As part of this prioritisation the preferred option of a competitive fund could be backed by targeted land acquisitions to support development.

7.17.2 The potential to recycle existing employment land for high value manufacturing use alongside strategic sites should not be overlooked. Some higher amenity industrial estates and indeed stalled business, science and technology parks are in the right locations, accessible, established and with amenities to support for refurbishment or redevelopment for high value manufacturing uses (where necessary this should include planning consent and condition reviews).

7.17.3 The provision of ring-fenced, advance (speculative) manufacturing space is important to prevent displacement by other sectors, to help modernise an ageing property stock by providing better (best) quality supply, and to capture investment with a short lead-in time to market particularly mobile investors who have that choice in competing regions.

7.17.4 There is a message to communicate to the market, that manufacturing is emerging as a growth sector again, particularly in its high value forms due to growth in those sectors. Delivery of high amenity sites and high quality buildings is a challenge for the unsupported property market but there is demonstrable occupier demand and positive sector growth projections.

7.17.5 This research has focused on medium to larger buildings and sites. For high value manufacturing, the ladder of accommodation below 15,000 sq.ft. from start-up or spin-out through incubation to growth phases is at least as important given the economic structure, and indeed is already a focus for economic development actions and investment. Equally, at the other end of the scale Scotland has a number of major manufacturing assets - including refineries, shipbuilding, defence, distilleries, ports and pharmaceuticals – which can and do invest outside of the regular property market.

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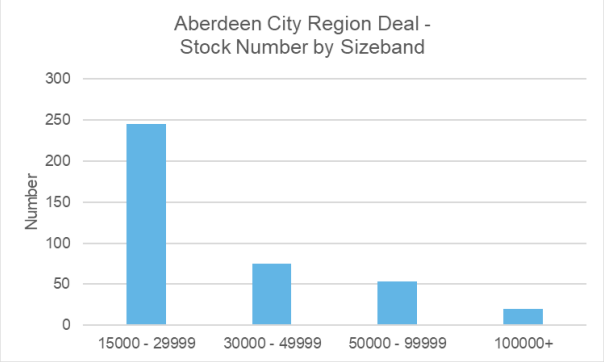
APPENDIX A

REGIONALISED DATA

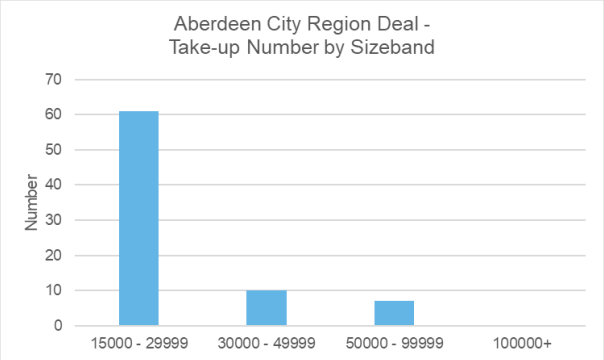
ABERDEEN CITY REGION GROWTH DEAL

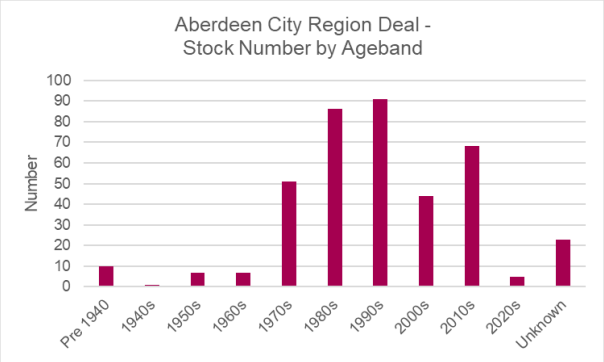
Stock 15,000 sq.ft. or larger (single user + undefined)

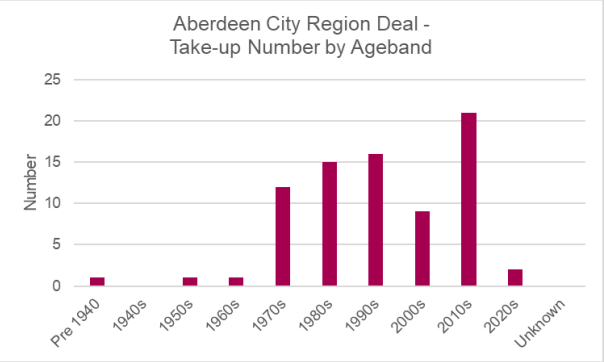
1.54 million sq.ft. in 393 units



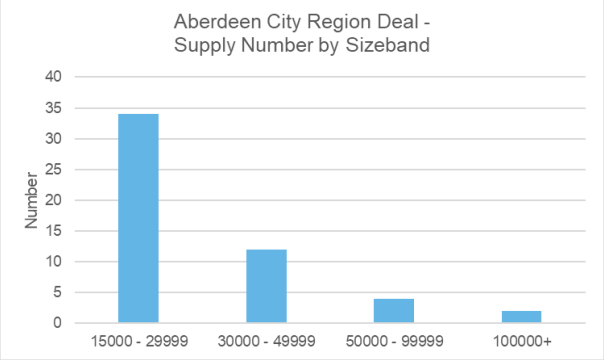
Take-up



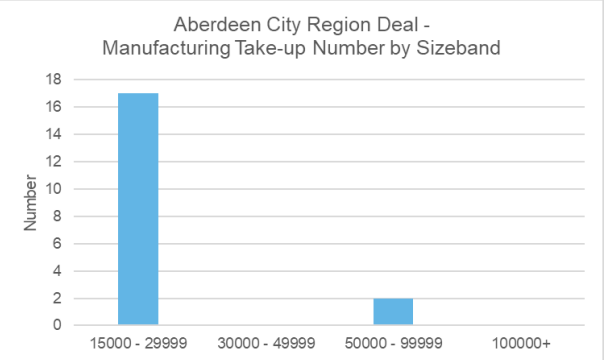


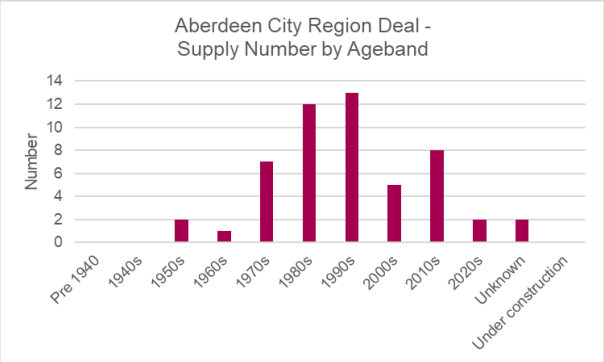


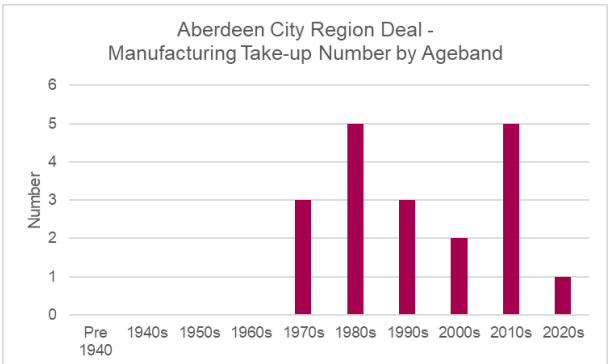
Supply



Manufacturing Take-up







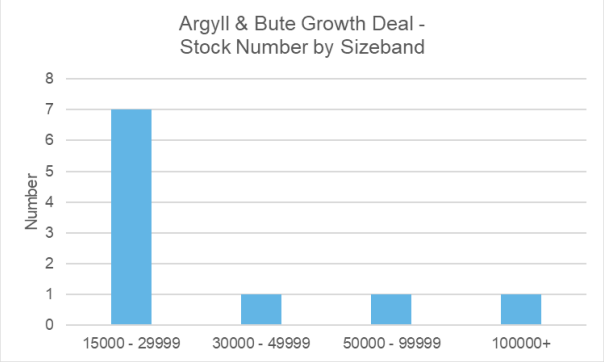
ARGYLL & BUTE GROWTH DEAL

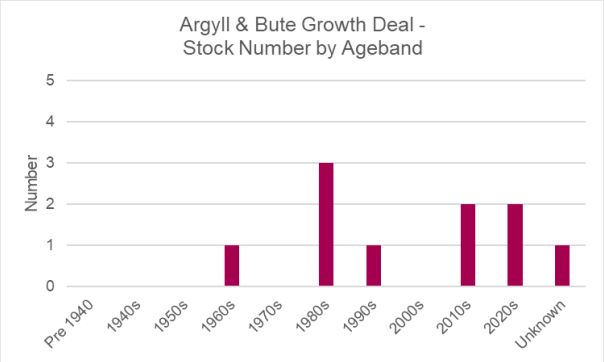
Stock 15,000 sq.ft. or larger (single user + undefined)

442,500 sq.ft. in 10 units

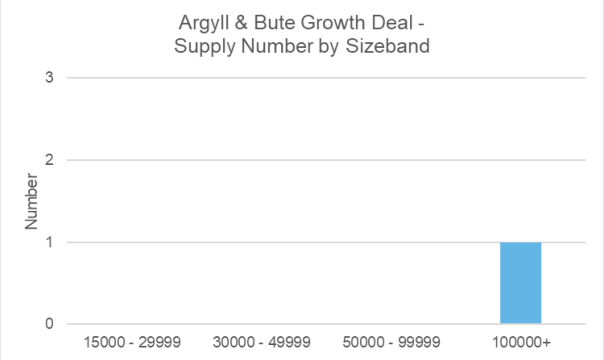
Take-up

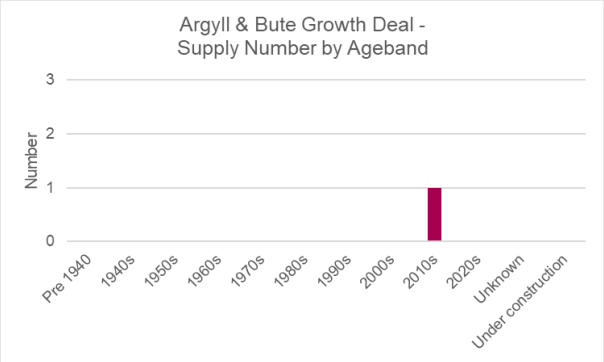
No take-up 15,000 sq.ft. or larger recorded





Supply



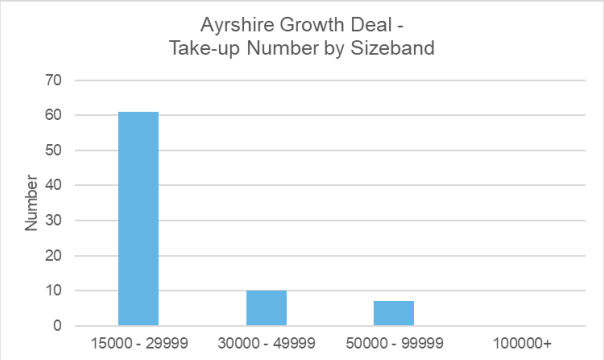


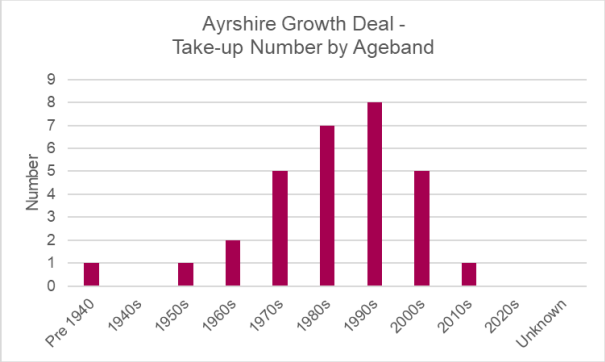
AYRSHIRE GROWTH DEAL

Stock 15,000 sq.ft. or larger (single user + undefined)

Take-up

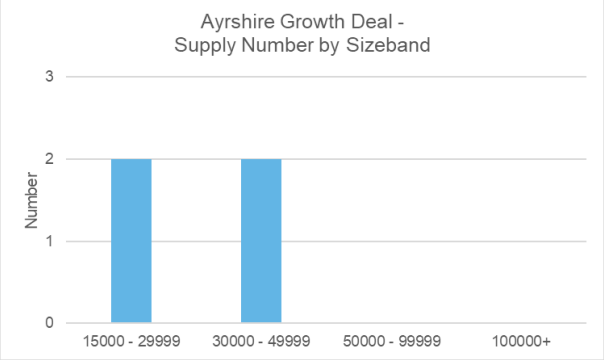
8.59 million sq.ft. in 149 units

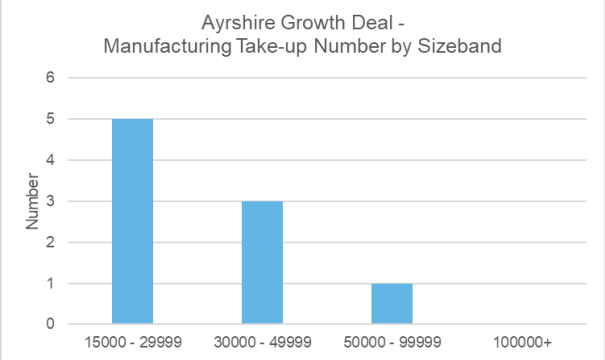


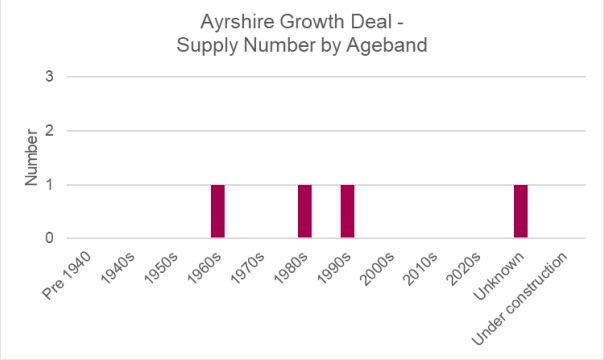


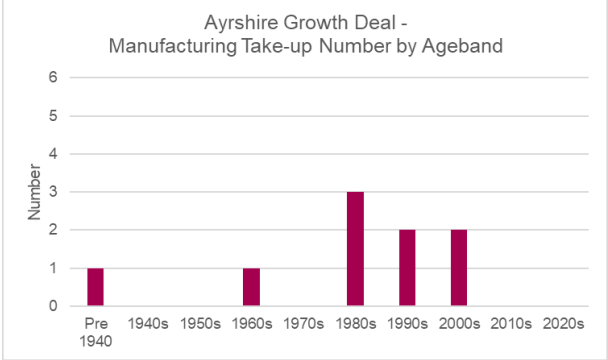
Supply

Manufacturing Take-up





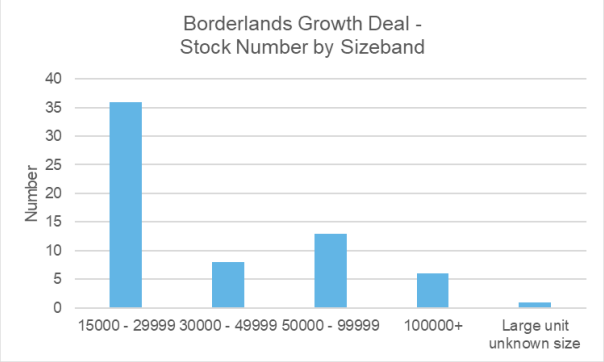




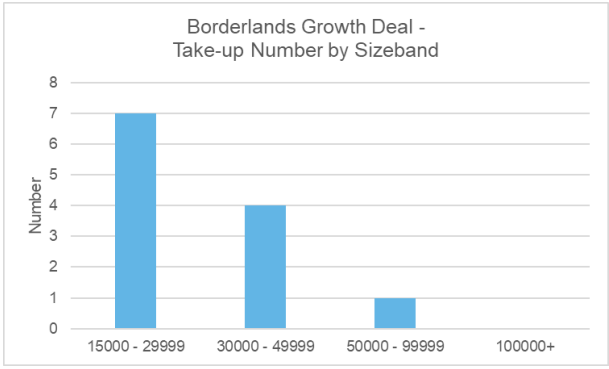
BORDERLANDS GROWTH DEAL

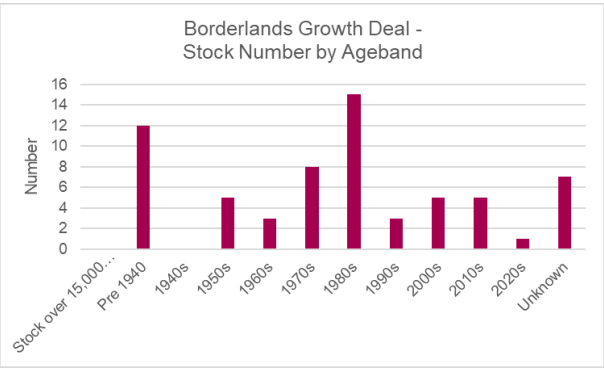
Stock 15,000 sq.ft. or larger (single user + undefined)

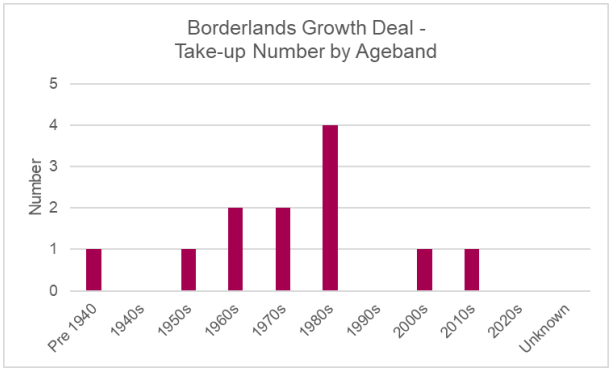
3 million sq.ft. in 64 units



Take-up

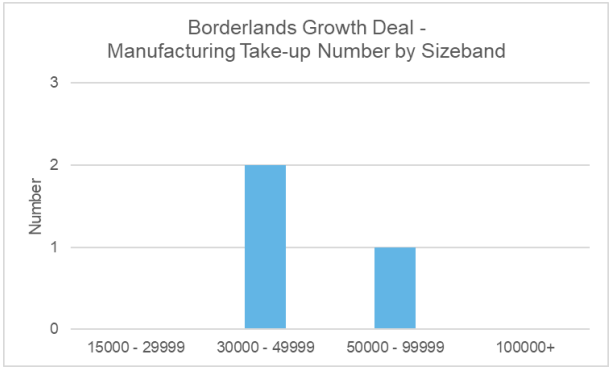


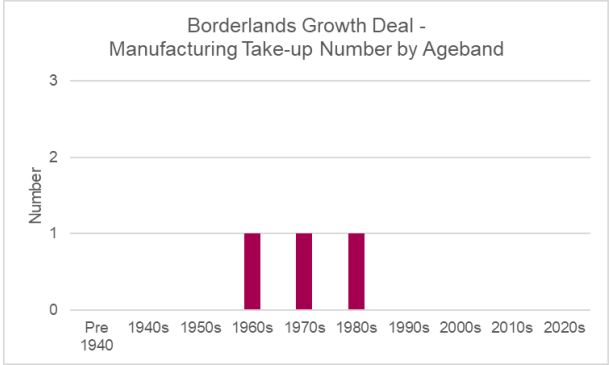




Supply

Manufacturing Take-up

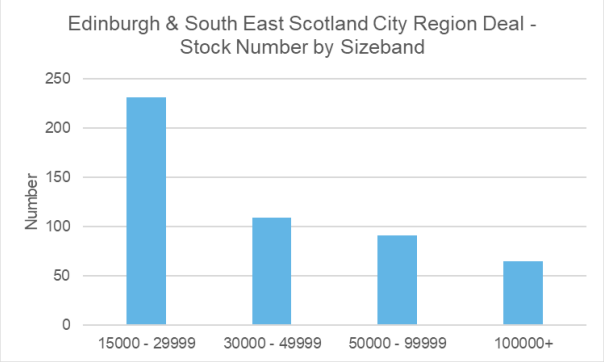


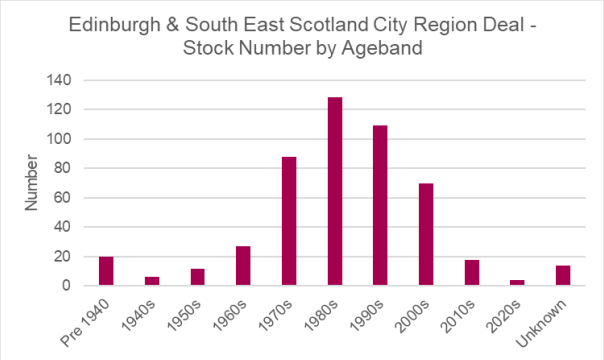


EDINBURGH & SOUTH EAST SCOTLAND CITY REGION DEAL

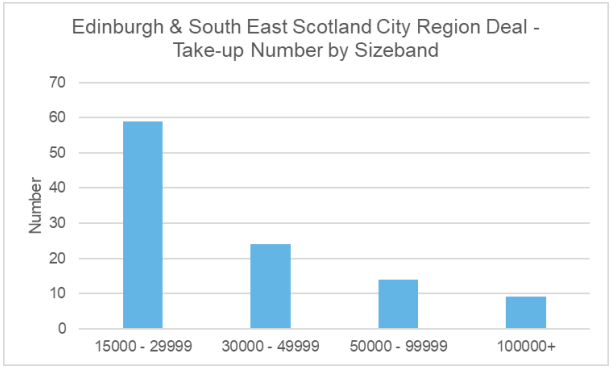
Stock 15,000 sq.ft. or larger (single user + undefined)

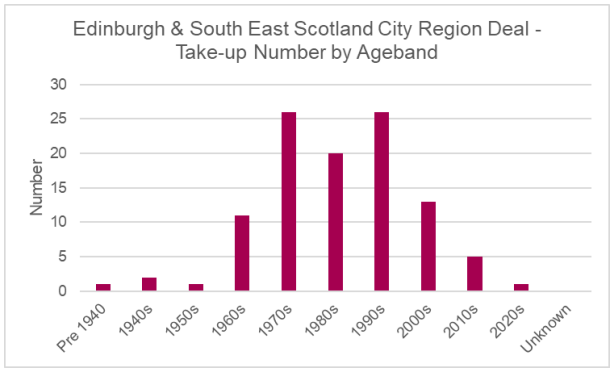
27.4 million sq.ft. in 496 units[33]



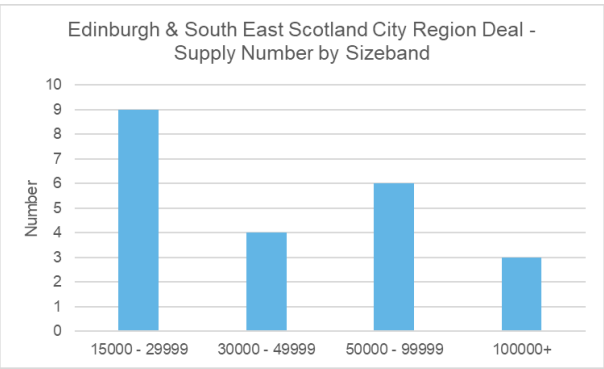


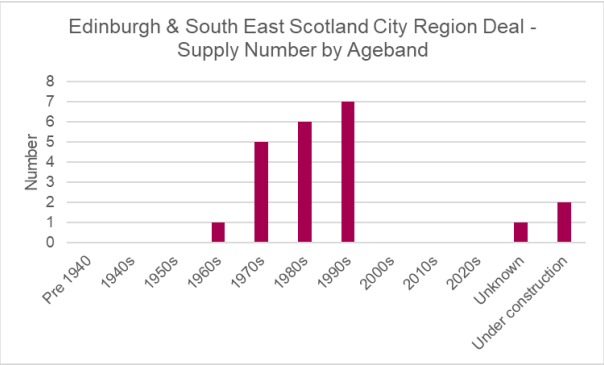
Take-up



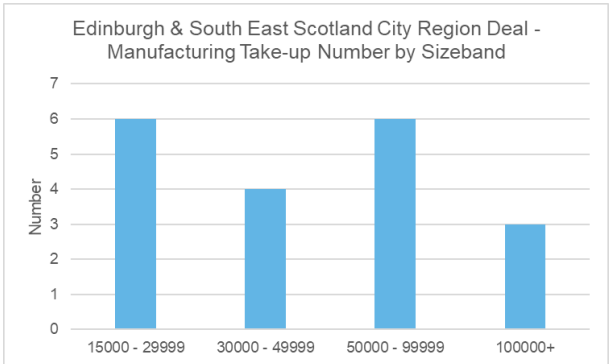


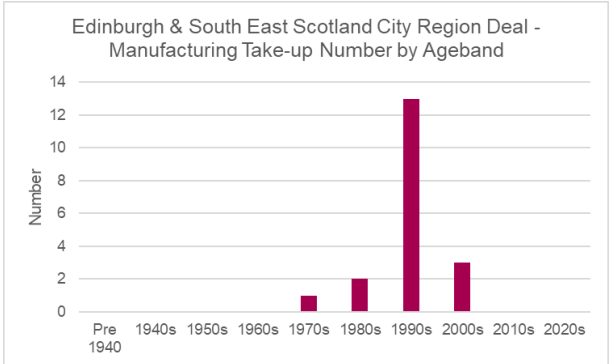
Supply





Manufacturing Take-up





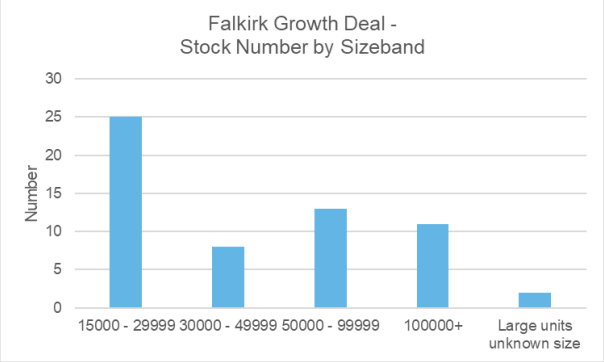
[33] Includes Scottish Borders, which is also included in Borderlands

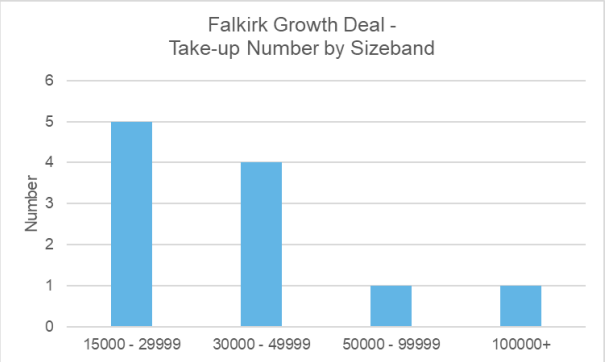
FALKIRK GROWTH REGION DEAL

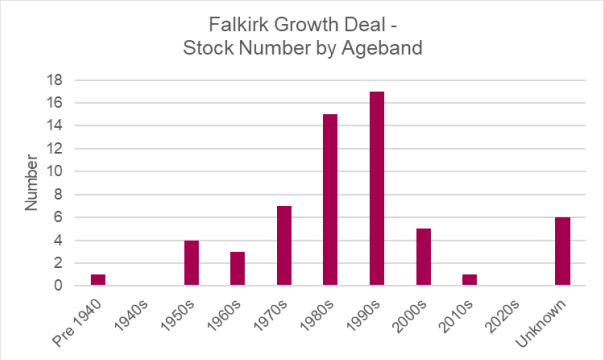
Stock 15,000 sq.ft. or larger (single user + undefined)

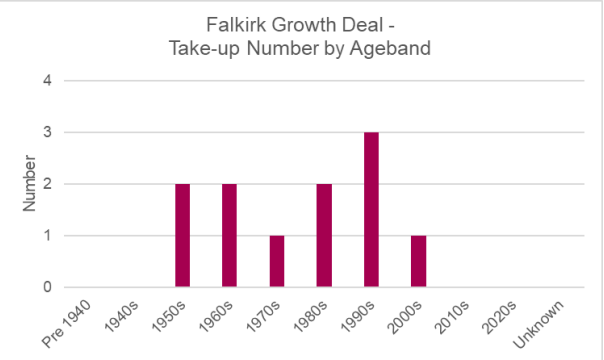
Take-up

4.96 million sq.ft. in 59 units

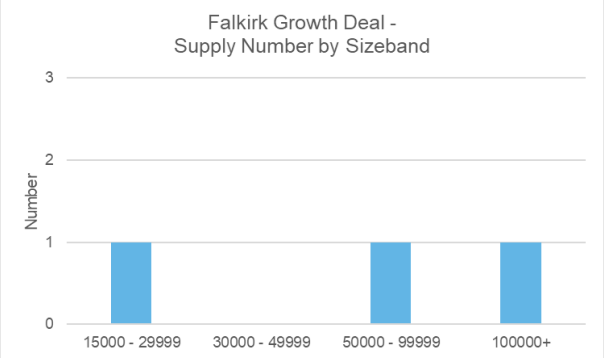




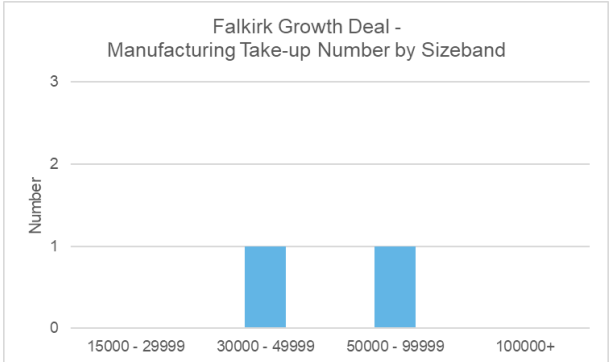


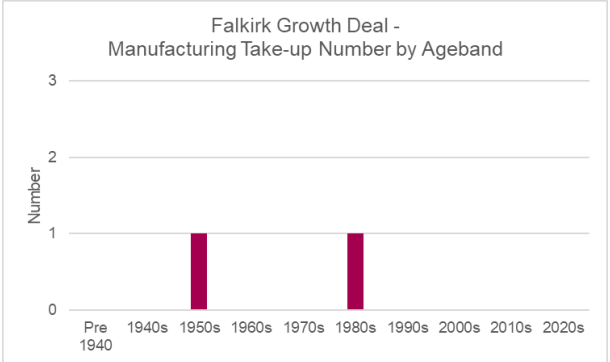


Supply



Manufacturing Take-up





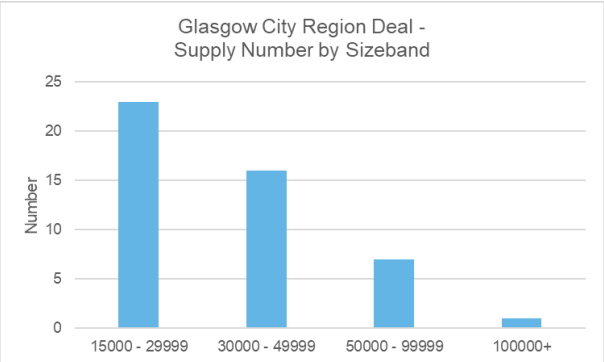
GLASGOW CITY REGION DEAL

Stock 15,000 sq.ft. or larger (single user + undefined)

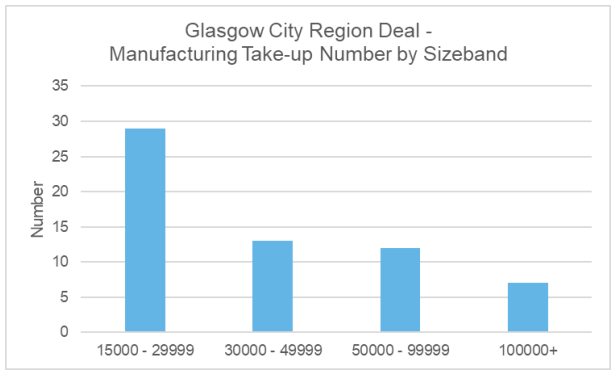
54.36 million sq.ft. in 925 units

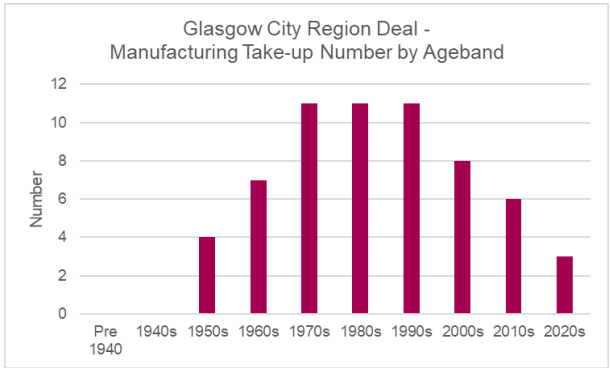
Take-up

Supply



Manufacturing Take-up

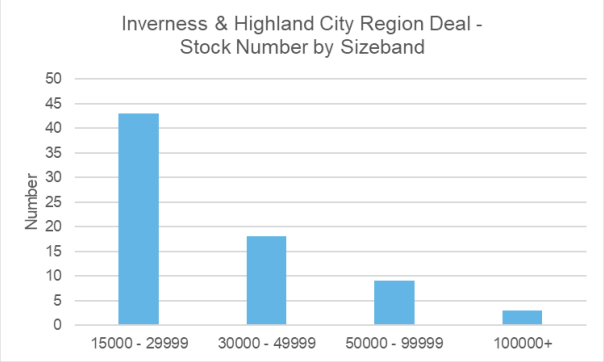


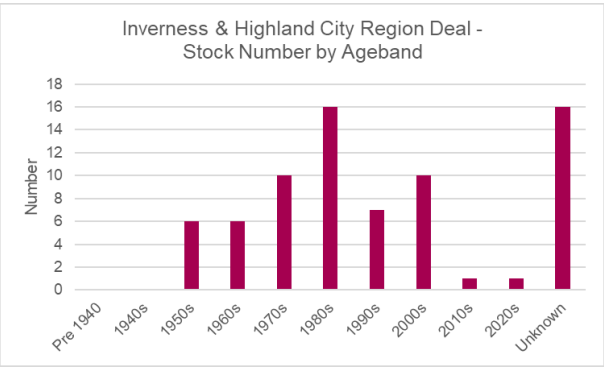


INVERNESS & HIGHLAND CITY REGION DEAL

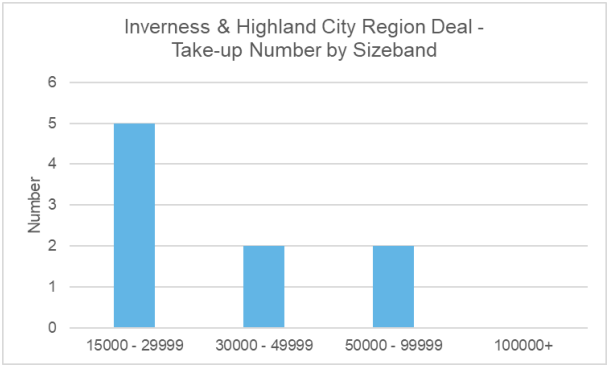
Stock 15,000 sq.ft. or larger (single user + undefined)

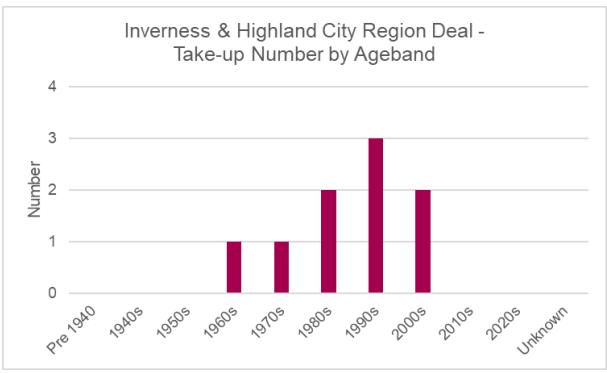
2.59 million sq.ft. in 73 units



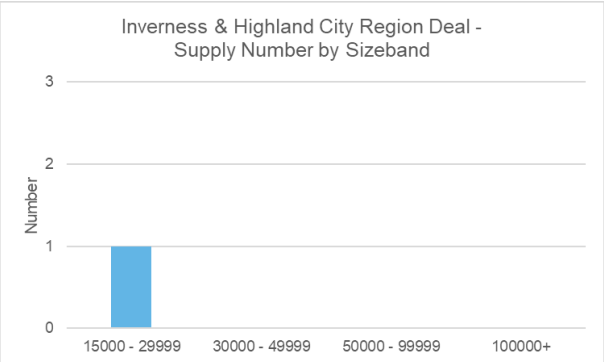


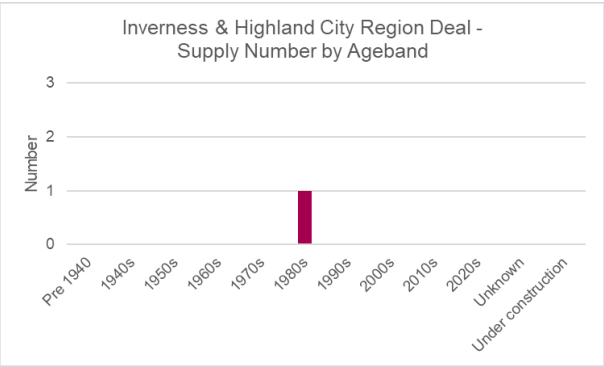
Take-up





Supply





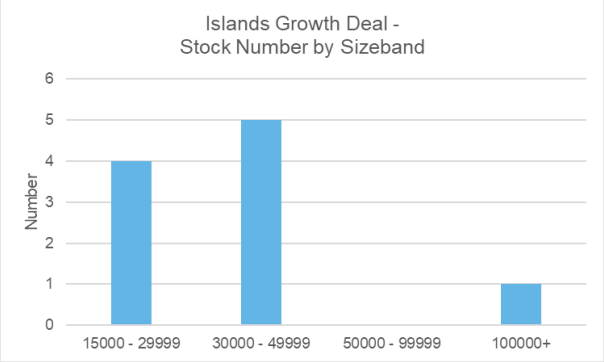
Manufacturing Take-up

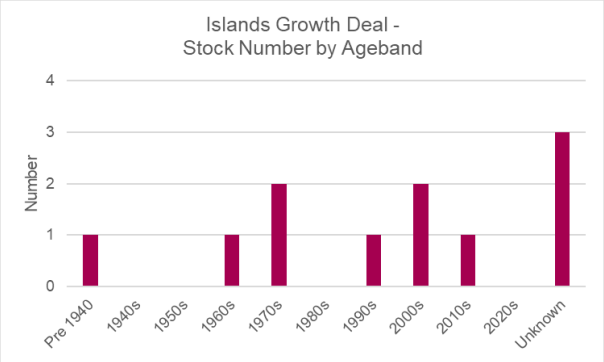
No manufacturing take-up 15,000 sq.ft. or larger recorded

ISLANDS GROWTH DEAL

Stock 15,000 sq.ft. or larger (single user + undefined)

417,800 sq.ft. in 11 units





Take-up

No take-up 15,000 sq.ft. or larger recorded

Supply

No supply 15,000 sq.ft. or larger recorded

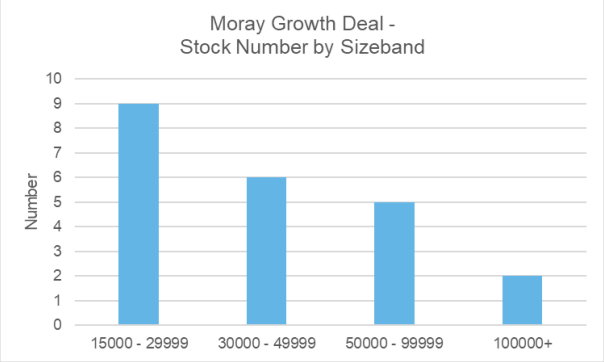
Manufacturing Take-up

No manufacturing take-up 15,000 sq.ft. or larger recorded

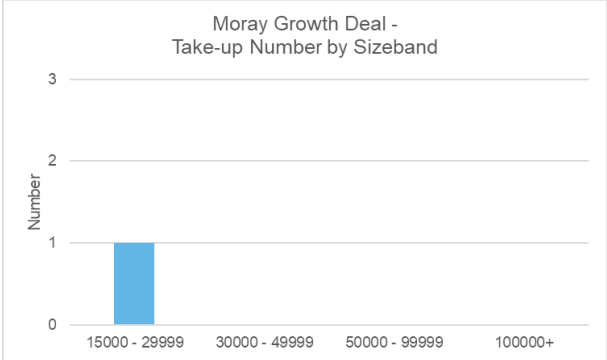
MORAY GROWTH DEAL

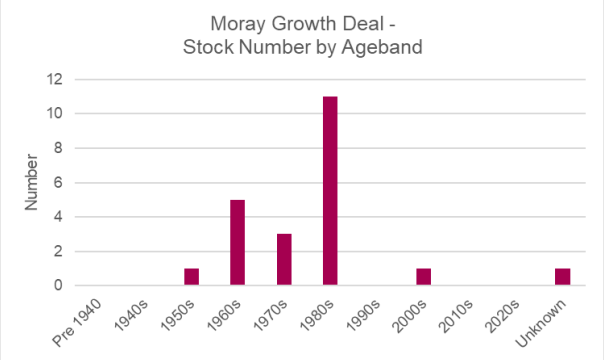
Stock 15,000 sq.ft. or larger (single user + undefined)

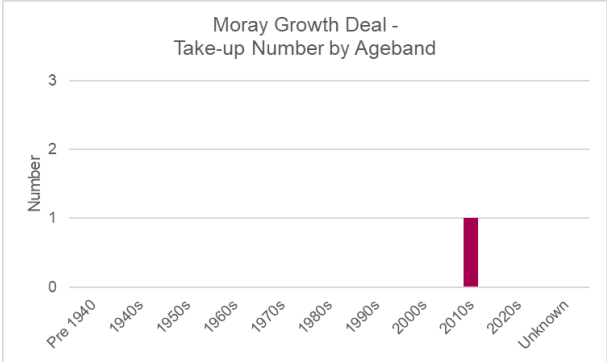
1.1 million sq.ft. in 22 units



Take-up







Supply

No supply 15,000 + sq.ft. recorded

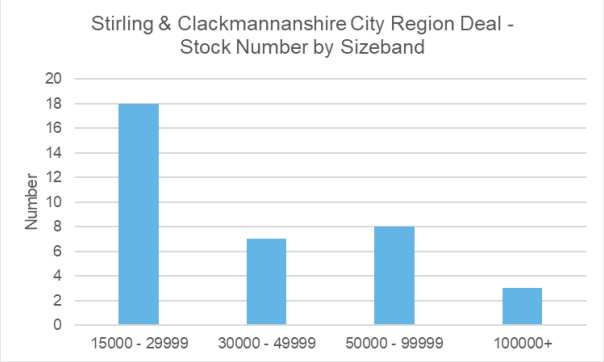
Manufacturing Take-up

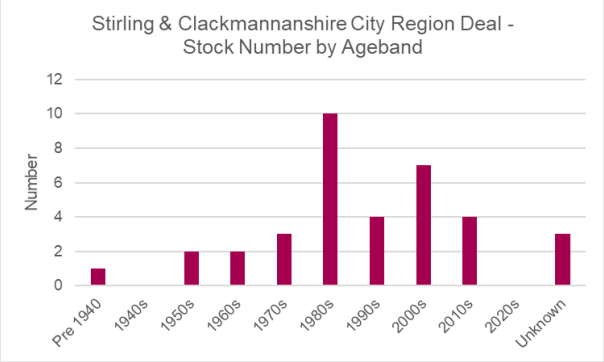
No manufacturing take-up 15,000 + sq.ft. recorded

STIRLING & CLACKMANNANSHIRE CITY REGION DEAL

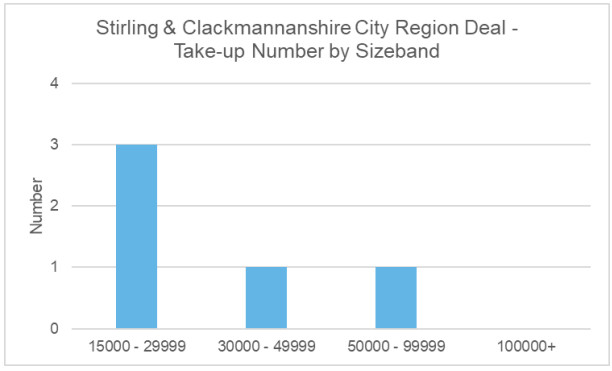
Stock 15,000 sq.ft. or larger (single user + undefined)

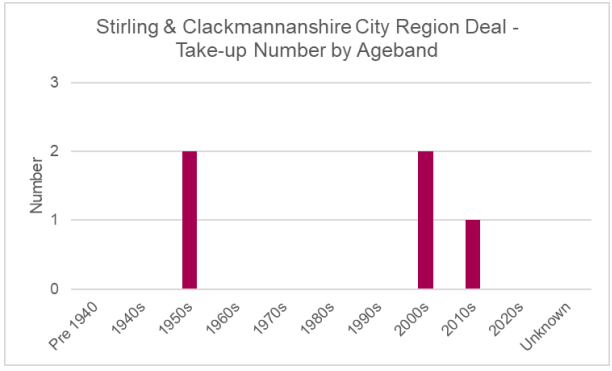
2.41 million sq.ft. in 236 units





Take-up

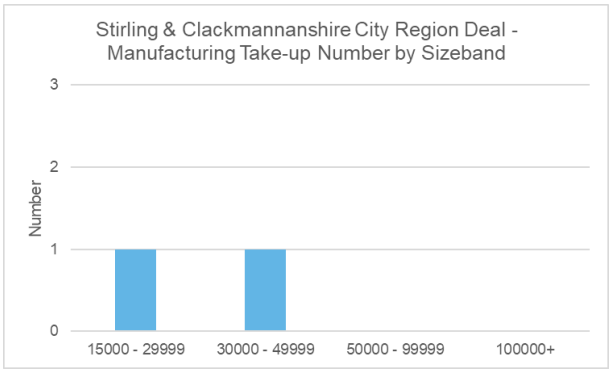


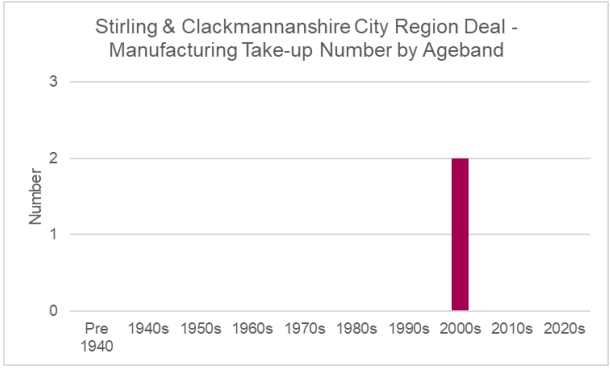


Supply

No supply 15,000 + sq.ft. recorded

Manufacturing Take-up

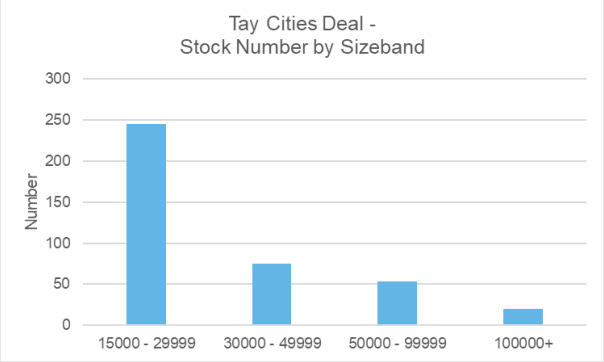


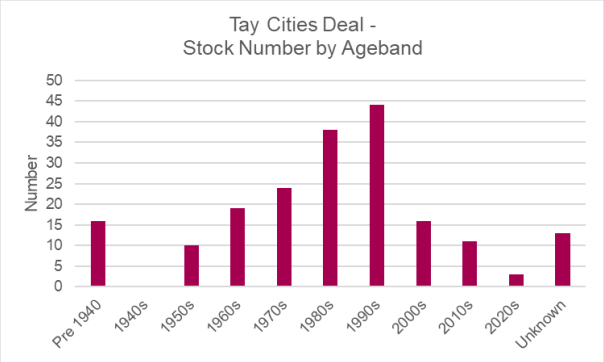


TAY CITIES DEAL

Stock 15,000 sq.ft. or larger (single user + undefined)

10.7 million sq.ft. in 194 units





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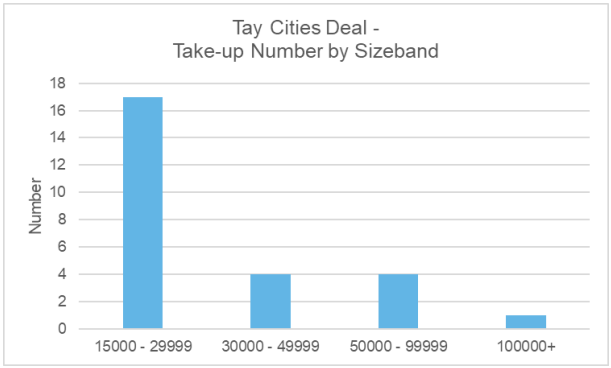
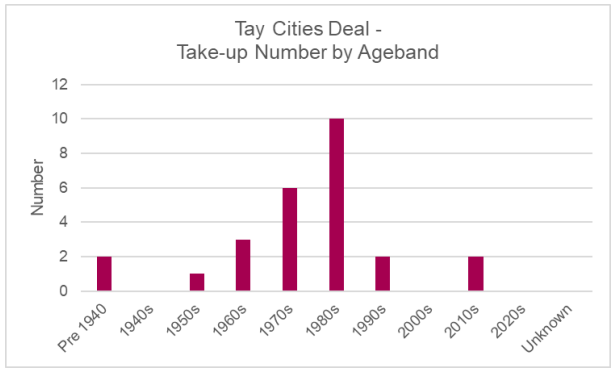
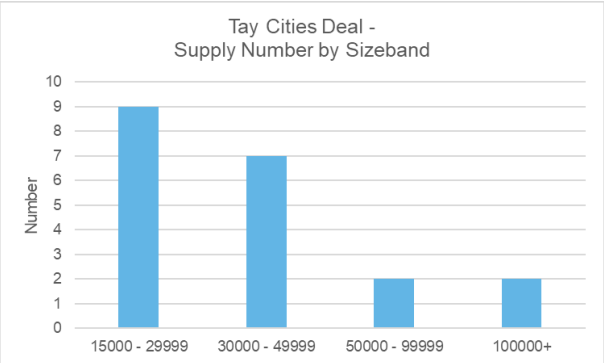
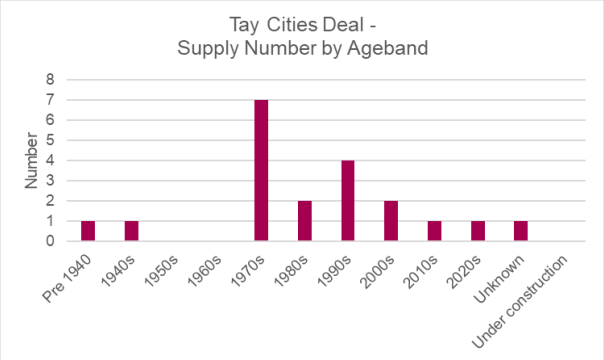


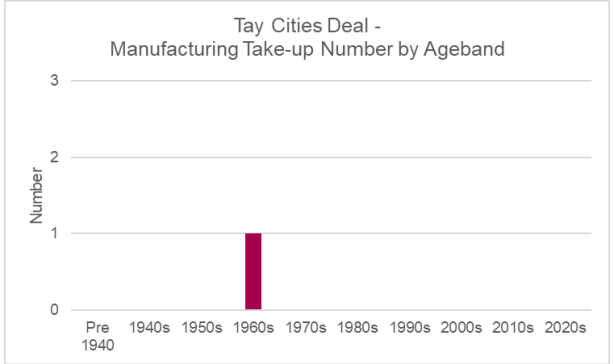


Supply





Manufacturing Take-up



APPENDIX B

CONSULTATION SUMMARY

STAKEHOLDER CONSULTATIONS

INTRODUCTION

This appendix summarises the results of discussions with 30 relevant stakeholders. Consultees included those leading on SE's relevant national programmes, Scottish Government, Scottish Futures Trust, Scottish Development International, industry bodies, mainstream and specialist developers and others with experience of high value manufacturing property project delivery. An Expert Panel session also incorporated Scottish property market experts including from the client enterprise agencies.

The majority of consultations used a semi-structured questionnaire and focused on background on the specific sector in terms of the economic opportunity, property and site requirements and potential interventions. Consultations were undertaken between September - November 2022.

ECONOMIC OPPORTUNITIES

At a strategic level, consultees noted that the public sector is *"focussed on the future economy and the big, disruptive, transformative sectors"* which are likely to experience growth in Scotland over the next few years. It was commented that a number of these sectors are expected to grow as a result of greater focus on *"green growth"* associated with Scotland's net zero ambitions. The majority of these sectors have high value manufacturing implications and requirements.

Consultees were keen to express the scale of the economic opportunity in their area of expertise. With regards to renewable energy, it was commented that the potential for Scotland coming from the hydrogen sector is *"off the scale"* particularly since the invasion of Ukraine. It was noted that the expected development and growth of this sector over the next few years will come with site requirements for the actual production of hydrogen as well as greater demand for supply chain components resulting in demand for manufacturing and assembly facilities. It was noted that this demand was not just from the domestic market but that Scotland was also receiving interest and enquiries from other countries.

In a similar vein, consultees noted that offshore wind, and in particular the ScotWind project, will require the manufacture and laydown of wind turbine components. The Scottish Government has estimated its offshore wind capacity (operational, pipeline and potential pipeline) is c.40 GW.. One consultee commented that for every 1GW required there will be c. £1bn invested. It was also considered that those currently working in the existing opportunity sectors such as oil and gas decommissioning, grain and port transit may feel a knock-on effect from this new and expanding sector as land comes under pressure to sell to the highest bidder.

The zero emissions heavy vehicles sector was also considered to present opportunities for manufacturing in Scotland. This is in relation to sectors such as maritime, aerospace, rail, on and off road vehicles and batteries. Reference was made to the lithium battery gigafactories tentatively planned in England. It was noted that for all of these sectors, Scotland would be competing with other parts of the UK for public sector contracts with a general preference for the manufacture of new technologies to be next to existing industry hubs of expertise.

High value manufacturing associated with decarbonising heat is expected to create significant job growth stated a consultee. "*The largest proportion of these jobs will be in manufacturing"* the consultee noted. This is on the back of Government targets as well as a strong growing European market, again driven by events in Ukraine, and the resulting acceleration of net zero targets. It is considered that this expected growth will create potential for an expanding manufacturing base.

Other sectors with high growth potential over the next few years were space, life sciences and food and drink innovation. With regards to space, it was commented that it is a *"vibrant, growing sector which didn't exist in Scotland 15 years ago".* It was also noted that *"20% of all UK space jobs are located in Scotland"* and *"Glasgow builds more satellites than any city outside of the USA".* This growth is expected to accelerate by consultees bringing with it a further requirement for the manufacture of hardware, particularly that associated with small satellites.

In terms of life sciences, it was stated that this sector is *"growing 10% year on year"* and as a generalisation *"all companies are increasing their turnover".* The sector includes a wide range of sub-sectors including pharmaceutical innovation, health technology, animal, agritech and aquaculture. The latter also links in with food

and drink innovation. It was commented that *"life sciences companies are desperate for manufacturing space"* with many becoming much more focussed on manufacturing as a result of better funding of the sector. Consultees considered there is an opportunity for Scotland to capture more value in this area.

Finally, in relation to food and drink innovation, consultees stated there *"has been exponential growth in the drinks side of the industry with whisky being a core part of this".* Consultees revealed that many drinks companies have significant 3-5 year growth plans with warehousing considered key alongside the expansion of bottling plants.

As a general overview on high value manufacturing in Scotland it was stated that "that *"despite recent issues in relation to the Covid-19 pandemic, Brexit, supply chain issues, increased energy costs etc. many sectors are growing…and thriving".* This is testament to the strength of these businesses in Scotland. However, the anticipated growth of the above mentioned sectors will bring increased demand for sites and properties suitable for manufacturing. This is an area where all consultees agreed further intervention was required.

While there are a number of big businesses involved in high value manufacturing in Scotland, several comments were made regarding the *"eco-system of SMEs"* across the various sectors. Reference was made particularly with regard to their ability to be able to fund their own property development in order to scale-up. Again, this was considered to be a potential area where more intervention was required.

Consultees were keen for Scotland *"to be seen as a manufacturing hub"* which is distinctive on the global stage. Another went on to comment that there had been good R&D investment in many sectors but that now companies are keen to pivot towards creating more product. It was stated that *"companies don't make money from R&D, they need to produce products to compete internationally".*

PROPERTY AND SITE REQUIREMENTS

With regards to the current sites and buildings occupied by high value manufacturing businesses in Scotland, it was noted by consultees that again these can vary depending on the sector with some being particularly specialist, e.g. renewable energy or shipbuilding.

However, more generally it was noted that there is *"a lack of start-up, follow-on and scale-up space"* for high value manufacturing in Scotland. There was a general preference across sectors for *"modern, energy efficient buildings with parking and internal flexibility".* One consultee stated that a modern building is important *"to ensure the company is being presented in the best way to clients and staff"*. Energy efficiency was not only important from a cost perspective but with so many businesses striving to take advantage of green growth it was considered that their own estate or property should also reflect these ambitions.

Life sciences was considered to be one of the sectors where *"it is very clear that there is market failure in terms of property supply"*. One consultee noted that *"companies are desperate for manufacturing space and some have had to leave Scotland"* to find it. This sector can have complex requirements for property including clean rooms and air handling capabilities which can be difficult to retro-fit into existing buildings. There are specialist developers within this sector but in order to develop suitable property many would require a head lease or pre-let. A pre-let is potentially achievable for a larger company with a strong growth plan however for smaller companies pivoting from a R&D focus to a manufacturing focus this could be more challenging and ultimately affect plans for growth. It was noted that *"if the occupier covenant can't support the required funding then a new-build, design-and-build option is not likely".*

Space was another sector where it was noted by consultees that there is a lack of supply. It was stated that *"there are many international companies keen to come to Scotland but there are no facilities for them".* Companies in the space sector can also have a requirement for clean space (not necessarily clean rooms), provision for manufacturing and office space but more generally an *"agile building"* was denoted. Consultees referred to existing companies who they considered to be operating out of unsuitable premises and it was commented that *"when looking for premises we had to look at warehouses and furniture factories and we know other space companies operating out of hangars and under railway arches".* For the space sector, it was also noted that there is a natural cluster of business activity around Glasgow but there was demand for more modern and appropriate scale-up property. It was considered that development at Prestwick could help support this but again it would be challenging for an SME covenant to support property development particularly given the potentially bespoke requirements.

Consultees explained that buildings for the production of food and drink have strict requirements around hygiene and therefore companies in this sector can have requirements around wall materials, drainage, lighting and ventilation. Whilst many of the leading drinks producers have custom built sites which are increasingly automated this isn't the case for all producers, particularly in the food sector. It was noted that there is a real need to *"modernise the food sector in order to move towards greater automation and away from labour intensive processes".* It was considered that many existing premises occupied by food producers were largely unsuitable for adaptation in this way. Again, this was generally felt to be as a result of the age and condition of existing properties.

It was expressed by consultees that companies which are starting to produce a greater amount of parts and components associated with the transition to net zero, alongside existing products, were likely to be experiencing a pressure for space within existing accommodation. Many companies which have lead this transition were reported to be *"struggling to keep up with demand"*. However, it was considered that there are issues around the expansion of existing sites due to a lack of available, serviced land for expansion.

Consultees noted that are larger (30,000 – 50,000 sq.ft.) speculative units being built in Scotland, particularly along the M8 Central Belt Corridor but it was considered that these are often *"snapped up by higher margin businesses such as those involved in logistics".* It was further noted that *"the* funding *of speculative development is now only possible through developers' own equity, as institutions are not active and banks are not interested".*

It was commented that companies across the various sectors can often be quite heavily attached to particular geographies in order to retain staff and skills and ensure continuity for the business as it expands. One consultee noted that *"even moving from one side of the city to the other can be challenging for businesses".* It was further noted that for those companies which attracted high value jobs there was a preference towards city locations across Scotland and the central belt. It was also noted that post-Covid more companies are seeking supply chains closer to home and there was an increasing desire for large manufacturers to have their suppliers in close proximity. These factors have can have an impact on how far companies are able to travel in order to find suitable accommodation and sites.

From an inward investment point of view, a consultee noted that *"around the world, property is used to attract investment"* and *"that if Scotland had a good supply of suitable properties its offer would be compelling".* A number of consultees recounted their experiences of showing inward investors around available properties. One stated *"we pulled off a list of available properties and there was so little you would be willing to present on a property tour as it was mostly grotty (sic) second-hand space. In addition, a number of the available sites were greenfield so you were essentially showing the inward investor an un-serviced field".* Consultees stated that companies want to be 'up and running' as quickly as possible and to service and build out a site can take a number of years. It was commented that there are *"a lack of sites ready to go".* Furthermore, it was noted that any current projects of scale (Michelin Scotland Innovation Parc and AMIDS were noted) have required significant public sector investment.

INTERVENTIONS

Although it was considered that many sectors have bespoke requirements for sites and buildings, many consultees considered there to be merit in a greater supply of industrial shell buildings. For the manufacture of components, it was noted that *"more speculative buildings we could point to would be beneficial for us, we need simple large sheds of c. 50,000 sqft with the potential to expand".* However, others noted that although there is demand, *a* public sector *"build it and they will come approach"* is not appropriate either. There was a recommendation for more *"innovative partnerships with developers".* One consultee went on to state that *"the public sector should help provide the land and then get out of the way".* Another stated that *"the private sector are the better developer and the better landlord, the public sector needs to look at how it can intervene in order to help them build more quickly".* A further consultee noted *"we don't want to create red tape for the sake of it but we also don't want to just be a funding body…we want to get better at public/private partnerships and create sensible clusters".*

From a developer perspective, it was noted that high value manufacturing is a sector which is being talked about a lot but *"isn't yet coming through in substantial enquiries".* The consultee went on to state that *"there is a lot of talk in economic development circles before 'anything sticks' in the market".* For those speculative buildings which are being built a consultee commented that these units will *"target 90% of the market with standard, shell industrial buildings comprising a warehouse that can be fitted-out to specific occupier needs and an open plan office".* The

question is whether these can be adapted for high value manufacturing businesses and whether they can afford the market rents.

There is a wider issue around the affordability of space consultees noted. Many companies do actually choose to stay in inappropriate space because it is cheap a consultee noted. It was stated that *"there are a long tail of low* productivity *companies unable to 'kick-on' in their current premises and it takes a big leap to move to more expensive space".* Many of these businesses could be better supported to do so and increase productivity as a result.

Reference was made by several consultees to the modular fit-out of buildings. It was considered that if shell buildings were available then some of the fit-out could potentially be modular in order to save time and money but also cater for bespoke requirements. This could potentially restrict the flexibility of the building in future and requires greater investigation.

For bespoke builds, it was noted that requirements can often be complex which has massive cost implications for a developer which often cannot be justified by the occupier's covenant or proposed lease length. Enabling these companies to take longer leases or the public-sector providing an over-riding head lease was suggested by a consultee.

Existing buildings were considered to also be part of the solution. *"If there is wider obsolescence in the industrial market this should not be ignored"* noted a consultee. *"Building new units alone will not fix the problem"* stated another. Consultees stated that many businesses will consider improving their existing building as a first port of call. Whilst there may be some properties, particularly surplus space which overhangs the market, which can be improved or improved it was also acknowledged that some buildings "are past saving". A consultee commented that these properties *"may serve a purpose but are not fit for purpose".* Another noted *"a lot of 50-year-old battered (sic) stock is not suitable for high value manufacturing – this should have a massive role to play but it is not being vacated in order to allow redevelopment or refurbishment".*

SUMMARY

This section has summarised the results of 30 one-to-one discussions with relevant stakeholders. There are a number of sectors which encompass high value manufacturing which are expected to achieve significant growth over the next few years in Scotland. Many of these are associated with 'green growth' such as those associated with renewable energy and carbon reduction. Other sectors include life sciences, space and food and drink innovation. However, this anticipated growth will bring with it increased demand for sites and properties suitable for manufacturing. It was anticipated that this interest in Scotland will come not only from domestic companies but also inward investors and therefore consultees were keen for Scotland to be seen internationally as a 'manufacturing hub'.

Many sectors within high value manufacturing can have bespoke requirements when it comes to properties and sites, e.g. renewable energy. This can make it challenging to find suitable sites and second-hand space. Whereas large companies may be able to afford design and build accommodation, SMEs, of which there are many in the sector, will often struggle to adopt this model. This means they often stay in unsuitable premises for longer and struggle to improve productivity and take advantage of growth opportunities.

For other high value manufacturing sectors, standard big box accommodation is considered to be appropriate however it needs to offer flexible internal accommodation suitable for modern manufacturing processes. Many older properties can struggle to provide this and for newer properties there is often intense competition from a range of sectors for the 'best space'. A lack of serviced 'ready to go' land was also considered to be an issue.

In terms of interventions, it was recommended that the public sector seek to develop 'innovative partnerships with developers. This could include the public sector taking a head lease for a bespoke build. Further investigation around modular fit out was also recommended. Existing buildings should also form part of the solution and consultees considered there may be opportunities for the public sector to intervene to allow their re-development or adaptation where possible.

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