ANNEX F:

Solent Freeport Target Sectors Deep Dive Evidence Report

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Solent Freeport Target Sectors Skills Analysis

Deep Dive Study for the Solent Local Skills Improvement Plan

21 June 2023

LICHFIELDS

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Contents

1.0 Introduction

Scope of Study

1.1 This report has been prepared by Lichfields on behalf of the Solent Skills Advisory Panel ('SAP') to provide a focused 'deep dive' analysis of the skills needs of the Solent Freeport target sectors.

1.2 This deep dive is based on a desk-top analysis of the potential demand and supply of the skills needed to support the range of sectors which are being targeted for growth as part of Solent Freeport, and engagement with Freeport sites' owners, local authorities, and other relevant partners. Ultimately, this deep dive seeks to identify the key skills gaps within the Freeport's target sectors at the Solent-wide level.

1.3 This deep dive will be used to inform the development of the Solent Local Skills Improvement Plan ('LSIP'). This work is being led by the Hampshire Chamber of Commerce ('CoC') which was designated by the Department for Education ('DfE') as the local employer representative body ('ERB') in charge of developing, approving and implementing an LSIP for the Solent.

Background to the Solent Freeport

1.4 Formally designated in December 2022, the Solent Freeport is one of eight English Freeports, and represents a major opportunity for the UK as it seeks to strengthen its tradition position globally and develop new trading relationships. Its location along the south coast makes the Solent Freeport the UK's most important gateway to European and global markets, and will accelerate the delivery of high-quality employment space, and incorporate investment specifically targeted at state-of-the art growth sectors, and ground breaking approaches to decarbonisation and green innovation.

1.5 The Solent Freeport comprises three tax sites (i.e. at Southampton Water, Navigator Quarter and Dunsbury Park), and two customs sites (i.e. at the Solent Gateway – also part of the Southampton Water Tax Site, and at Portsmouth International Port).

1.6 The *Trade and Investment Strategy* for the Solent Freeport sets out ambitions to unlock billions of pounds' worth of investment, create in the region of 15,000 jobs directly (in addition to a further 15,000 jobs across the wider UK supply chain), whilst also helping with the levelling up of coastal communities. The Solent Freeport will also enable the area to capitalise on its strengths in a highly competitive global market, by generating in excess of £3.5 billion of gross value added ('GVA') uplift each year.

Freeport Target Sectors and Markets

1.7 The *Trade and Investment Strategy* identifies a number of specific sectors and markets as the Freeport's focus for trade and investment opportunities. These are based on the specific competitive advantages of the Solent (i.e. both existing and emerging), and reflecting the emerging propositions and plans for each site. These are outlined in Table 1.1, and are then explored in more detail below.

Table 1.1 Target sector by Freeport site

Target Sector	Southampton Water							Dunsbury Park	Navigator Quarter
	ABP Redbridge	Port of Southampton	Strategic Land Reserve	Portsmouth International Port	Solent Gateway*	Fawley Waterside	Fawley Complex (ExxonMobil)		
Port activities & logistics	✓	✓	✓	✓	✓				
Marine manufacturing & technology						✓			
Advanced manufacturing						✓		✓	✓
Clean growth & decarbonisation				✓		✓	✓		✓

Port Activities and Logistics

1.8 The port and maritime cluster within the Solent was included as one of 20 locations nationally as a potential priority for investment and harnessing existing economic assets in the Levelling Up White Paper. There is significant potential to expand existing trade and logistics operations, and accommodate the growth in trade generated as a result of the Solent Freeport. Delivery of the Strategic Land Reserve (at the Port of Southampton and ABD Redbridge) has potential to accommodate a 40% increase in throughput, 75% increase in automotive handling capacity, and 100% in cruise capacity, whilst also adding berthing capacity.

1.9 Based on recent discussions, it is not expected that the recent acquisition of Solent Gateway by Associated British Ports ('ABP') will result in any significant changes of plans for the site. As such, for the purposes of this deep dive, it is assumed that future plans for the Solent Gateway will involve the expansion of commercial port operations at Marchwood Port to accommodate some activity relocated from elsewhere within Southampton Water (i.e. to accommodate larger ships). The Port of Southampton is well-positioned to remain the entry point for automotive shipments, and become a hub for transhipment related to batteries and electric vehicles.

Marine Manufacturing and Technology

1.10 The Solent is known as a world-renowned cluster for marine and maritime activity, and makes up almost 20% of the Solent LEP's economy. The Freeport will expand the existing cluster and allow it to grow in pursuit of new market and technologies.

1.11 For the purposes of this deep dive, the sector's definition focuses primarily on marine-related manufacturing such as maritime autonomy and robotics, and includes the application of emerging technologies such as the development of electric and hydrogen-powered water transport, whilst also pioneering state-of-the-art shore-to-ship power solutions.

1.12 The maritime sector more widely in the Solent is the subject of a separate LSIP deep dive study.

Advanced Manufacturing

1.13 Building on the above, the Freeport will also generate incentives to accelerate the growth of a number of advanced manufacturing sectors, drawing upon existing locational as well as other advantages offered by different locations within the Freeport.

1.14 For instance, Navigator Quarter will include new industrial units targeting a wide range of sectors such as aviation-related manufacturing, technology and research and development ('R&D'). In addition, the Dunsbury Park site is focused on a range of opportunities such as aerospace, marine and maritime, engineering, automotive, clean growth technologies, pharmaceutical and healthcare manufacturing, as well as the creative sector, and benefits from clusters such as the Portsmouth Advanced Manufacturing and Engineering Cluster ('PAMAEC'), and BioPure Technology.

1.15 At Fawley Waterside, there are aspirations to establish a Catapult Quarter accommodating up to five Catapults in digital, sat apps, advanced manufacturing / National Composites Centre, connected places, and energy systems.

Clean Growth and Decarbonisation

1.16 In addition, the Solent is also home to various industry-leading green technology initiatives, offering the Solent Freeport a unique opportunity to support the UK's pathway to Net Zero through the development of innovative approaches, and leveraging investment across both tax and customs sites in new technologies and processes, whilst also harnessing the Solent's natural assets.

1.17 Proposals aimed at bringing forward and/or accelerating delivery of clean growth initiatives include Portsmouth International Port which aims to become the UK's first zero emissions port, and therefore leading the transition to low carbon marine fuels. Other opportunities include Fawley Waterside which has potential to delivery around 10% of the national target for hydrogen production by 2030.

Target Sectors

1.18 Having regard to data availability, for the purposes of this deep dive analysis, the following broad sector definitions which align with the definition in the Freeport's Skills and Workforce Development Plan, are used:

1 Advanced manufacturing and engineering (including marine manufacturing and technology);

2 R&D and technology (which includes decarbonisation and clean growth); and

3 Port activities and logistics.

1.19 It should be noted that the Freeport is also likely to support job creation across a range of wider activities (such as energy, hospitality, and ancillary sectors), but these are not specifically assessed in this study.

Report Structure

1.20 The remainder of this report is structured as follows:

- **Section 2.0** reviews in broad terms the overall position in terms of the supply and demand for skills related to the Freeport's target sectors.
- **Section 3.0** considers the challenges and opportunities associated with skills development in freeport target sectors, focusing particularly on the observations gathered through engagement with local stakeholders as well as local employers.
- **Section 4.0** summarises the findings of this deep dive, and considers implications for the Solent LSIP process.

2.0 Skills Demand and Supply

2.1 This section provides an overview of the demand for, and supply of, skills related to the defined Freeport target sectors.

Sector Key Skills Requirements

2.2 As outlined within the Freeport's Skills and Workforce Development Plan, the Solent Freeport is anticipated to deliver over 15,000 jobs directly across a range of sectors and skills levels. Table 2.1 below provides a summary of the anticipated skills requirements under each broad sector, based on the latest forecast job creation estimates for the Freeport (i.e. as outlined within the Freeport's Business Case approved by government).

Table 2.1 Key Skills requirement by broad sector

Target sector	Anticipated skills requirements to include
Advanced manufacturing and engineering	• STEM higher technical skills • Complex engineering skills for MASS Manufacturing and Maintenance • Digital skills • All skills levels required, but with a particular focus on NVQ level 3 and above • Particular opportunities for apprenticeships
R&D and technology	• Digital skills to exploit technological opportunities and to pioneer technologies • STEM higher technical skills • Data analytics and cyber security skills, e.g. to upkeep cyber security of the fleet and automated systems • Operation of AI and simulation technology for the 4th industrial revolution • All skills levels required, but with a particular focus on VQ level 3 and above
Port activities and logistics	• Automation skills to play a part in new port technologies and automation efforts • All skills levels required, including upper intermediate (NVQ3) as well as lower intermediate skills (NVQ2) • Particular opportunities for apprenticeships

2.3 In addition to the above, the Business Case also identified broader workforce and transdisciplinary skills requirements such as the ability to solve complex problems, leadership, team working and management skills, as well as interpersonal and cognitive skills.

Skills Demand

2.4 Demand for different types of skills can be measured by analysing job postings (i.e. vacancies) that employers in different sectors are seeking. Data published by the Department for Education (DfE) indicates that in 2022, the Solent saw around 75,900 job postings across all Freeport target sectors[1]. This was around half of the number of job postings in equivalent sectors within the Enterprise M3 LEP area (i.e. 140,000 job postings), and around 15,100 fewer postings than within the South East LEP ('SELEP') which saw 91,000 job postings in 2022.

2.5 As outlined in Figure 2.1 below, the number of job postings in these sectors declined sharply at the start of the Covid-19 pandemic, after which they started to recover and peaked towards the end of 2021.

2.6 Medium-term data shows that the number of job postings, both across the whole economy as well as in Freeport target sectors has been on the decline since 2017. In the three years before the pandemic, the number annual of job postings in Freeport target sectors fell by 35.2% (compared with a decline of 27.4% across the wider Solent economy), or the equivalent of 850 fewer job postings per month.

2.7 Following a short-lived peak towards the end of 2021, the number of monthly job postings is back to early 2017-levels and declining. At this point it is not known where the decline in job postings will bottom out - i.e. whether numbers will settle around pre-Covid levels, or be higher/lower over the longer term. Figure 2.1 below shows that there was close alignment in job postings for both Freeport target sectors, as well as the wider economy in the Solent.

Figure 2.1 Monthly job postings (total and Freepot target sectors) across the Solent, 2017-22

Source: Department for Education (2023), *Local Skills Dashboard, 2012/22*

[1] Defined as (1) advanced manufacturing (including marine manufacturing and technology), (2) R&D and technology (including clean growth and decarbonisation) and (3) port activities and logistics,

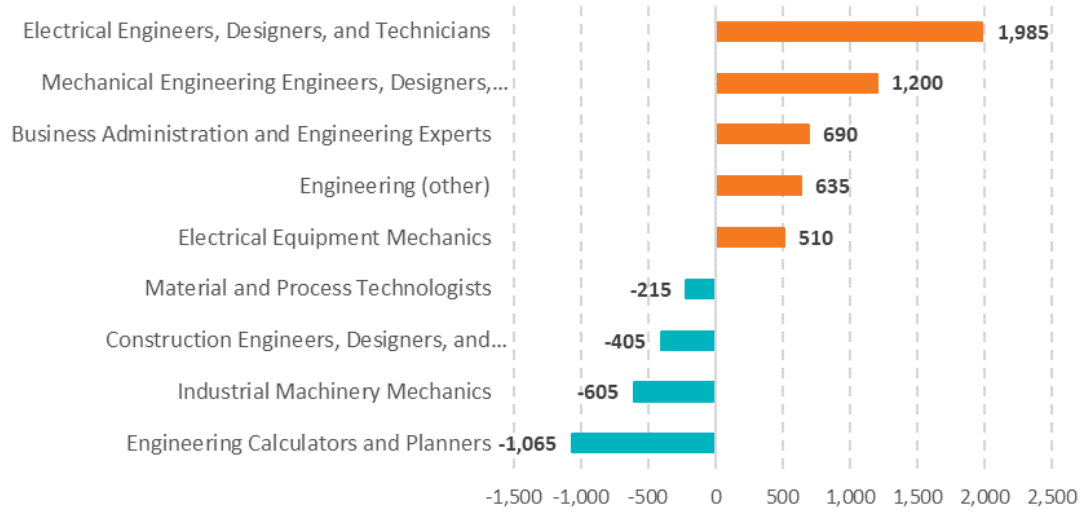
2.8 As outlined in Table 2.1, the Freeport target sectors comprise a range of skills and expertise including logistics and port activities, engineering, R&D, and advanced manufacturing skills (which include programming and software skills). The following analysis uses a 'best-fit' approach to better understand the current picture with regards to Freeport target sectors. Drawing on DfE data, the majority of job postings throughout 2022 in the Solent included:

- Software developers and programmers (8,600 job postings);
- Freight drivers including HGV drivers (6,020 job posts);
- Electrical engineers, designers and technicians (4,390 job posts);
- Mechanical engineers, designers and technicians (3,620 job posts);
- Business administration and engineering experts (2,500 job posts); and
- Industrial machinery mechanics (2,005 job posts).

2.9 It should be noted that due to lack of granularity, it is not possible to know the proportion of job postings within each of the above that relates specifically to Freeport target sectors (and particularly maritime industries) and wider sectors. Nevertheless, it is noted that the top five sub-sectors[2] in 2022 are primarily within software and engineering and/or technical job positions. In contrast, only 800 job postings were related to science and mathematics, whilst a further 320 were for loading/unloading logistics workers.

2.10 Figure 2.2 below shows overall change in job postings in Freeport target sectors within the Solent between 2017 and 2022 inclusive. It shows growth in job postings for electrical engineers, mechanical engineers, business administration, as well as other engineering experts and electrical equipment mechanics. This is broadly in line with the top job postings recorded throughout 2022, indicating a particularly high demand for engineering roles across the Solent. Meanwhile a decline in job posts was observed for engineering calculators and planners, industrial machinery mechanics and construction engineers.

Figure 2.2 Difference in job postings across the Solent, 2017-22



Source: Department for, Education (2023), *Local Skills Dashboard, 2021/22*

[2] DfE reports job postings across 25 main employment sectors. These are then broken down into more detailed profession categories, referred to as sub-sectors.

2.11 Table 2.2 below shows LinkedIn data[3] related to growth in the percentage share of hiring in Freeport target sectors across the Solent between 2017 and 2021, and highlights similar trends as seen in DfE data. Likewise, the LinkedIn data does not provide enough granularity to allow for a detailed review of the sector a job posting is specifically aligned to. As such, a best-fit approach has been adopted to help consider only job titles which could reasonably be captured as part of freeport target sectors.

2.12 As outlined in Table 2.2 below, the highest share of demand for jobs in the Solent relevant to Freeport target sectors includes engineering managers, naval architects, electrical engineers as well as mechanical engineers. This data aligns with the analysis presented below, and reflects the overall structure of the local economy, with a particular focus on port-related activities.

2.13 Demand for engineering roles features highly, as does the demand for naval architects, with hirings increasing by 6.8% across the Solent. On the other hand, growth in tourism-related sectors (such as hospitality manager and event coordinator) was significantly lower. However, this is likely to have been skewed by as a result of the Covid-19 pandemic, which saw a year of significant job losses and/or furloughing of staff, as events and tourism activity was highly restricted.

Table 2.2 Top jobs within Solent according to LinkedIn

Job Sector	Job Name	Growth rate in % share of Hiring by job (2017-2021)
Operations	Server Assistant	19.8%
Operations	Warehouse Team Lead	15.5%
Operations	Supply Chain Associate	13.1%
Legal	Legal Assistant	11.6%
Operations	Environment, Health and Safety Manager	8.7%
Sales	Account Executive	8.7%
Engineering	Engineering Manager	8.5%
Engineering	Naval Architect	6.8%
Administration	Office Associate	6.5%
Research	Ecologist	6.5%
Finance	Finance Officer	6.2%
Finance	Financial Assistant	5.5%
Finance	Financial Advisor	5.1%
Legal	Compliance Manager	4.6%
Administration	Office Administrator	4.6%
Engineering	Electrical Engineer	4.3%
Operations	Quantity Surveyor	4.1%
Engineering	Mechanical Engineer	2.8%
Engineering	Design Engineer	2.8%
Engineering	Quality Assurance Engineer	2.3%

[3] LinkedIn Data (2022), *UK DfE Geo Dataset of in-demand jobs.*

Job Sector	Job Name	Growth rate in % share of Hiring by job (2017-2021)
Engineering	Test Engineer	1.8%
Operations	Hospitality Manager	1.3%
Operations	Event Coordinator	1.3%

Source: LinkedIn (2022), *UK Department for Education Geo Dataset*

Local Trends

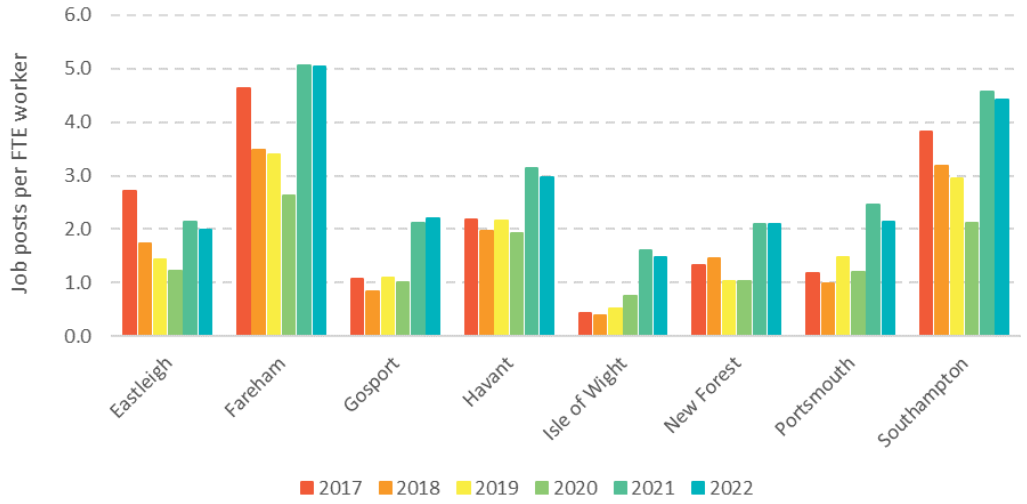
2.14 A detailed review of job postings at the local level between 2017 and 2022 (i.e. both years included) identifies Southampton as the area with the highest proportion (i.e. 40%) of job postings related to Freeport target sectors, followed by Portsmouth (21%) and Fareham (13%). Conversely, Havant (6%), the Isle of Wight (3%) and Gosport (2%) represent the lowest proportions of job postings related to Freeport target sectors.

2.15 However, when jobs postings are considered on a per full-time equivalent ('FTE') worker basis in 2022 (i.e. based on total employment in Freeport target sectors), Fareham features as the highest, with 5.0 job posts per FTE worker in 2022, followed by Southampton (with 4.4 job postings per FTE worker), and Havant (with 3.0 job postings per FTE worker).

2.16 In 2022, Gosport recorded 2.2 job posts per FTE worker, in part due a decline in Freeport target sector employment compared to an increasing proportion of other types of job postings in the area. The number of job postings per FTE worker on the Isle of Wight showed an overall increase, from 0.4 job postings per FTE worker in 2017 to 1.54 job postings per FTE worker in 2022. This is primarily due to an increase in overall job postings which was higher than the increase seen over the 2017-2022 period for Freeport target sector jobs more specifically.

2.17 The evidence presented here suggests that across all local authorities, 2021 and 2022 saw an overall increase in job posts for Freeport target sectors. As a result, a number of local authorities saw higher ratio of job postings per FTE worker.

Figure 2.3 Job postings per FTE worker for Freeport target sectors across the Solent local authorities, 2017-22



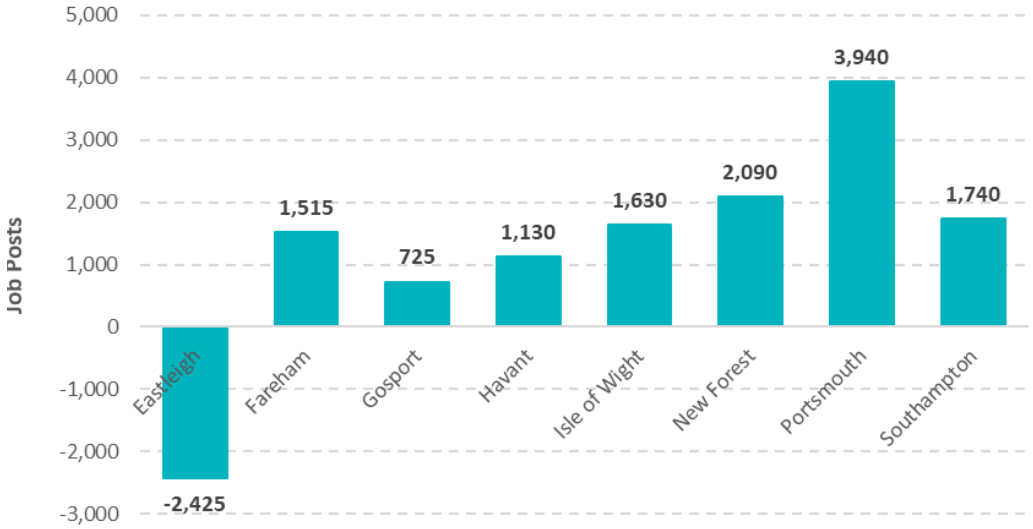
Source: Department for Education (2023), *Local Skills Dashboard, 2021/22*

2.18 A closer look at the sub-sectors making up Freeport target sectors reflects Solent-wide trends and highlights a prevalence in job postings for software developers, electrical engineers, business administration and engineering experts, as well as transport and freight drivers. Notable discrepancies include high demand for industrial machinery mechanics in Eastleigh, whilst in the New Forest demand was driven by the requirement for installation and repair roles. The data shows that Southampton has a particularly high proportion of job postings for ship mechanics, sea captains and mates, as well as electrical engineers.

2.19 DfE data shows that over the past six-years, local authorities within the Solent have experienced various degrees of growth/decline in job postings when it comes to Freeport target sectors. With 3,940 additional job postings, Portsmouth saw the highest growth in Freeport target sectors' job postings between 2017 and 2022 (i.e. both years included), followed by the New Forest (with 2,090 job postings), Southampton (with 1,740 job postings), and the Isle of Wight (with 1,630 job postings). Most of the growth attributed to freeport target sectors within these local authorities is related to job postings for electrical engineers, system developers and analysts and software developers and transport drivers.

2.20 Meanwhile, Eastleigh was the only local authority to experience a decline in the number of job postings in freeport target sectors (i.e. a decline of 2,425 job postings between 2017 and 2022). This decline is mainly attributed to a decline in job postings related to system developers and analysts, software developers, construction engineers, designers and technicians, in addition to installation, repair and maintenance job postings.

Figure 2.4 Change in Job Postings for Freeport target sectors (2017-2022)



Source: Department for Education (2023), *Local Skills Dashboard 2023*

Supply of Skills Provision

Further Education

2.21 DfE data shows that in 2021/22 the Solent LEP saw a total of 6,540 individuals enrolling in further education ('FE') courses across areas related to Freeport target sectors. FE includes three types of technical and applied qualifications generally aimed at 16 to 19-year-olds and

includes (1) applied general qualifications aimed at continuing education post-secondary school, (2) level 2 technical certificates which can help securing employment and/or progress to another tech level, and level 3 technical qualifications aimed at achieving specialisations within a specific technical sector.

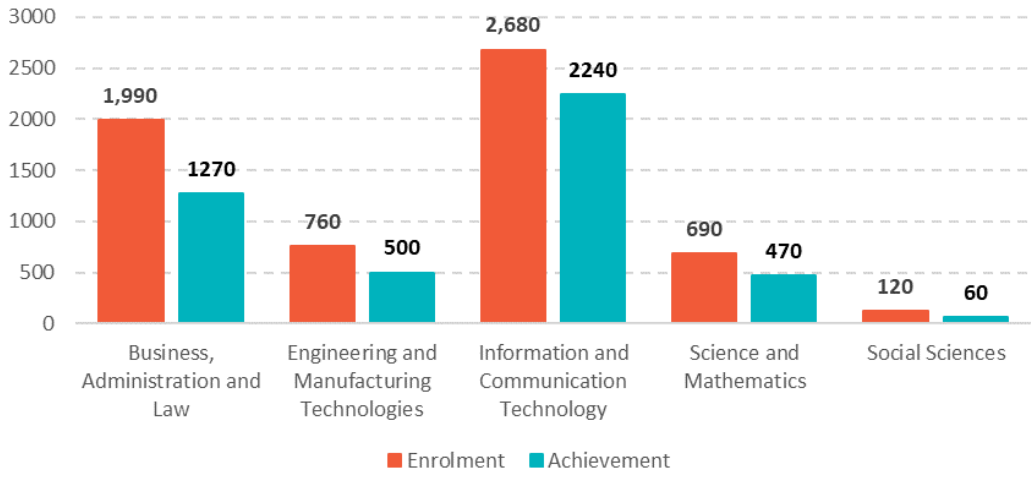
2.22 FE qualifications relevant to Freeport target sectors, and therefore considered as part of the skill supply within this deep dive include:

- Business, administration and law;
- Engineering and manufacturing technologies;
- Information and Communication Technologies ('ICT');
- Science and Mathematics; and
- Social Sciences.

2.23 DfE data indicates that the majority of enrolments were in ICT subject areas (with 2,680 enrolments), followed by businesses, administration and law (with 1,990 enrolments), engineering and manufacturing technologies (with 760 enrolments), and science and mathematics (with 690 enrolments).

2.24 As highlighted in Figure 2.5 overleaf, the achievements against enrolment recorded across the Solent shows that ICT subject area had the highest achievement rate by enrolment with 84% of FE learners finishing the course. This is followed by Science and Mathematics with an achievement rate of 68%, Engineering and Manufacturing technologies 66% and Business, administration and law 64%. Social sciences saw the lowest achievement rate with half of learners (50%) achieving their course.

Figure 2.5 Further education and training skills - Freeport target sector related skills



Source: Department for Education (2022), *Local Skills Dashboard, 2021/22*

2.25 Within the Solent, ICT subject areas represented the highest level of enrolments. The only exception to this was Gosport where enrolments in science and mathematics subjects was the most popular. The second most enrolled subject area in line with the Solent average was business, administration and law followed by either engineering and manufacturing courses or science and mathematics with Fareham and Gosport having more enrolled learners in

Science and Mathematics than Engineering, and the rest of the other local authorities having higher enrolment of learners in Engineering over Science and Mathematics.

Learner Outcomes

2.26 DfE data on FE outcomes-based success measures indicates that the Solent has a sustained positive destination rate of 88%, which means that learners that has a sustained, employment, learning (or both) destination in the following year This is higher than the equivalent destination rates in neighbouring LEPs, including the Enterprise M3 (with a destination rate of 84%), SELEP (with a destination rate of 85%), and nationally (with a destination rate of 87%).

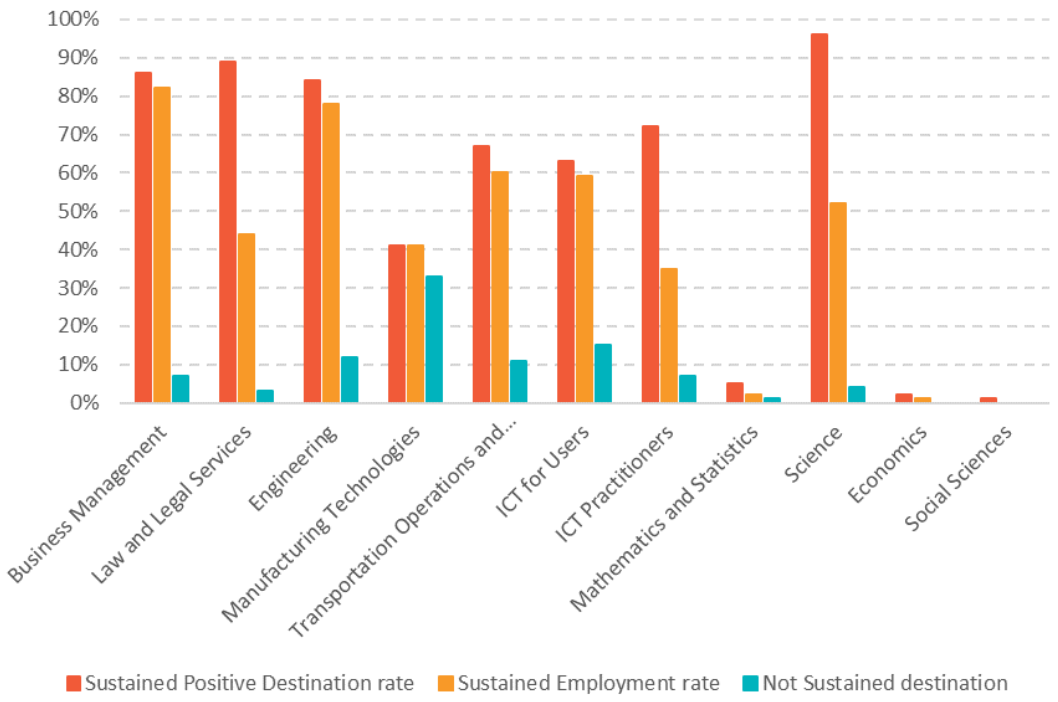
2.27 Building on the above, DfE data shows that within the Solent 74% of FE learners move onto sustained employment locally, compared with an overall sustained employment rate of 83.6% across the Enterprise M3 LEP, 82.0% for SELEP, and 63% nationally. However, despite the higher sustained employment rate compared with the national average, median earnings for FE leavers within Freeport target sectors after one year of learning in the Solent (i.e. which is equivalent to £18,000 per annum) is below the equivalent averages for the Enterprise M3 LEP (of £20,000 per annum), the SELEP (of £21,200 per annum) and also just below the national median of £18,600 per annum.

2.28 Overall, it is observed, that FE learners in the Solent see lower average earnings compared with its neighbouring LEPs. This is also observed when considering workplace earnings across the Solent which are lower compared to equivalent earnings in Hampshire and the wider South East. This suggests that the Solent currently sustains lower paid jobs compared with other areas across the South East. This could also imply that higher-skilled workers are commuting to other areas for higher paid opportunities in the same sectors.

2.29 Figure 2.6 below shows sustained positive destination and sustained employment rates for FE outcomes in the Solent based on subject areas. It shows a high sustained positive destination rate for 2021/22 in science (96%), law and legal services (89%) and engineering (84%), but relatively lower rates for mathematics and statistics (5%), economics (2%) and social science (1%). This is partly likely to be a reflection of the education system where subject areas such as mathematics and statistics, economics and the social sciences tend to be the focus of HEIs as opposed to local FEIs.

2.30 Outcomes for FE learners who went to sustained employment, subject areas with the highest achievements within the Solent in 2021/22 include business management (82%), engineering (78%), transportation operations and maintenance (60%) and ICT (59%). In contrast, manufacturing technologies saw an overall decline over the past five years, with overall sustained employment rates across the Solent falling from 49% in 2017/18 to 41% in 2021/22.

Figure 2.6 FE outcome-based success in freeport target sectors related subject areas across Solent, 2021/22



Source: Department for Education (2023), *Outcome Based success measures*

T-Levels

2.31 T-Levels are two-year courses which are taken after GCSEs, and are broadly equivalent to three A-Levels. Launched in September 2020, T-Levels have been developed in collaboration with employers and education providers so that their content meets the needs of industry, and better prepares students for entry into skilled employment, an apprenticeship or related technical study through FE or higher education ('HE'). T-Levels offer students practical and knowledge-based learning, in addition to on-the-job experience through an industry placement of approximately 45 days.

2.32 Table 2.3 overleaf provides an overview of key further education institutions ('FEI') within the Solent which currently offer T-Level courses in subjects related to Freeport target sectors.

Table 2.3 FEIs in the Solent providing T-Level courses in subjects related to Freeport target sectors

FEI	T-Level course(s) provided
Southampton City College	• Science • Building Services Engineering for Construction • Management and Administration
Richard Taunton Sixth Form College	• Building Services Engineering for Construction • Legal Services
Fareham College	• Design and Development for Engineering and Manufacturing • Building Services Engineering for Construction • Management and Administration
St Vincent College	• Design and Development for Engineering and Manufacturing • Building Services Engineering for Construction • Management and Administration • Legal services
Bay House College	• Science • Management and Administration
University Technical College ('UTC') Portsmouth	• Maintenance, Installation and Repair for Engineering and Manufacturing
Havant and South Downs College ('HSDC')	• Engineering, Manufacturing, Processing and Control • Design and Development for Engineering and Manufacturing • Management and Administration

Source:

Higher Education

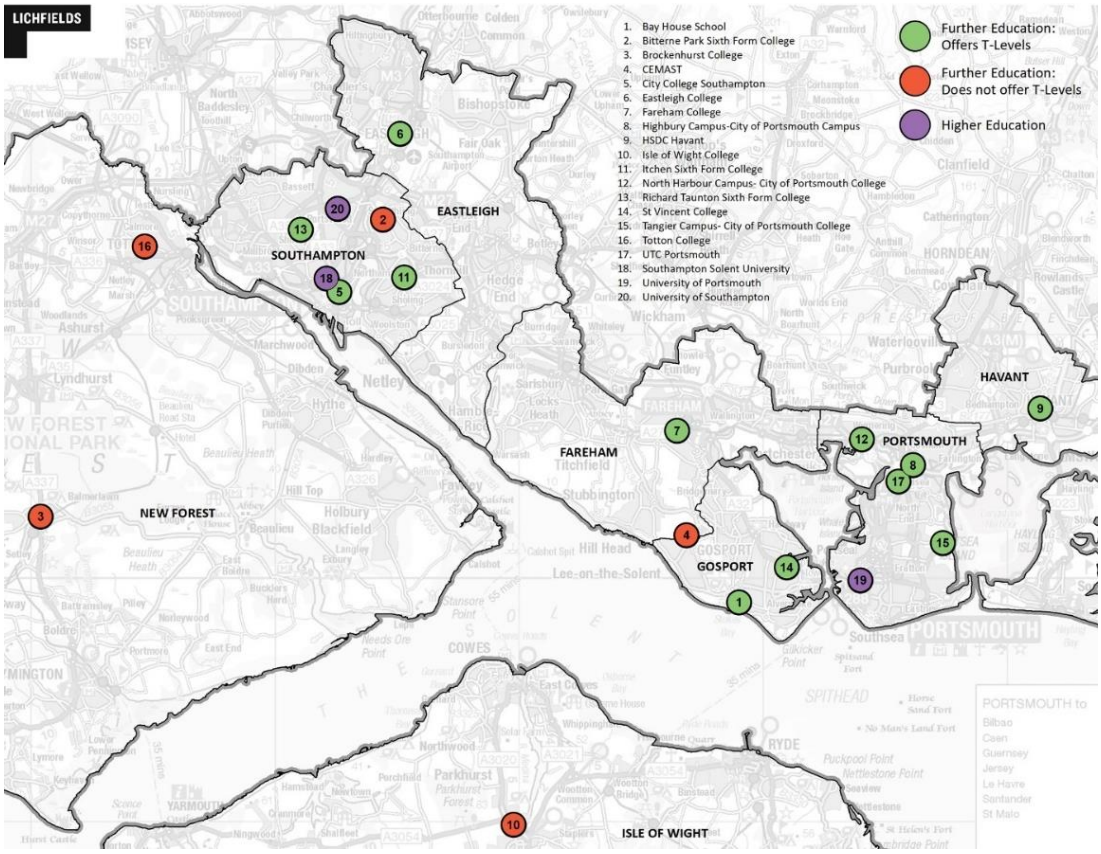
2.33 The Solent is home to three universities (i.e. Higher Education Institutions [HEI]) located in Southampton (i.e. Southampton Solent University and University of Southampton) and Portsmouth (i.e. University of Portsmouth) respectively. All three HEIs provide a wide range of undergraduate and postgraduate degrees relevant to Freeport target sectors, some of which are outlined in Table 2.4 below.

Table 2.4 HEIs in the Solent providing undergraduate and postgraduate courses in subjects related to Freeport target sectors

HE Institution	Courses related to the Maritime Industry
Southampton Solent University	BSc Computing; BSc Digital and Technology Solutions; MSc International Maritime Business; MSc International Shipping and Logistics; LLM International Trade and Maritime Law; Marine Electrical and Electronic Engineering; BEng Electrical and Electronic Engineering; BEng Mechanical Engineering; BEng Marine Engineering; BSc Maritime Business and Law; BSc Maritime Management; BSc Maritime Sciences; BEng Mechanical Engineering; BSc Nautical Science; BSc Software Engineering
University of Southampton	BA Business and Management; BSc Biology and Marine Biology; BEng Civil Engineering; BSc Computer Science; BEng Electrical and Electronic Engineering; BSc Economics with Data Science; BSc Marine Biology with Oceanography; Meng Mechanical engineering; BEng Ship Science

HE Institution	Courses related to the Maritime Industry
University of Portsmouth	BA Business and Management; BSc Business and Supply chain Management; BEng Civil Engineering; BSc Computer Science; BSc Data Science and Analytics; HNC Electrician and Electronic Engineering; BSc Engineering and Management Studies; BSc Environmental Science; BSc Marine Environmental Science; BEng Mechanical Engineering

Figure 2.7 Location of HEIs and FEIs in the Solent providing courses relevant to freeport target sectors



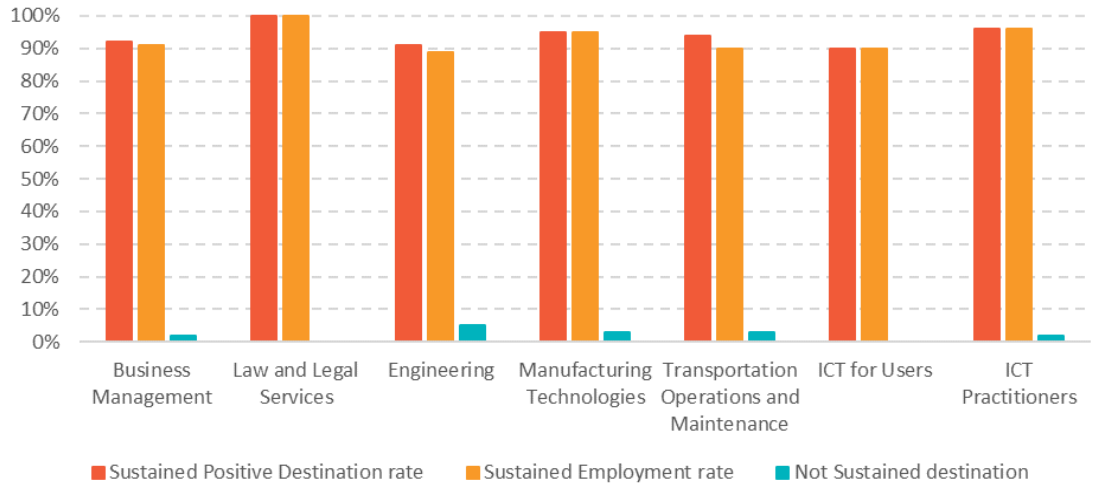
Source: Lichfields analysis

Apprenticeships

2.34 DfE data on outcome-based success for apprenticeships in Freeport target sectors (for 2021/22), shows that 100% of completed apprenticeships in law and legal services sustained a positive destination and employment rates, followed by 96% of apprenticeships in ICT for practitioners and 95% of apprenticeships in manufacturing technologies.

2.35 In general, DfE data shows that apprenticeships tend to have an overall higher positive destination rate as well as employment rate, when compared to FE outcomes for similar subject areas. This is not surprising as apprenticeships entail working closely with future employers which result in higher employment rates compared with FE training courses - which whilst they provide support in achieving technical certificates – do not provide the added advantage of connecting learners with future employers. In reality, an individual may experience the benefits of both FE training courses as well as apprenticeships over the course of their working life.

Figure 2.8 Figure 2.9 Apprenticeship outcome-based success measures for subjects in Freeport target sectors, 2021/22



Source: Department for Education (2023), Outcome-based success measures

South Coast Institute of Technology

2.36 Of particular relevance to the assessment of skills needs in Freeport target sectors' is the establishment of new Institute of Technology ('IoT') across the Solent and the wider South Coast, which received £13 million in Wave 2 opportunity funding. IoTs are collaborations between FEIs, HEIs and employers, with employers being placed at the heart of decision-making, curriculum development and delivery.

2.37 The South Coast IoT is spearheaded by the Solent University, in collaboration with Fareham College as the lead FE partner, the Solent LEP, as well as other employers including ABP Port, Teemil and The Royal Navy.

2.38 The IoT will specialise in maritime engineering and digital, and aims is to support the South Coast's transition into a technically skilled economy, and address the area's significant skills gaps at higher technical levels. A number of stakeholders from across the Solent Freeport are already deeply involved in the development of the South Coast IoT, including ABP Southampton, Portsmouth International Port, and DP World Southampton as core employer partners, as well as Fawley Waterside and ExxonMobil as employer partners.

2.39 IoT curricula will focus on higher technical skills in science, technology, engineering and mathematics ('STEM'), focussing in particular on digital technologies, engineering and marine. Rooted in demographic and labour market analyses, the South Coast IoT will provide a pipeline of talent to offset an ageing population, and help address serious deprivation, whilst at the same time improving job opportunities. Specifically, the South Coast IoT will focus on:

- Automation skills to play a part in new port technologies and automation efforts;
- Data analytics and cyber security skills to generate business insights and upkeep cyber security of the fleet and automated systems;
- Green shipping skills to lead new developments;
- Transdisciplinary skills to solve complex problems;

- Leadership, team-working and management skills to grow the Solent as an international maritime centre of excellence;
- Complex engineering skills for manufacturing-as-a-service ('MASS') and maintenance;
- Reskilling and post-qualification opportunities to ensure seafarers can retrain to work ashore; and
- Operation of artificial intelligence ('AI') and simulation technology.

2.40 These subject areas provide deliberately strong synergy with the skills pipeline for the Solent Freeport and will enable residents - particularly those living within some of the most deprived areas along the South coast - access to new employment opportunities, whilst also reducing the region's reliance on imported labour from elsewhere.

Freeport Skills Fora

2.41 In order to support delivery, high-start regeneration and help with Levelling Up the sub-region, the Solent Freeport has established three skills forums at the Southampton Water, Dunsbury Park and Navigator Quarter tax sites respectively. Each forum brings together businesses, landowner(s), skills providers, local authorities as well as government agencies with the aim of upskilling local people to ensure they benefit from the transformational economic opportunities which will be unlocked through Freeport investment.

2.42 The creation of a skills forum for each tax site will underpin the work of the Solent Skills Advisory Panel ('SAP'), whilst also promoting the Solent Freeport's Skills Charter. Ultimately, each tax site's skills forum will oversee wrap-around support in relation to Careers Information Advice and Guidance, employment opportunities, business engagement, apprenticeships programmes and skills/training support.

2.43 Work across each of the three Skills Forums is still at the mobilisation stage, however it is anticipated that these will tap into the wider skills ecosystem and support the wider delivery of the LSIP across the Solent (as well as the wider skills agenda).

Business Survey

2.44 As part of the wider development of the Solent LSIP, a business survey has been undertaken, open to all businesses across the Solent to gain further insight into the challenges companies face regarding recruiting and skills development. The survey results highlight that 74% of companies within the Freeport target sectors stated that the key challenge when recruiting is finding employees with specialist or technical skills (e.g., software, engineering, and other applied/practical skills). Another critical challenge, according to 73% of businesses, is finding sufficient "good candidates" which can meet the job description skill requirements. Almost half of the companies (43%) also stated that "budget/cost competitive" salaries were another main challenge when it came to recruitment; this is especially true for businesses looking for more senior or technical roles which require higher salaries to attract higher skilled workers.

2.45 The business survey indicated the primary skills gap within relevant Freeport target sector businesses is specialist or technical skills; a third of companies also highlighted project

management as a skill gap, as well as a shortage in leadership skills and overall difficulty in hiring more senior and technical roles.

2.46 On average, businesses in the Freeport target sectors spend around £500 per staff member, with 17% of employers stating they had no budget for skills training or professional development. The most popular route for growth in the sector, according to 60% of business responses, is through learning on the job through peer-to-peer learning and job shadowing, followed by paid-for commercial training (56% of business responses) and free/low-cost training (52%). Overall, it appears that businesses within the Freeport target sectors are on average spending less on training development than might be expected given the reported need for highly technical and specialist skills.

2.47 The main barrier for businesses engaging with skills training or professional development, according to the survey, is primarily due to time resources needed to provide the training and capacity within the companies (78% of business responses), followed by 60% of businesses stating that another primary barrier is the cost of training staff. A third of companies (30%) also noted that the location of training and the local training offer were key issues, implying a lack of locally-based and range of options in the Solent.

2.48 When asked what approach to skills development would improve the supply of skills, 78% of businesses stated that access to short modular courses would be the preferred approach, followed by access to online training courses and qualifications (60%). Similarly, in terms of skills needed for the next 5 to 10 years, companies responded to needing more IT and digital skills (60.8%), as well as sector-specific technical skills (60.8%), personal skills (i.e, teamwork, communication, resilience) (56.5%) and less than half of firms also stated skills related to green technologies and decarbonisation (43.4%).

2.49 Finally, when businesses were asked how they would invest in securing the necessary skills required to support future resilience, 91% of companies said they would increase their budget for skills development, 82% of businesses also would provide an online platform for skills training and resources and 78% businesses said they would also be providing members of staff with more time for professional development. This is even though the majority of businesses highlighted the main barrier to skills training or professional development was due to lack of time resources and the cost of training. However, an online platform which could provide short training modules seemed to have a positive response from businesses as it would provide a more flexible and less costly skills development alternative which allows staff to easily access the training they need when able to do so (e.g. alongside peer-to-peer learning).

3.0 Challenges and Opportunities

3.1 This section considers the challenges and opportunities associated with skills development to meet the needs of the Freeport target sectors, focusing particularly on the insight gathered through engagement with local stakeholders, including each of the Tax and Customs Site landowners.

Future Skills Requirements

3.2 Once fully operational, the Solent Freeport is projected to deliver over 15,000 jobs directly (in addition to a further 15,000 more widely across the UK through supply chain and induced effects). Table 3.1 below provides a summary of sector forecasts and broad timeframes for when jobs are likely to come on stream. It should be noted that these job estimates are indicative of the anticipated demand, and may change as plans for each Freeport site progress and/or delivered, and based on specific occupier and investor needs that may arise over time.

Table 3.1 Job creation forecasts by broad sector, Freeport site and broad delivery timescale(s)

Site	Direct on-site job creation					Broad timing/phasing
	Advanced manufacturing & engineering	R&D and technology	Port activities & logistics	Other (incl. energy, hospitality, etc)	Total	
Dunsbury Park	1,837	-	-	-	1,837	2022-34
Navigator Quarter	1,000	980	-	520	2,500	2025-28
Fawley Waterside	700	4,000	-	300	5,000	2022-35
Solent Gateway	275	-	275	275	825	By 2025
Strategic Lane Reserve & Redbridge	-	-	2,000	-	2,000	By 2030
ExxonMobil	-	400	-	-	400	By 2042
Portsmouth International Port	-	-	1,500	-	1,500	2022-42
Port of Southampton	-	-	1,000	-	1,000	By 2030
Total	**3,812**	**5,380**	**4,775**	**1,095**	**15,062**	**By 2042**

3.3 In addition to creating opportunity across a wide range of sector, the Solent Freeport will create employment across a broad range of skills levels, ranging from jobs requiring no formal occupations to national vocational level ('NVQ') Level 4, apprenticeships, and other qualifications, as outlined in Table 3.2 overleaf.

Table 3.2 Job creation forecast by broad skills level

Highest level of qualification requirement	Number of jobs	% of total Freeport
No formal qualifications	1,664	11%
NVQ Level 1 qualifications	2,309	15%
NVQ Level 2 qualifications	2,219	15%
NVQ Level 3 qualifications	1,753	12%
NVQ Level 4 qualifications and above	5,568	37%
Apprenticeships and other qualifications	1,550	10%

Source:

3.4 It should be noted that the job creation forecasts and qualification levels presented above are indicative, and reflect forecasts set out within the Solent Freeport Workforce and Development Plan. The scale, nature and skills profile of the direct employment supported on-site will ultimately depend upon the end user/businesses operating on-site.

Skills Gaps and Challenges

3.5 As outlined in section 2.0 the Solent has a strong skills base and supply of labour to draw upon in order to meet the demand for jobs and skills created by the Solent Freeport. However, it is recognised that the scale of job creation enabled by the Solent Freeport will require targeted intervention to upskill and indeed reskill people to take advantage of the job opportunities created.

3.6 Extensive consultation with local stakeholders in addition to a survey of employers from across the Solent (undertaken as part of the wider LSIP process), has identified a number of skills gaps and challenges (i.e. both current and future) for Freeport target sectors across the Solent. It should be noted that whilst the discussions focused specifically on Freeport target sectors, much of the feedback also reflects some of the wider trends across the Solent economy.

3.7 Employers have identified a wide array of skills gaps, across the whole spectrum of (i.e. ranging from manual and low-level skills to highly-skilled and more technical occupations, such as electrical and systems engineers and business administrations. Some of the gaps identified reflect well-document gaps in traditional sectors within the Solent (such as the lack of large goods vehicle ('LGV') and HGV drivers in logistics), in addition to other more specialised activities (such as stevedores). Other gaps identified include individuals experienced in cargo handling, as well as import-export clerks and pilots of large, ocean-going vessels.

3.8 Related to the above, employers have also highlighted potential future gaps in new and emerging technologies, such as in electric and hydrogen propulsion, and data analytics. Where businesses operate at the cutting edge of research and development ('R&D') and/or tackling new problems (including the transition to net zero), employers have highlighted the need for flexibility (as well as creativity) when recruiting. In such cases, a shift in paradigm is needed, with increased focus on transferrable skills and finding the right candidate who can therefore be retained/upskilled (i.e. either in-house or via collaboration with FEIs/HEIs).

3.9 However, the above point leads to a related issue, particularly about sectors' visibility and the need to increase awareness and challenge deeply-held perceptions. This includes raising young people's awareness, as well as that of other more established workers, about the availability of roles, and opportunities related to career progression and well-paid roles. Employers have also identified the need for the future workforce to be able to understand and operate within a rapidly evolving regulatory framework, especially pertinent for employees in the marine industry.

3.10 On the supply side, employers have also identified the need for a flexible and more agile FE and HE ecosystem in order to address local skills gaps. In particular, employers in port and marine-related businesses have highlighted issues with how apprenticeships are currently set up, and suggested that the requirements set out by government, often do not reflect business needs. Furthermore, employers have highlighted the need for skills providers to be more responsive to business needs, and improve overall clarity of the current offer (i.e. at a system-wide level). In fact, an overall greater proportion of businesses (particularly small and medium-sized enterprises ('SME')) surveyed have identified the time needed to engage with the skills ecosystem (in addition to capacity within their business) as a key barrier to skills development, relative to the cost of training.

3.11 Reflecting recent challenges associated with the cost-of-living crisis and a generally challenging trading environment, both stakeholders and employers have identified that businesses (particularly micro businesses and SMEs) are increasingly focused on sustaining their day-to-day business activity, rather than long-term planning. Whilst acknowledging that forward-planning is important, individual employers have highlighted the fact that SMEs often lack the resources (i.e. both time and finances) to engage meaningfully with the wider skills ecosystem.

3.12 More broadly, employers have highlighted issues related to local retention, both in terms of businesses retaining the services of individuals trained by them, but also more widely in terms of retaining a strong and productive labour market within the Solent LEP area. This issue is especially pertinent for recent graduates of the Solent's three universities who are attracted to larger cities (including London). In addition, employers have also identified increasing skills gaps and wider challenges due to a shrinking labour market, in particular as greater number of workers aged 50 and over choose to take-up early retirement.

Opportunities

3.13 As outlined above, the Solent Freeport represents a transformational project for the sub-region, creating over 15,000 new jobs directly. Critical to the success of the Freeport, and the additionality that it can bring to the region is the need for skills provision to be aligned with opportunity over the coming years.

3.14 In addition to highlighting skills gaps and challenges, discussions with stakeholders and businesses across the Solent have identified a number of opportunities related to Freeport target sectors, and the wider economy. This will ensure that the Solent is able to provide the entrepreneurs and talent pipeline required of tomorrow, to maximise the benefits of Freeport delivery.

3.15 Key to this is the potential to build visibility of opportunity and help businesses and employers appreciate their ability to be explore potential supply chain linkages related to Freeport target sectors (i.e. either directly or indirectly), even if businesses do not align themselves as such. Furthermore, as economic conditions start to improve and the Solent Freeport becomes more established, there is potential for businesses to adopt a longer-term view and be more proactive in terms of engagement with the wider skills ecosystem.

3.16 Furthermore, stakeholders suggested that there is potential for FEIs to increase engagement and 'bundle up' training opportunities in a way that makes it easier and more cost effective for businesses to support skills development. Whilst beneficial, such an approach will require sustained engagement with the education and skills ecosystem, whilst also increasing employers' role in delivering skills improvements. To support this, stakeholders have also identified an increased role for technology (in particular high/ultra-speed broadband connectivity, as well as increased accessibility via mobile devices) to support the delivery of modular and bite-size training.

4.0 Conclusion and Implications

4.1 The Solent Freeport represents a once-in-a-lifetime opportunity for the Solent, and has potential to support 15,000 jobs directly across three tax sites (i.e. Southampton Water, Navigator Quarter and Dunsbury Park) and two customs sites (i.e. Solent Gateway – part of the Southampton Water Tax Site, and Portsmouth International Port).

4.2 This deep dive considers the demand-side skills needed by employers in Freeport target sectors within the Solent region, and maps these against current provision to identify supply-side gaps. The Freeport target sectors can be grouped under the following three headings:

- Advanced manufacturing and engineering;
- R&D and technology; and
- Port activities and logistics.

4.3 Whilst the above definition is broad, consultation with stakeholders and employers from across the Solent region has suggested that opportunity related to the Solent Freeport may be even broader than the target sectors identified, and has potential to incorporate sectors and businesses which would not normally associate themselves with it (i.e. either directly and more widely through its supply chain).

4.4 A review of the skills demand in Freeport target sectors (i.e. based on monthly job postings data from the DfE) suggests that a wide range of job roles are being advertised across a wide range of skills levels, and include software developers and programmers, freight and HGV drivers, electrical and mechanical engineers, designers and technicians, business administration and engineering experts, as well as industrial machinery mechanics.

4.5 DfE data also shows that the past couple of years have seen an overall increase in job postings across Freeport target sectors across the Solent (i.e. on a per FTE worker basis). However, the evidence also suggests that a few local authorities have experienced this primarily as a result of the increase in local employment, although in some areas (such as Eastleigh, Gosport, Portsmouth and Southampton) this has been amplified by a decline in employment in Freeport target sectors.

4.6 The skills supply-side picture across the Solent is varied and draws on a rich ecosystem which encompasses FEIs, HEIs as well as independent training providers. Furthermore, it should be noted that FE courses lead to various qualifications and routes into employment, such as T-Level qualifications (which are the equivalent of 3 A-Levels) and apprenticeships.

4.7 On the supply-side, DfE data shows strong performance in terms of the number of individuals enrolling in FE courses in areas related to Freeport target sectors, such as ICT, business administration and law, as well as engineering and manufacturing technologies. However, data on median earnings suggests that FE learners tend to earn less than equivalent learners in neighbouring areas in the first 12-monst post completion (i.e. £18,000 per annum in the Solent, compared with £20,000 per annum in Enterprise M3, £21,200 per annum across the SELEP, and £18,600 per annum nationally). A similar trend is observed for overall median earnings (i.e. workplace based relative to resident earnings) in the Solent which suggests that the sub-region tends to attract lower paid employment

(i.e. relative to other areas across the wider South East), and in the process implying that residents are commuting to other areas for better paid opportunities.

4.8 The recently established South Coast IoT (spearheaded by the Solent University) will specialise in, amongst other things, maritime engineering and digital, and seeks to support the South Coast's transition into a technically skilled economy, whilst also addressing the area's significant gaps at higher technical levels. The South Coast IoT has significant potential to support growth and skills development in freeport target sectors (such as automation, data analytics, green shipping skills, etc.).

Implications for the Solent LSIP

4.9 Drawing on the analysis outlined above, in addition to extensive stakeholder engagement and the analysis of a business survey, a number of key considerations for the development of the Solent LSIP can be identified as follows:

1 Given the scale of the opportunity, the Freeport target sectors have a key role to play in driving success and increasing prosperity, whilst also ensuring that the Solent Freeport can improve the life chances of all communities across the Solent.

2 Skills gaps in Freeport target sectors have been identified across a wide spectrum, ranging from demand for manual and low-skilled occupations, to highly-skilled and technical occupations. Anecdotal evidence suggests that this is likely to be reflective of the wider picture across the Solent.

3 When thinking about future skills requirements across the Solent, and especially skills gaps in Freeport target sectors, it is essential to consider these based on new and emerging technologies and skills (e.g. developing electric and hydrogen propulsion), and the need for workers to be able to operate in an evolving and highly demanding regulatory framework.

4 Related to the above is a requirement for greater agility within the skills ecosystems, and across all partners (including employers). This includes agility of the education system (i.e. being more responsive to employer needs), in addition to agility of employers in terms of exploring opportunities to recruit individuals with key transferable skills (albeit not necessarily with all experience sought) who can then be trained in-house. Feedback from employers indicates a specific need to consider more flexible, accessible and lower cost formal training options, although employers do recognise that future investment levels in training activity may need to increase given the general difficulties of recruiting workers with the requisite skills.

4.10 Increased visibility of opportunity associated with the Solent Freeport, and what this means in terms of employment and skills opportunities for individuals (including young children in primary and secondary education in the Solent), as well as for businesses, and how they can tap into this through knowledge transfer and up/re-skilling opportunities.

Appendix 1 Stakeholder Consultees

1 Fawley Waterside
2 Associated British Ports
3 Solent Gateway
4 Portsmouth City Council
5 New Forest District Council
6 Southampton City Council
7 Eastleigh Borough Council
8 Ecomar Propulsion Ltd
9 Carnival Group UK
10 Berthon International
11 Meachers Global Logistics