



Funded by
UK Government



Advanced Manufacturing & Engineering



Dorset Local Skills Improvement Plan

South West LSIP Findings | December 2023



INSIGHTFUL



#DorsetSkills #ChangingSkills



www.dorsetchamber.co.uk/lcip

Contents

Approach & Purpose of Literature Review.....	3
Areas of Study.....	4
Skill Gaps and Needs in the Advanced Manufacturing and Engineering Sector	5
Key engineering roles are in short supply	5
Advanced technology will require strong machinery skills, and skills in automation and programming.....	6
Trade skills are difficult to recruit for	6
Design engineering skills	6
Non-technical skill needs	6
People skills are important within the M&E industry	7
Work readiness – Work ethic, motivation, aspirations – often lacking	7
Basic computer literacy skills are needed across sectors.....	7
Skill flexibility is needed among the workforce	7
Critical thinking and problem solving abilities	8
Challenges Facing the Manufacturing and Engineering Sector	8
Ageing workforces are impacting the industry	8
Sector communication challenges and awareness of training provision	8
Rurality of businesses and training availability	9
Lack of understanding and guidance on Net Zero	9
Cross LSIP Employer Suggested Actionable Actions to Support Digital and Creative Sector Skills Needs.....	9
Develop better employer – provided collaboration.....	9
Develop short, modular courses that are proactive towards industry needs	9
Fund and develop net zero specific training	10
Comparing Dorset LSIP Advanced Manufacturing and Engineering Findings with other Areas	10
Advanced manufacturing and engineering skill needs comparison.....	10
Comparison of challenges faced in the advanced Manufacturing and Engineering sector	11
Summary of Comparisons	12

Approach & Purpose of Literature Review

In August 2023 38 Local Skills Improvement Plan's (LSIPs) were approved by the Secretary of State for Education across the UK. The LSIPs will help to achieve better alignment of the local skills system with employer's needs.

This literature review endeavours to consolidate the shared discoveries from LSIPs in the South West and selected trailblazer LSIPs. The ensuing report presents a summary of the prevalent skill gaps identified across the South West of England. The overarching goals of this review are to enhance the evidential foundation of LSIPs and expedite the second phase of LSIP research.

This literature review amalgamates insights from individual LSIPs in the South West, each drawing upon a wide array of data sources, including employer surveys, interviews, focus groups, and stakeholder engagement. Consequently, the review synthesizes a wealth of qualitative and quantitative employer engagements from across the South West, forming a robust perspective on cross-county skills needs.

This literature review is one part of the evidence gathering to maintain an understanding of Dorset's sector skills needs. Further data, employer voice and analyses will be shared to develop the evidence base. This will include sharing Labour market data, recruitment intelligence, findings from focus groups with employers in key sectors as well as analysis of the delivery of skills training.

Areas of Study

LSIPs were included in this literature review that were in the South or South West of England. The LSIPs included in this literature review are:

- Dorset LSIP (Dorset Chamber) <https://dorsetchamber.co.uk/lcip/>
- Solent LSIP (Hampshire Chamber of Commerce)
<https://www.hampshirechamber.co.uk/chamber-of-solutions/local-skills-improvement-plan/>
- Enterprise M3 LSIP (Hampshire Chamber of Commerce)
<https://www.hampshirechamber.co.uk/chamber-of-solutions/local-skills-improvement-plan/>
- Devon and Somerset LSIP (Devon & Plymouth Chamber, Somerset Chamber of Commerce) <https://devonandsomersetlsip.co.uk/>
- Swindon and Wiltshire LSIP (Business West)
<https://www.businesswest.co.uk/grow/LSIP/lcip-swindon-wiltshire>
- Gloucestershire LSIP (Business West)
<https://www.businesswest.co.uk/grow/LSIP/lcip-gloucestershire>
- West of England LSIP (Business West)
<https://www.businesswest.co.uk/grow/LSIP/lcip-west-england>
- Cornwall and the Isles of Scilly LSIP (Federation of Small Businesses)
<https://www.fsb.org.uk/cornwall-and-the-isles-of-scilly-lcip.html>
- Sussex LSIP (Sussex Chamber of Commerce)
<https://www.sussexchamberofcommerce.co.uk/education-skills>

Skill Gaps and Needs in the Advanced Manufacturing and Engineering Sector

Key engineering roles are in short supply

Within the Manufacturing and Engineering (M&E) industry, there was a common theme that key engineering roles – electrical engineering, mechanical engineering and technician roles, were in short supply to meet the demand of the industry. These positions have been outlined as being some of the most advertised roles within the industry¹, and there are not enough people with the skillsets to fill those roles.

“Demand for key emerging sectors such as tech and digital is outweighing the number of skilled workers, together with a significant shortfall in available skilled labour in other sectors including agriculture, construction, healthcare, education and engineering amongst others”²

These difficulties in recruiting for these key roles were highlighted both by employers, and also through independent research on job adverts. The LSIP conducted in the area of Sussex found that the demand far outweighed the supply for skills needed for the key engineering roles (see figure 2)³



Figure 1. Top in-demand specialised skills for the engineering and manufacturing sector in Sussex based on supply and demand on job postings

¹ The Local Skills Improvement Plan (LSIP) – Sussex Chambers of Commerce, pages 7-10

² South West Devon and Plymouth Chamber of Commerce – page 9

³ [Sussex LSIP – Annex O - Engineering and Manufacturing Sector Deep Dive - Executive Summary – Page 9](#)

Advanced technology will require strong machinery skills, and skills in automation and programming.

Within M&E, continuous advancements in technology will require skills to deal with using those technologies. Those skills will surround key machinery skills, and skills in automation and programming. All selected LSIPs highlighted that employers expect automation to become very prevalent and important within the sector.

“The CloS LEP local market information on manufacturing and engineering also outlines that skills in automation, robotics and mechatronics are thought to be important in the future as the sector continues to evolve. Automation and robotics are already common in manufacturing processes but change will be seen within the industry and there is a need for employees to upskill and retrain.”⁴

Trade skills are difficult to recruit for

Within a number of the LSIPs (Dorset, Cornwall and Isles of Scilly, Hampshire and Surrey, and South West Devon and Plymouth), difficulties were found in being able to recruit different trade skills that are required, such as welders and fitters.

Design engineering skills

A further technical skill highlighted by employers was the need for more skills in design engineering, for example UX Design skills and CAD use. Where the systems in the future will become more automated, these advanced digital skills are thought to be important for the sector.

Non-technical skill needs

Additionally, while there is a strong need for those technical, specialised skills, non-technical transferable skills are also in strong demand and are lacking both in employees and job applicants. Some of the LSIPs (Dorset, South West Devon and Plymouth, and Cornwall and Isles of Scilly) highlighted these non-technical skills within the domain of cross-sector skills and in demand for most roles.

⁴ [Cornwall and the Isles of Scilly Local Skills Improvement Plan – Page 16](#)

“Universities (and providers) should focus as much on soft and transferable skills as they do technical skills.”⁵

People skills are important within the M&E industry

Across all LSIPs, people skills, such as communication and the ability to develop working relationships with colleagues, were highlighted as being key. There is the feeling that those coming into the industry from university or apprenticeships have not developed these people skills well enough.

Work readiness – Work ethic, motivation, aspirations – often lacking

Employers would like more young people coming into work from education and apprenticeships to have greater work ethic and motivation, and these soft skills would allow for the easier development of specialised, technical skills.

Basic computer literacy skills are needed across sectors

As noted previously, M&E is becoming increasingly more computerised in its processes. Due to this, some more advanced computing skills have been outlined as important. Along with this however, there is still the basic necessities in being able to carry out basic computing tasks – such as the use of Microsoft Office packages.

Skill flexibility is needed among the workforce

Where dealing with skill gaps has been a major difficulty for businesses, some LSIPs found that employers would like their workforce to have more skill flexibility, where they can learn different skills that their specific role once would not need. This would allow skill gaps to be filled more efficiently without struggling due to any recruitment difficulties.

⁵ Southwest Devon and Plymouth Chamber of Commerce – Page 24

Critical thinking and problem solving abilities

A number of the LSIPs found that employers would like problem solving and critical thinking abilities in employees to be improved. Where a lot of the specialised, technical skills can be difficult skills, having employees with improved critical thinking and problem solving abilities could improve the effectiveness of training on those more specialised, technical skillsets.

Challenges Facing the Manufacturing and Engineering Sector

Throughout the literature, a number of the LSIPs outlined a series of challenges that the Advanced Manufacturing and Engineering sector is facing when it comes to upskilling their employees and finding skills on the recruitment market.

Ageing workforces are impacting the industry

Across many areas of the South West, the manufacturing and engineering industries are facing difficulties related to ageing workforces. In the Manufacturing and Engineering sector it can be difficult to retain young people in these areas due to several contextual issues⁶.

Sector communication challenges and awareness of training provision

Businesses feel that there is a lack of communication between employers and providers on what is needed in terms of skills, and there is not enough guidance provided to employers on available provision. The South West Devon and Plymouth LSIP highlighted that these difficulties in finding training opportunities were more pronounced among smaller companies than large⁷, and this is an issue when the majority of M&E businesses across the South West are micro-small businesses.

⁶ South West Devon and Plymouth LSIP – Pages 35-37

⁷ South West Devon and Plymouth LSIP – Pages 28-30

Rurality of businesses and training availability

Along with communication challenges in being able to find appropriate training opportunities to develop skills, the rurality of the businesses is having an impact. For many businesses in rural areas, there are not a lot of local training opportunities which is making the process of upskilling employees more difficult.

Lack of understanding and guidance on Net Zero

The LSIPs which discussed business needs for Net Zero outlined that there is an overall lack of understanding and awareness of what is needed to achieve this, and the current workforce lack the skills the relevant skills. Currently, there is a lack of engagement with green focussed initiatives within businesses,

Cross LSIP Employer Suggested Actionable Actions to Support Digital and Creative Sector Skills Needs

Develop better employer – provided collaboration.

A very common theme that occurred throughout each of the selected LSIPs was the notion that employers would like stronger engagement with training and education providers. This would allow for more training courses to be developed to suit the needs of employers and for better flexibility in skills provision.

Develop short, modular courses that are proactive towards industry needs

Where Manufacturing and Engineering has been outlined to be a fast-changing, adapting industry where new technologies are regularly being introduced to practices, across the LSIPs there was a general theme that employers would like training course development to be proactive to suit the skill needs within the industry. Short, modular courses were outlined as a potential solution for this among multiple

LSIPs⁸, where skillsets could be developed at quicker rates and at times that suit employers.

Fund and develop net zero specific training

As noted among challenges, many businesses do not currently have the understanding, awareness, or skillsets to deal with the transition to net zero. Thus, a number of LSIPs outlined a need for more funding and training to be developed to allow employers to develop employee skills.

Comparing Dorset LSIP Advanced Manufacturing and Engineering Findings with other Areas

So far, this review has detailed the findings that are most frequently seen across the LSIP areas of the South and South West of England. This section takes a more detailed look at the Dorset area, examining the similarities and differences between the Dorset LSIP findings and other LSIP areas.

Advanced manufacturing and engineering skill needs comparison.

Across Dorset and the South West, LSIPs reported very similar skill needs outlined by employers in the advanced manufacturing and engineering sector. Across all areas, engineering roles are in short supply, and employers expect a large switch towards automation and the need for programming skills. Other trade skills, such as carpenters and fitters, are needed, along with machinery and maintenance skills. Interpersonal skills, such as communication, collaboration and teamwork were shown to be very important across both areas, and these are highlighted as being just as important as technical skills for this sector. Additionally, both skillsets share needs for problem solving skills and basic IT skills.

⁸ [Business West Chamber of Commerce \(Swindon and Wiltshire, Gloucestershire, and West of England and North Somerset\) - Pages 19-20](#)

Comparison of challenges faced in the advanced Manufacturing and Engineering sector

The Dorset and South West LSIPs found a number of common concerns facing employers in the manufacturing and engineering sector. Across both areas, employees find it difficult to find local training provision, and there is a lack of awareness of available options. Net zero was a commonly found concern across all areas, where employers had little understanding of how to achieve target goals.

The major difference between Dorset and the rest of the South West was that while Dorset employers found challenges regarding a lack of work readiness from young people entering the industry, employers in the selected LSIP areas outlined more concerns regarding ageing workforces having an impact where not enough young people are entering the industry.

The Dorset LSIP found a greater focus on the need for apprenticeships and the value of in-house training. These methods were highlighted to be the preferred methods of developing skills of both young people and current employees.

Summary of Comparisons

Table 2. Cross comparison of the Dorset and Southwest LSIP findings for the advanced manufacturing and engineering sector

Dorset findings (interviews with employers / Dorset LEP analysis)	South West LSIP findings
<p>Skill Needs</p> <ul style="list-style-type: none"> • Engineering roles are in short supply (electrical, mechanical and electronic engineers) • Trade Skills • Machinery and maintenance skills • Programming and Automation • Communication skills • Problem Solving • Basic IT skills 	<p>Skill Needs</p> <ul style="list-style-type: none"> • Engineering roles are in short supply (Electrical and Mechanical Engineering) • Technicians • Machinery Skills • Programming and automation • Trade skills • Interpersonal skills – Communication, team work, collaboration • Work readiness – work ethic, motivation, aspirations • Basic IT skills • Skill flexibility is needed • Critical thinking and problem solving
<p>Challenges</p> <ul style="list-style-type: none"> • Lack of work readiness from younger people • Lack of understanding on Net zero 	<p>Challenges</p> <ul style="list-style-type: none"> • Ageing workforces are impacting the industry • Sector communication challenges and awareness of provision

<ul style="list-style-type: none"> • Difficulties in finding training provision and apprenticeships • Lack of awareness of available training routes 	<ul style="list-style-type: none"> • Rurality of business and training availability • Lack of understanding and guidance on net zero
<p>Proposed Solutions by Employers</p> <ul style="list-style-type: none"> • Greater engagement between employers and education providers • In-house training and apprenticeships highly valued by employers • Promoting awareness, understanding and availability of apprenticeships and training courses • Develop funded, short training courses for specific skill needs • Improve work readiness of young people coming through • Improve abilities in attracting and retaining people in the area • Provide greater support for the transition to net zero 	<p>Proposed Solutions by Employers</p> <ul style="list-style-type: none"> • Develop better employer – provider collaboration • Develop short, modular courses that are proactive for industry needs • Fund and develop net-zero specific training