

engineering the south east

EVALUATION OF THE ENGINEERING SKILLS AND TRAINING NEEDS OF MANUFACTURING AND CONSTRUCTION SECTORS IN THE SOUTH EAST

January 2024



An Roinn Breisoideachais agus Ardoideachais, Taighde, Nuálaíochta agus Eolaíochta Department of Further and Higher Education, Research, Innovation and Science



ENGINEERING THE SOUTH EAST	#
----------------------------	---

1.	Introduction	2
1.1	Scope & Objectives	2
1.2	Methodology	2
2.	Conclusions and Recommendations	4
2.1	Conclusions	4
2.2	Recommendations	6
3.	Survey Findings in Detail	8
3.1	Industry Sectors and Sizebands	8
3.2	Engineering Skills by Type	. 10
3.2.1	Engineering Skills Employment by Sizeband	. 11
3.3	Engineering Skills - Expected Increase by end 2024.	. 11
3.4	Annual Replacement Rate	. 12
3. 5	Engineering Skills in Demand	. 13
3.6	Sourcing New Hires	. 14
3.7	Upskilling Needs Identified	. 15
3.8	Engagement with Education Providers	. 16
3 .9	Student Placements	. 17
3.1 0	Recruitment of Engineering Apprentices	. 18
3.11	Unfilled Engineering Apprentice Vacancies	. 19
3.12	Emerging Engineering Skills	. 20
3.13	Assessment of Skills Shortages	. 21
3.14	Engineering Skills Shortages by Skill Type	. 23
Appendix 1	Additional Comments	. 24
Appendix 2	Challenges / Solutions	.30

© South East Regional Skills Forum, 2024 South East Regional Skills Forum is an initiative of and is funded by the Department of Further and Higher Education, Research, Innovation and Science.



An Roinn Breisoideachais agus Ardoideachais, Taighde, Nuálaíochta agus Eolaíochta Department of Further and Higher Education, Research, Innovation and Science

1

1INTRODUCTION

The South East Regional Skills Forum (SERSF) brings together enterprise and education to address regional skills needs. It conducts research into skills and training needs of various enterprise sectors from time to time. The insights gained are used by the regional education and training providers to guide education and training provision.

The 'Engineering the South East' cluster is an industry-led initiative that brings the region's engineering companies, its knowledge providers and its government agencies together. It is a platform that facilitates companies to both access and influence the knowledge related services available to them.

1.1 SCOPE & OBJECTIVES

As part of its mission the SERSF, in partnership with Engineering the South East cluster, wished to conduct a survey of South East regional enterprise to determine priority training / skills needs in the broad 'engineering' discipline area for both existing and new start-up companies. A tender was issued to potential suppliers and Market Dynamics was commissioned to undertake the work.

1.2 METHODOLOGY

The methodology selected for the survey was to conduct a combined online / phone survey aimed at a target list of South East businesses that employ people with engineering, skills. Businesses in the engineering, manufacturing and construction sectors comprised the majority of the list. The following steps were followed during the project:

• SERSF/Engineering the South East and Market Dynamics collaborated

to develop the survey questionnaire to be used in the project. This was programmed into an online survey tool.

 The target list for use in the survey was compiled by SERSF

 A letter of invitation was sent by SERSF/Engineering the South East to all contacts on the target list informing them of the upcoming survey and its purpose

- The survey link was emailed to all contacts on the target list with reminder emails issued at weekly intervals
- Market Dynamics conducted a phone campaign aimed at the target list encouraging participation and conducting surveys by phone where possible.

A total of **109 businesses**, employing a total of over 6000 engineering staff, participated in the survey. These

comprised a good mix of businesses of different sizes, industries and industry sub-sectors, from all counties in the South East region.

As the survey participants included a broad mix of businesses of different sizes and industry sectors Market Dynamics considers the findings provide a robust view of the situation with regard to engineering skills and training needs in the South East region.

Market Dynamics offers a full range of market research services to enable our clients to broaden and retain their business. The company was founded in 2003 by John Gilsenan to provide highquality market research services to clients in Ireland and the UK.



Contact: John Gilsenan Tel: 056 775 8888 Mob: 086 384 0062 Email: john@marketdynamics.ie Web: marketdynamics.ie



2 CONCLUSIONS AND RECOMMENDATIONS

In this section we summarise the findings of the survey and make our recommendations to SERSF and Engineering the South East.

2.1 CONCLUSIONS

The following are the key conclusions of the survey:

- The survey provides considerable evidence of a shortage of engineering skills in the South East in recent times. Respondents were almost evenly split between the 48% who consider it a 'major shortage' and the 45% who describe it as a 'moderate shortage'. However, there is no disputing the overall lack of availability of many key skills.
- Respondents identified the greatest shortage to be of craft-qualified engineering personnel, e.g. electricians, metal fabricators with skilled engineering operators, e.g. welders, etc next most scarce followed by engineers with degrees.
- While all industries have experienced shortages to some degree, the most impacted are in Manufacturing with over half of firms in Engineering, Medtech and Food heavily impacted as well as Construction – Professional Services. The only sector to go against the trend was Other where just

13% reported a major shortage.

- Businesses of all sizes recorded shortages with over half of the smallest (1-20 employees) and the very largest (2514) reporting they are experiencing a 'major shortage' of skills in the region. Least impact has been felt by those in the 50-100 employee category.
- The total number of employees with engineering skills at the businesses surveyed was 6,305, a very significant sample. Future employment plans indicate that many businesses surveyed intend to employ more people with engineering skills with a 7% increase expected by the end of 2024. The skills shortage is therefore set against a backdrop of a growing sector where demand is increasing.
- Turnover of engineering skilled staff due to retirements or staff leaving varies.
- The most interesting finding here is that one third of respondents had a surprisingly high level of 11-20% of skilled engineering staff turnover.

 Given the extent of digitalisation in manufacturing particularly, and industry in general, it is interesting to note that the skills most in demand are primarily traditional roles including mechanical engineers, metal fabricators and civil engineers.
 However, also in demand are more modern roles/skills including CNC operators, automation engineers and controls/software specialists.

- A good mix of sources are used to hire engineering skills with many employing graduates and apprentices. The need for staff with experience is evident in the fact that 76% of businesses surveyed typically hire from other companies. The fact that a quarter hire from outside the EU is further evidence of the skills shortages they face.
- The majority of respondents have identified upskilling needs for their staff with automation, digital transformation, BIM, CNC and welding skills most prominent.
- Over half the businesses surveyed engage with education providers such as SETU for **student placement**. There is scope for closer links in this regard.

- Fewer than half the businesses surveyed attempted to recruit an engineering student for placement in the past year and of those who did so the majority were unsuccessful.
- The most popular apprenticeships recruited in the past year were electrical, mechanical automation and maintenance fitting and metal fabrication.
- Many were unsuccessful in finding apprentices in the past year with the greatest scarcity being of electrical apprentices, civil engineering technicians, civil engineers, principal engineers and manufacturing engineers.
- Among the emerging engineering skills that respondents consider will be required in the future are sustainability skills, digital transformation, automation, data analytics and AI.
- The verbatim comments made by respondents demonstrate that they face other hiring challenges, in addition to the shortage of skills. Some businesses highlighted difficulty in attracting employees to the South East region with many preferring to be based in large urban areas like Dublin and Cork.

2.2 RECOMMENDATIONS

The challenges facing employers in the South East regarding engineering skills availability will not be solved easily or quickly. There are, however, steps that can be taken to help improve the situation.

- Of key importance will be to increase the encouragement of schoolchildren to embrace STEM and subsequently promote the attractiveness of apprenticeships as a career choice to school leavers. The findings of this survey show that demand for apprentices is high and there is a shortage of craftspeople, skilled operatives and graduate engineers of all types. Efforts must also be made to reduce the financial barriers that businesses face in regards to taking on apprentices hence making it an easier option as a career path.
- · Education and training providers need to ensure the availability of courses in areas where shortages exist. This should include third-level courses. apprenticeships as well as shorter courses aimed at upskilling existing engineering staff. Some businesses surveyed suggested that upskilling existing workers was how they were addressing the shortage of skills in the marketplace. Areas where businesses are keen to upskills staff are in automation, digital transformation. BIM, CNC and welding. Efforts should be made to provide the appropriate education and training in these and other areas.
- · At a time of skills shortages there appears to be potential for education providers to broaden the scope of their engagement with employers.

While many take students on placement, fewer engage in other ways such as on final-year projects. Greater co-operation is sure to be positive for employers and educators so the latter should increase efforts toward this goal.

- Education providers also need to take steps to ensure curricula include emerging engineering skills including sustainability, digital transformation, automation, data analytics and artificial intelligence. The engineers of tomorrow will require these skills so steps need to be taken to make this a reality.
- In light of the fact that a quarter of businesses surveyed are currently sourcing engineering skills from outside the EU, there is a need for stakeholders to seek to identify places where engineering skills are more plentiful than in Ireland and seek to develop links where opportunities arise. It may be possible to encourage young people to come to the South East to be educated with a view towards subsequent employment in the region.
- Some of the challenges identified by businesses in the South East are outside the control of education providers. The difficulty in attracting employees to the South East (and presumably to other non-urban environments across the country) is not easy to address. However, steps should be taken to inform the relevant stakeholders of this ongoing problem so that work can be done to address their issue.



3 SURVEY FINDINGS IN DETAIL

In the first section we provide demographic information on the businesses that participated in the survey.

3.1 INDUSTRY SECTORS AND SIZEBANDS

One of the key aims of the survey process was to get broad participation in the survey from businesses of different types across the range of industries that employ people with engineering skills. This was achieved as can be seen in the figures below.

23%



Industry / Sub-Sector

Figure 1 Survey Respondent by Industry Sector and Sub-Sector Which of these categories best describes the industry your business operates in? (Source: Market Dynamics, 2023 (n=109). Figure 2 shows the distribution of respondent businesses by employee size-band. Again, a mix of business sizes was achieved in the survey. Half the

businesses surveyed had fewer than 50 employees while half had 50 employees or more.

ENGINEERING THE SOUTH EAST



Figure 2 Survey Respondent by Business Sizeband How many people are employed in the business? (Source: Market Dynamics, 2023 (n=108).





3.2 ENGINEERING SKILLS BY TYPE

The next question sought to distinguish between the different types of engineering skills being employed in the business. Respondents were provided with the definition below and then asked to say how of each type of skills they employ at present.

Definition – for the purposes of this survey 'engineering/manufacturing' roles refer to personnel at various levels of the organisation and include personnel with engineering degrees, those with craft qualifications, skilled operators as well as semi-skilled operatives. Based on that definition, approximately how many staff in your organisation work in 'engineering/ manufacturing' roles?

The total number of people with engineering skills recorded by respondents was 6,305. Of these, 1838 have an engineering degree, 2082 have an engineering craft qualification, 792 are skilled operatives and 1593 are semi-skilled operatives. The percentage distribution is shown in figure 3 below.



Figure 3 Engineering Skills Distribution by Skill Type Of those in engineering roles, approximately how many ... [Best estimate please]? (Source: Market Dynamics, 2023 (n=108).

3.2.1 ENGINEERING SKILLS EMPLOYMENT BY SIZEBAND

Though engineering skills are deployed in businesses large and small the majority are found in large businesses. Just over three quarters of people with engineering skills are employed in businesses with more than 100 employees with just over half in those with over 250.

ENGINEERING THE SOUTH EAST



Figure 4 Engineering Skills Employment by Business Sizeband (Source: Market Dynamics, 2023 (n=108).

3.3 ENGINEERING SKILLS - EXPECTED INCREASE BY END 2024

Respondents were asked to estimate how many persons with engineering skills they would likely have in employment by the end of 2024 based on expected levels of business. Total engineering employment at the surveyed firms will increase by 7.4% in the next year if hiring plans are met. This shows that the engineering sector in the South East is in good economic health.



Figure 5 Expected Employment Increase Based on your organisation's expected levels of future business how many staff would you expect to have in engineering roles at the end of 20224? [Best estimate please] (Source: Market Dynamics, 2023 (n=103).



3.4 ANNUAL REPLACEMENT RATE

In order to assess turnover levels, respondents were asked how many engineering staff would have to be replaced in a typical year. This was then calculated as an average of current engineering staff numbers. Figure 6 below shows the distribution of responses. Though 18% businesses reported 0% staff turnover the majority have small numbers of staff with engineering skills which may aid retention. For over a third the replacement rate is below 5%. However, for almost another third the figure is between 11-20% per annum.



Figure 6 Annual Replacement Rate Of the total number in engineering roles, typically how many have to be replaced annually (due to retirements, staff leaving)? [Best estimate or annual average for recent years] (Source: Market Dynamics, 2023 (n=105).



3.5 ENGINEERING SKILLS IN DEMAND

Over 60 roles/skills were listed by respondents when asked which ones are in demand at their organisation. The most mentioned are included in the figure below. Engineers of various types are prominent on the list as are skilled tradespeople including welders, metal fabricators, electricians and fitters. More modern skills including CNC-related, automation and software / controls are also in demand.

ENGINEERING THE SOUTH EAST

It is interesting to note that despite the increasing automation and modernisation of manufacturing in recent years it is still the more traditional skills that are in most demand.



Figure 7 Engineering Skills in Demand What engineering roles/skills are most in demand at your organisation? (Source: Market Dynamics, 2023 (n=105).



3.6 SOURCING NEW HIRES

The need for staff with experience is evident in the fact that 76% of businesses surveyed typically hire from other companies. However, it is very positive to see that 43% included apprentices among their typical hires. It is no surprise to see that around onethird hire from abroad within the EU. However, the fact that a quarter hire from outside the EU provides further evidence of the skills shortages they face.



Figure 8 Sourcing New Hires When you hire new staff are they typically...? [Select all that apply] (Source: Market Dynamics, 2023 (n=102).



3.7 UPSKILLING NEEDS IDENTIFIED

All respondents were asked to indicate what upskilling needs have been identified for existing staff. In all, 68 different needs were identified. Many were very specific and the majority listed by just one respondent. The figure below lists those that were named by two or more respondents.

A few key themes are prominent. Automation was mentioned by a quarter of respondents while digital transformation, BIM and CNC-related skills next most popular. Various types of welding skills are understandably high on the list as businesses seek to upskill to counter the lack of availability of welders in the region.

ENGINEERING THE SOUTH EAST

Some of the upskilling needs identified are not engineering-specific with project management, health and safety, Microsoft productivity tools, leadership and problem-solving skills all featuring. Just 15% of respondents have not identified any upskilling requirements.



Figure 7 Upskilling Needs Identified What upskilling needs have been identified for existing engineering staff? (e.g. BIM, digital transformation, orbital welding, automation, etc) [List up to 5] (Source: Market Dynamics, 2023 (n=98).



3.8 ENGAGEMENT WITH EDUCATION PROVIDERS

The majority of businesses surveyed engage with education providers to take engineering students on placement, however, the numbers who are exploring other options is much lower.

Just a quarter, however, facilitate students doing final-year placements or engage in R&D-related activity with education providers. This suggests there is considerable scope for such engagements to be expanded and that education providers should make efforts to address this. One respondent commented that offering third-party education opportunities to engineering staff had a positive impact on retention. For that reason, the potential for people to do employment-based higher-level degrees should also be investigated as currently they have the lowest level of implementation.



Figure 8 Engagement with Education Providers Do you engage with education providers (SETU, ETBs) for any of the following? (Source: Market Dynamics, 2023 (n=98).

3.9 STUDENT PLACEMENTS

Figure 9

Respondents were asked if they had attempted to recruit a student on placement in the past year. The majority had not attempted to do so while a considerable minority had but were unsuccessful.

ENGINEERING THE SOUTH EAST



Student Placements Have you tried to recruit an engineering student in the past year for placement / internship but were unable to get one? (e.g. BIM, digital transformation, orbital welding, automation, etc) [List up to 5] (Source: Market Dynamics, 2023 (n=97).



3.10 RECRUITMENT OF ENGINEERING APPRENTICES A considerable number of engineering manufacturing and civil engineering skills

A considerable number of engineering apprentices have been taken on by businesses in the South East region in the past year. There is an understandable alignment of this list and the list of skills in demand highlighted earlier. Electricians, fitters, metal fabricators as well as

Electrical Mechanical Automation and Maintenance Fitting Metal Fabrication 169/ Manufacturing Engineering Electrical Instrumentation Civil Engineering Tool making Pipe fitting 6% Sheet Metalworking 5% Civil Engineering Technician 4% 4% OEM Engineering Technician Refrigeration and Air Conditioning Lean Sigma Manager 2% Manufacturing Technology **2**% Polymer Processing Technology NONE OF THE ABOVE 45%

were among the roles identified. Over half

of all businesses surveyed took on at least

one apprentice in the past year which

bodes well for the future employment

prospects of apprentices of all types.

Figure 10 Recruitment of Engineering Apprentices What types of engineering apprenticeships have you recruited for in the past 12 months? [If None, please tick 'NONE OF THE ABOVE'] (Source: Market Dynamics, 2023 (n=97).

10

20

30

40

50

3.11 UNFILLED ENGINEERING APPRENTICE VACANCIES

Not only were electrical apprentices the most hired in the past year but also the type that most businesses were unsuccessful in hiring. Civil engineering skills were also in short supply. The vast majority of businesses did not, however, make unsuccessful attempts to find engineering apprentices.



Figure 11 Unfilled Engineering Apprentice Vacancies What types of engineering apprenticeships, if any, were you unable to fill? [If None, please tick 'NONE OF THE ABOVE'] (Source: Market Dynamics, 2023 (n=97).



3.12 EMERGING ENGINEERING SKILLS

A wide range of suggestions were made when respondents when asked to identify skills that will be required in future. Sustainability is the key one and an area that educators and training providers need to embrace.



Figure 12 Emerging Engineering Skills What new/emerging engineering skills do you expect (within engineering roles) to be required in the future? (e.g. cyber / sustainability / analytics / digital transformation) (Source: Market Dynamics, 2023 (n=97).



3.13 ASSESSMENT OF SKILLS SHORTAGES

In this section we examine the responses to the question of skills shortages. Firstly, they were asked whether they thought there is a shortage of people with engineering skills in the region. With almost half the respondents indicating a major shortage and nearly as many suggesting there is a moderate shortage there is clear evidence of an issue of availability in the region.

ENGINEERING THE SOUTH EAST



Figure 13 Engineering Skills Shortages – Perceptions Based on your recent experience, is there a shortage of people with engineering skills in the region? (Source: Market Dynamics, 2023 (n=97).

When we examine the experiences of businesses in different industry subsectors clearly some find skills availability more of a challenge than others. Three of the Manufacturing sectors under investigation and Construction – Professional Services have faced most problems recently. All sectors, with the exception of Manufacturing – Other, report a very challenging environment.



Figure 14 Engineering Skills Shortages – Recent Experience, by Industry Subsector Based on your recent experience, is there a shortage of people with engineering skills in the region? (Source: Market Dynamics, 2023 (n=97).



Moving on to look at the various experience of businesses in different sizebands, we see the smallest businesses have experienced above average difficulty in finding engineering skills in the region.

The least negative segment is the 51-100 sizeband though almost a third have faced a major shortage. In the very largest segment not a single respondent has experienced 'no shortage'.



Figure 15 Engineering Skills Shortages - Recent Experience, by Business Sizeband Based on your recent experience, is there a shortage of people with engineering skills in the region? (Source: Market Dynamics, 2023 (n=98).



ENGINEERING THE SOUTH EAST

3.14 ENGINEERING SKILLS SHORTAGES BY SKILL TYPE

Throughout the survey engineering skills were divided into four categories. Having assessed the skills shortage overall, respondents were asked to rate the availability of each individual skills category, this time on a 1 to 5 scale where 1 is no shortage and 5 is major shortage.

The fact that craft qualified engineering staff are top of the list is no surprise given the level of demand we saw earlier in the survey for electricians and metal

Craft qualified engineering staff Skilled engineering operators

Semi-skilled engineering operators Engineers with degrees fabricators, etc. More surprising, however is that degree-level educated engineers are lowest on the list though half the respondents nonetheless gave a 4 or 5 rating, indicating a considerable shortage Two-thirds have had significant difficulty recruiting skilled engineering operators.

These findings present further evidence that while the extent of the skills shortage various skills categories, nonetheless there are shortages across the board.



Figure 16 Engineering Skills Shortages, by Skill Type Please rate for each of the following to what extent there is a shortage, on a scale of 1 to 5 where 1 is no shortage and 5 is major shortage? (n=76 with 'don't know/not applicable' responses excluded) (Source: Market Dynamics, 2023 (n=76).

1APPENDIX ADDITIONAL COMMENTS

In a selection of the survey questions respondents were given the opportunity to make additional comments about the topic in question. These are listed in the tables below.

Table 1 Sourcing New Hires - Comments

Industry Sub-sector	Sizoband	Commonto
industry Sub-sector	Sizeballu	Comments
Manufacturing – Medtech	101-250	Mostly from other companies within Ireland, but we are a greenfield site doing a significant amount of hiring globally.
Manufacturing - Medtech	11-2 0	SETU
Manufacturing - Engineering	21- 50	Challenge getting experienced staff with CAD & production experience
Construction – Specialist Contractors	21- 50	General Operatives
Engineering - 'Other'	1-10	Small company and need personnel but CAN'T get any
Manufacturing - Engineering	21- 50	Can be school leavers that we send on Apprenticeships
Manufacturing - Other	21- 50	Since Covid the applicants vary greatly
Manufacturing - Medtech	251+	Hire from within also
Manufacturing – Pharma	101-250	Promote from within - e.g. production operator with engineering qualification or studying for an engineering qualification.

Table 2	Sourcing of	Students	for Placement	/ Internship

Industry Sub-sector	Sizeb and	Comments
Manufacturing - Pharma	101-250	Able to get one and has been successful to various degrees
Manufacturing - Pharma	251+	Successfully had engineering intern this year
Manufacturing - Pharma	251+	Yes we recruited students for placement from Both SETU and UL
Manufacturing - Pharma	251+	Have an established graduate program sourcing from 3rd level institutes and internships also for a number of years
Manufacturing - Pharma	251+	No mech / manuf students available for placement in 2024
Manufacturing - Other	21- 50	Not attempted but have taken on a full- time qualified QC person
M anufacturin g – Me dt ech	251+	We are able to meet our Internship needs.
Manufacturing - Medtech	251+	Always been successful
Manufacturing - Medtech	11-2 0	Yes and employed design engineer
Manufacturing - Medtech	51-100	Yes, there was no student placement available last year.
Manufacturing - Medtech	11-2 0	Currently looking for both software and mechanical graduate engineers
Manufacturing - Food	251+	No applicants
Manufacturing - Food	251+	Want to do for 2024
Manufacturing - Food	251+	Currently searching for maintenance manager - applicants scarce!
Manufacturing - Food	251+	Yes, we have been able to have students from SETU onsite last year to support Maintenance and Engineering
Manufacturing - Engineering	21- 50	In the process
Manufacturing – Engineering	21 -50	Trying to source Junior Engineer to support Basic Cad and CNC programming to assist design & production teams
Manufacturing - Engineering	21- 50	Attempted successfully

Table 2 Sourcing of Students for Placement / Internship (CONTINUED)

Industry Sub-sector	Sizeband	Comments
Manufacturing - Engineering	101-2 50	Attempted and successful. We take on 2 every year.
Manufacturing - Engineering	21- 50	Attempted successfully
Manufacturing - Engineering	51-100	We have some 2nd and 3rd year engineering students in for holiday work, word of mouth recruitment.
Manufacturing - Engineering	251+	No problems with finding student placements / internships
Engineering - 'Other'	21- 50	Contacts SETU
Engineering – 'Other'	21- 50	Not tried recently, but we would be interested in trying to recruit if we can make a connection
Engineering – 'Other'	1-10	Starting to engage this year.
Engineering - 'Other'	11-2 0	Limited success, currently looking for 3
Construction – Specialist Contractors	1-10	Always looking for apprentices, difficult to get them to through the first year as learning curve is steep.
Construction - Specialist Contractors	101-250	Recruited Successfully
Construction - Professional services	101 -2 50	We were successful in recruiting a number of students for graduate internships
Construction - Professional services	1-10	We are on the list of potential employers with UCD postgraduate programme.
Construction - Professional services	1-10	New students are looking for far too much money considering they have zero experience. I would hire an apprentice quicker.
Construction - Professional services	1-10	No applicants from SETU, unsuitable applicants from UL
Construction - Professional services	101-2 50	We were successful in recruiting graduates
Construction – General Building Contractors	21- 50	None available
Construction – General Building Contractors	21- 50	Young man worked on a placement with us over a number of years and we took him on to replace an engineer leaving the company

Table 3 Skills Shortages - Comments

Industry Sub-sector	Sizeb and	Comments
Industry Sub-sector	251+	We are seeing shortage for Engineers and Technicians
Manufacturing – Medtech	101-2 50	Currently we are getting sufficient CV's that meet our needs, however we are in a ramp phase and the quantity / quality may become a challenge in the relatively near future due to other company expansions in Ireland
Manufacturing - Medtech	11-20	Not enough emphasis in secondary schools, drop-out rate in college too high, work experience not used enough
M anufacturin g – Me dtec h	11-20	We now looking overseas and have hired overseas (2 mechanical engineers from India)
Manufacturing - Medtech	251+	Employees market, plenty of work and ever-growing labour costs
Manufacturing - Food	10 1-2 50	We were recruiting a utilities technician and it took 6 months to get someone who in the end didn't show up
Manufacturing - Food	251+	It seems to be difficult to attract experienced local talent to the South East region.
Manufacturing – Food	101 -2 50	It is difficult to get people to locate out of big centres of population like Dublin/ Cork. Trying to get people to move to Cahir is an issue.
Manufacturing – Engineering	21 -50	Had a stand @ Toys 4 Engineers show in SETU Oct 2022 and an ad for Jnr Engineer with experience on software CAD, Solidworks & got zero interest
Manufacturing - Engineering	21- 50	Major shortage of people with CNC Machine setting experience
Manufacturing - Engineering	5 1-1 00	No problem recruiting new apprentices, a gap exists bringing qualified electrical tradespersons to management level.
Manufacturing - Engineering	251+	Electro-Mechanical Engineers very difficult to find.
Manufacturing - Engineering	21- 50	Experienced welders and agricultural machinery spray personnel



ENGINEERING THE SOUTH EAST

Table 3 Skills Shortages - Comments (CONTINUED)

Industry Sub-sector	Sizeb and	Comments
Engineering – 'Other'	21-50	We have developed in the last 2 years a pipeline for getting motivated competent English-speaking engineers and develop a structured learning process to develop them to chartered status in the Irish economy.
Construction – Professional services	101-250	Our company is a management contractor, our major problem is subcontract labour across all trades including wet trades, carpentry, mechanical, electrical, flooring, partitions.
Construction – General Building Contractors	1-10	More so a shortage of good General workers, Blocklayers, Plasterers,
Construction – General Building Contractors	21- 50	Generally moderate but in relation to BIM a major shortage



2 APPENDIX CHALLENGES/ SOLUTIONS

In the final survey question respondents were asked - Finally, please outline any challenges you face in finding people for engineering roles in the South East region as well as any suggestions on how these challenges may be addressed.

The findings are presented here as verbatim comments from respondents as well as their industry sub-sector and business sizeband.

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Manufacturing – Pharma	101 -2 50	Principal challenge is sourcing engineers with good understanding of Manufacturing/Mechanical systems - solid Materials knowledge and core problem-solving fundamentals.
Manufacturing – Pharma	251+	Engineering roles have evolved over time and find placements within core areas over-riding the space that was predominantly occupied by semi-skilled on-job trained personnel. This is proving effective for companies however starves the market of key skills. A good remedy may be to develop education schemes that are cross-functional that will return to fill spaces that require semi-skilled personnel and free the skilled set for more appropriate jobs.

Manufacturing – Pharma	251+	The major challenge is with keeping staff, younger staff members tend to move jobs frequently and it makes training new staff very costly and timely.
Manufacturing – Pharma	251+	The resources we need must have a broad understanding of all aspects of engineering and technology. I believe we would benefit from 3rd level offering of courses that generalise for the first 2 years (e.g. Automation, Mechanical, Electrical, Process, Systems, Data Analytics, etc) and branch out then to a specific area of engineering.
Manufacturing – Pharma	251+	Not enough companies training apprentices. We only started this year for the first time. Need to put more pressure on companies to introduce apprentice training in all areas. In some cases should be mandatory for large companies to have a certain percentage of apprentices like parts of Germany.
Manufacturing – Pharma	251+	Quality / quantity of suitably qualified candidates, need more students in the pipeline.
Manufacturing – Pharma	101-250	Hiring individuals into the Pharma sector with little or no pharma background. Increase the access to courses introducing engineering personnel to the different requirements when working in the pharma sector and how it differs from normal manufacturing

support. Engineering hires with no pharma background can find the pharma industry very restrictive and difficult to make immediate impacts due to the amount of regulations in place.

30

ENGINEERING THE SOUTH EAST	#
----------------------------	---

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Manufacturing – Other	51-100	There are not many free candidates in engineering roles available on the market. Even recruitment companies do not have candidates available. It is difficult to attract candidates to Wexford, unless they are originally from here. There are already programs in place through WWETB also SETU has a campus now in Wexford, maybe this will make a difference in the future.
Manufacturing – Other	251+	Currently we do not get to even interview candidates at the moment as the shortage for these roles is extremely high. Accommodation is a very big issue in Wexford at the moment which makes relocation for people impossible.
Manufacturing – Other	51-100	Our main challenge going forward will be for "Fitters" in our manufacturing environment. As I understand it, there is not a high volume of this trade passing through apprenticeship system
Manufacturing – Other	21- 50	Most of our open roles are for general staff but we do find it hard to get good / experienced machine operators.
M anufacturin g – Me dtec h	251+	Diversity (Gender) Challenge. Leadership skills not being developed in 3rd Level.
Manufacturing – Medtech	101-250	Salaries are increasing and housing is in shortage. We have an attractive offering, but people will not join if they cannot find somewhere to live. This is our largest concern as we can increase salaries and we can offer increased benefits. We cannot build houses.
Manufacturing - Medtech	251+	Can't find people in the region. Difficult to attract people into the region.
Manufacturing - Medtech	251+	Require more engineering graduates coming from college, particularly female talent.

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Manufacturing – Medtech	11-20	Work experience during college term, working in engineering during holidays not working in bars, fast food or retail during holiday breaks. Continuous engineering for 3 or 4 years similar to apprenticeships.
Manufacturing – Medtech	101 -2 50	Individuals unwilling to move to non medical/pharma industry
Manufacturing – Medtech	51-100	Fostering collaborations with nearby universities and vocational schools proves highly effective in aligning educational programs with the industry's evolving needs. Our company can actively engage in internship programs to identify and cultivate emerging talent, ensuring a symbiotic relationship between academia and the practical demands of our engineering roles.
Manufacturing - Medtech	11-20	I think that Beckhoff coding should be taught in college to software engineers.
Manufacturing - Medtech	251+	With the majority of companies in medical device and pharma industries growing in the South East (Abbot in Kilkenny, Integer expansion, Jabil expansion etc.) and the number of students taking up engineering in college/university, I think we are going to run into a skills shortage in the near to medium future. Very difficult to address this as engineering is a difficult profession.
Manufacturing - Food	251+	They attracted to travel for contract roles.
Manufacturing - Food	251+	Highly competitive market.
Manufacturing – Food	251+	Recruitment is now a significant challenge, particularly for maintenance Engineers/Fitters. There is a distinct scarcity of applicants.
Manufacturing - Food	101-250	Difficult to back fill roles for utilities.

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Manufacturing – Food	21- 50	Key skills, experience in a food handling environment and knowledge of associated risks. Short courses for key skills.
Manufacturing - Food	251+	All challenges and pinch points as mentioned in the questions previously.
Manufacturing - Food	251+	Competition with higher paying industry sectors.
Manufacturing - Engineering	51-100	Recruitment and retention of young automation engineers, design engineers.
Manufacturing – Engineering	11-20	Fabricators with skills in understanding Solid Works. Qualified Mechanical / Maintenance Engineers. More investment in Apprenticeships. More practical supports for employers. More 'short courses' accessible for those working full-time as a pathway towards full qualification.
Manufacturing – Engineering	101 -2 50	Shortage of low-cost accommodation makes it difficult for SME's to recruit staff as the large overseas companies can pay higher wages so people have to travel.
Manufacturing – Engineering	101-250	We are having big difficulties finding people with CNC skills, Welding, Robotics, quality personnel. We need a dedicated training course for CNC operatives/programmers, there is no one in the south-east to train welders to the level that we need. There may be some robotic courses available but maybe we need one below degree- level. We don't need someone with a degree in robotics to operate one on a production line.
Manufacturing – Engineering	101 -2 50	Major challenge to get people skilled in developing machines to match AI. A specific course training people to link machines, robots and plo's needed.
Manufacturing - Engineering	101 -2 50	We would like to see a clearer pathway from MAMF Apprenticeship to level 8 or 9 mechanical engineer.

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Manufacturing - Engineering	21- 50	A lot of people apply and arrange interviews and don't show up.
Manufacturing – Engineering	21-50	Most staff who start with our company require upskilling. This is not a major issue for us but we would like to be financially supported with it. In general, the base skills and people are available but we require a high level of attention to detail and familiarisation with our process, products and customer needs. This takes time and a lot of effort.
Manufacturing – Engineering	11-20	Not enough people doing apprenticeships anymore and the ones that have a degree either emigrate or rate per hour too high.
Manufacturing – Engineering	51-100	Multinationals/Large Manufacturing companies are employing crafts and not putting much back in the way of apprenticeships. This needs to be addressed. Crafts people are reluctant to travel due to high cost of fuel and staying away from home. We need to manufacture more in workshops and transfer to site but to do this we need designers and clients on board at design stage.
Manufacturing – Engineering	21- 50	There seems to be a lack of interest in younger people to learn a trade. Minimum wage levels are resulting in younger people being quite happy to do the bare minimum without having an appetite to progress themselves or upskill. We believe this is only going to get worse as time goes on and wage levels increase.

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Manufacturing – Engineering	21-50	It is extremely difficult to get skilled welders/fabricators and generally they need to be sourced from abroad which is expensive and slow. In the past few years we have found it easier to get graduate engineers from within Ireland than to find welders or fabricators locally. In my opinion there is possibly two reasons for this 1) third level courses are the most attractive option for young people and provide greater opportunity and 2) there is a clear route that graduates take so it is easier for us to know how to find potential candidates. We have investigated taking on apprentices before however this method does not fit into our production system.
Manufacturing - Engineering	5 1-1 00	Finding skilled workforce, upskilling and training.
Manufacturing – Engineering	101-2 50	Degree level seems OK. General apprentices are in short supply. Qualified trades are scarce. Welding, metal working, MAMF etc, electricians scarce.
Manufacturing – Engineering	21- 50	Getting experienced CNC setter very hard to find, so we just have to train up in-house and use a craft trade apprenticeship as the carrot.
Manufacturing - Engineering	21- 50	Focus seems to be on written work and not practical work
Manufacturing – Engineering	51-100	As previously stated, from our viewpoint, competent industrial electricians, site management staff, safety staff are to my mind the main shortages.

Industry Sub-sector	Sizeband	Challenges Faced / Suggested Remedies
Manufacturing – Engineering	251+	Engineers with Electro- Mechanical experience and qualifications are very hard to recruit. With the rapid shift from IC Engines to advanced new electric motor driven equipment of all types the need for skills in this field is urgent. Many opportunities for innovation and new business will be hampered by this shortage.
Manufacturing – Engineering	1-10	We find the major issue to finding staff for running machines is the lack of young people showing interest to do hands on work. Mostly seeking office / computer-based roles.
Engineering – 'Other'	21- 50	Finding skilled people in the local area and people are not willing to relocate in the area.
Engineering - 'Other'	21- 50	Mainly experienced welders.
Engineering – 'Other'	21-50	A number of years back DCU used to run a Level 8 degree course called "Engineering & Business" - this course was a fantastic way to find people with a nice mix of engineering & business - SETU should really look at arranging a course like this. We would be glad to hire graduates from this or take students for placements etc.
Engineering – 'Other'	1-10	Need engineers for sales / installation work. At the moment we have used 3 recruitment companies and only 2 people have been recommended form the 3 and NONE of them were suitable.
Engineering – 'Other'	11-20	Trying to get apprentices and welders is causing major issues.

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Engineering – 'Other'	1-10	We are one of a handful of companies in the world specialising in Carbon Capture. As a result there are very few qualified personnel in the South East or indeed Ireland. We have tended to hire from abroad and in that case the challenge is selling the South East as a place to relocate to. The housing shortage would be a big issue for us.
Construction – Specialist Contractors	1-10	Not recruiting as industry is stagnant or regressing hence there are no recruiting challenges really.
Construction - Specialist Contractors	1-10	More people need to be pushed into apprenticeships.
Construction – Specialist Contractors	1-10	Not Looking at the moment
Construction – Specialist Contractors	1-10	Transport for apprentices [required], it's very difficult to organise travel to and from work for apprentices who can't afford to run a car.
Construction – Specialist Contractors	11-20	We have qualified engineers but we can't use their skills as insurance requirements limits us.
Construction – Specialist Contractors	51-100	Craft training.
Construction – Specialist Contractors	251+	Operating in a competitive market, graduates have multiple options available to them to choose from. Lack of Building Services course and graduates in South East. We are having to look within EU & outside EU for labour requirements. Maybe look at the appetite for reinstating a Building Services Engineering course in the South East. Engage with employers to see what current needs are and discuss the modules that could/should be covered

Industry Sub-sector	Sizeband	Challenges Faced / Suggested Remedies
Construction – Professional services	101 -2 50	The main challenge is finding suitable candidates that are also cost efficient. Huge salaries are being demanded and the list of additional benefits to be offered as part of the overall package seems to get longer and longer. It is hard to keep in pace with the increasing demand.
Construction - Professional services	1-10	The biggest issue is finding people who can actually take their eyes away from their phone and work for a full day. The graduates have no experience but yet expect the world to be handed to them on a plate.
Construction - Professional services	21-50	Simply put there are not enough graduates to fill an expanding market. In the next 10 years every single building will require an energy upgrade. Never mind the usual new build requirement and refurbishing requirement of the public and private sector. Note - 1 was an external examiner for the WIT building services course and an external industrial representative for the sustainable masters. That was approximately 15 years ago!
Construction - Professional services	11-20	Well-trained people with appropriate experience are difficult to locate and to attract to the SE Region. CPD Accredited companies can provide an excellent apprenticeship training approach.
Construction – Professional services	1-10	Not enough engineering graduates. Formal Civil Engineering apprenticeships (Engineer & Technologist) would be a welcome addition. Engineering Technologist degree should be considered.

Industry Sub-sector	Sizeb and	Challenges Faced / Suggested Remedies
Construction – Professional services	101-250	There are a lot of recently qualified engineers gone abroad (due to previous Covid restrictions limiting their travel). These need to be encouraged back to Ireland before they are lost in the longer term. Remote working is being used as a competitive issue between companies and as such learnings by osmosis for younger engineers is being lost.
Construction – General Building Contractors	101-2 50	Qualifications are not the only criteria, we need qualified people with experience.
Construction – General Building Contractors	21- 50	Very limited students coming through the engineering courses
Construction – General Building Contractors	21-50	Due to the shortage in engineers working in Construction, the few that are available are able to demand big remuneration packages that are out of sync with similarly qualified disciplines. Not enough people are choosing to work in engineering roles in construction and this is causing major issues in delivery of projects and it looks like it is only going to get worse.
Construction – General Building Contractors	1-1 0	Recently struggling to get General operatives for groundworks and ICF construction.
Construction – General Building Contractors	21-50	Locating good quality candidates that have a good attitude and want to progress in the construction industry. We have also found by offering existing and new employees third level courses has proved very successful in our organisation.
Construction – General Building Contractors	21- 50	I would like to know what options exist for training staff in B IM technologies in the future.







CONTACT US

Edmond Connolly Manager, South East Regional Skills Forum

e: edmondconnolly@regionalskills.ie t: 087 8314729

Stephen Rooney Educational Outreach Manager, Engineering the South East

e: stephen.rooney@setu.ie t: 059 917 5270