Suffolk Growth Partnership

Technical Skills Legacy Report 2022

The most convenient and effective way to read this report is in “Slide Show” mode.

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Contents Overview

Pye·Tait Consulting

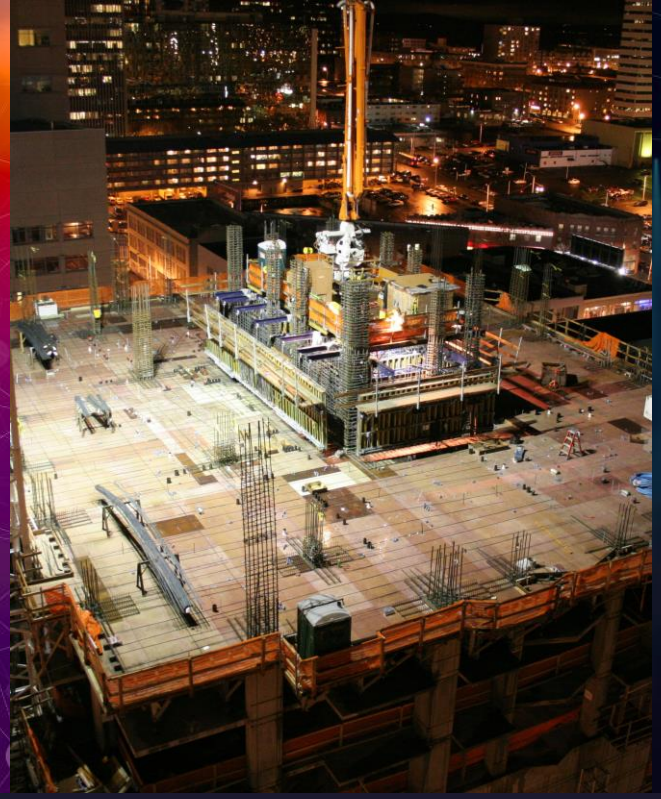
Technical Skills:
Legacy Roles 2022

Demand & Opportunity

Suffolk Growth Partnership

Pye Tait Consulting






Introduction

In 2019 Pye Tait Consulting completed a review of legacy technical skills for the counties of Norfolk and Suffolk. It was based on the significant number and value of infrastructure projects then being planned between 2020 and 2035. Suffolk Growth Partnership, working with Suffolk County Council, with input from the Norfolk County skills team, commissioned Pye Tait to update the 2019 report. The 2022 report brings the data and findings up to date with additional findings and recommendations for the timeframe 2022 to 2037.

1. The Review

The parameters and objectives of the 2022 work.

Note: the 2019 projections through to 2022 have not been validated. Due to the Covid pandemic, none of the planned projects have yet been started.

Objectives

The initial brief for this study explains the background in the following way:

- *Since the [original Legacy Skills] report was published, the UK has experienced a period of significant change … Within the construction and engineering sectors we have seen rising costs of materials, goods and services as well as labour shortages. Since 2019, when the research was undertaken, our project pipeline has changed – some projects have now completed, others have been delayed or significantly refocused, in terms of scale, timing and cost.*

- *Our region has a disproportionately large number of Nationally Significant Infrastructure Projects (NSIP) planned, Suffolk alone is expected to have 19 NSIP applications … The evidence provided from the [2019] report has already shown its value during the evidenced based examination process and with the strategic importance and level of impact of these projects we need to ensure we can robustly respond to these projects ensuring the best possible outcomes for Norfolk & Suffolk*

- *The refreshed Technical Skills Legacy report will be a vital piece of evidence as partners in the region develop skills plans that ensure available and planned training is meeting the needs of businesses and consequently local communities …*

- *The time is therefore right to refresh our Legacy Skills work, updating the model developed by Pye Tait and revisiting the assumptions to test whether the forecasts and conclusions remain valid and achievable.*

Review Objectives

The major objective of the 'Refresh' is to update the findings of the 2019 Legacy Skills report. Specifically to:

1. **Confirm revised lists of infrastructure projects, values, and timelines**
2. **Update data on regional population/labour force and trends**
3. **Review the impacts of Brexit/Covid/Ukraine on employment/recruitment/supply chain/materials/etc.**
4. **Review the implications of the above on labour coefficients**
5. **Revise labour demand and supply projections**
6. **Review and update the list of legacy skills and associated Skillfiles**
7. **Prioritise any skills and training needs.**

Method

Initial workshop discussion

Secondary research

Demographics & qualifications, Projects in planning/ complete/NSIPs, Labour force review, Recruitment/training environments , Travel to work and travel to study, Regional impacts of Brexit, Covid, and the Ukraine War and Russia Sanctions on employment and supply chains, Impacts of revised UK energy policy (March 2022), Impact of national/regional/local policy and planning

Review existing Skillfiles

Primary research

Provider interviews (8), Employer interviews (28), Nominal groups (4)

Analysis and Reporting

2. Two Counties

An overview of the main demographics, and workforce numbers and qualifications for the two counties of Suffolk & Norfolk.

Norfolk & Suffolk - Basic Demographics

	Total population (*)	Pop 16 to 64 (*)	Employment 16+ (@)	Employment rate 16 to 64 (%) (@)
Norfolk	914,039	534,000	424,000	77
Suffolk	761,246	444,000	357,000	78

Sources:

(*) ONS June 2020

(@) Annual Population Survey 2021

Over 60s represent 23.2% of the population of England and Wales compared with 29.7% in Norfolk and 28.8% for Suffolk.

The core working age population (20-60) in England and Wales amounts to 53.3% of the population compared to 49.3% in both Suffolk and Norfolk

Sub-Regional Trends

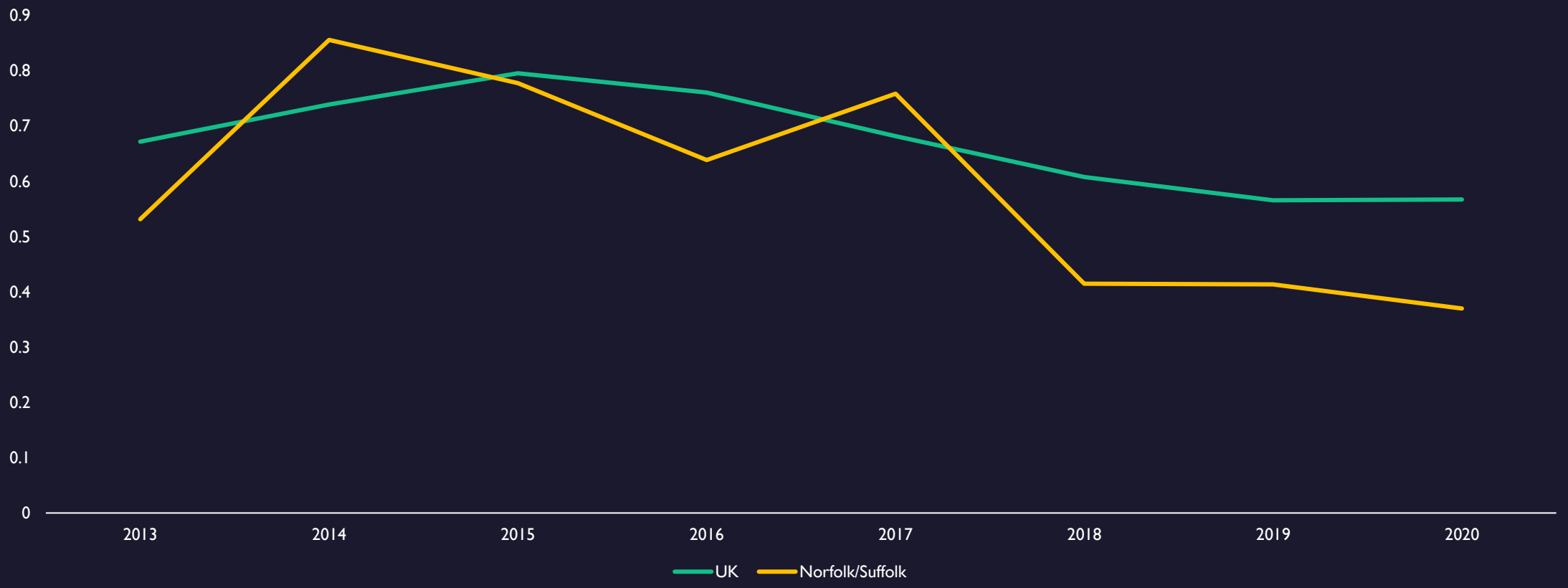
England and Wales

Norfolk	Pop Change 2018-2019 (%) 2018-19= 0.61%	2019-2020 (%) 2019-20=0.57%
Breckland	0.5	0.9
Broadland	1.0	0.9
Great Yarmouth	0.0	-0.1
King's Lynn and West Norfolk	-0.3	-0.1
North Norfolk	0.3	0.3
Norwich	-0.4	1.1
South Norfolk	2.1	1.6
Suffolk		
Babergh	0.7	0.8
East Suffolk	0.5	0.4
Ipswich	-0.5	-0.7
Mid Suffolk	1.4	0.9
West Suffolk	0.1	-1.0

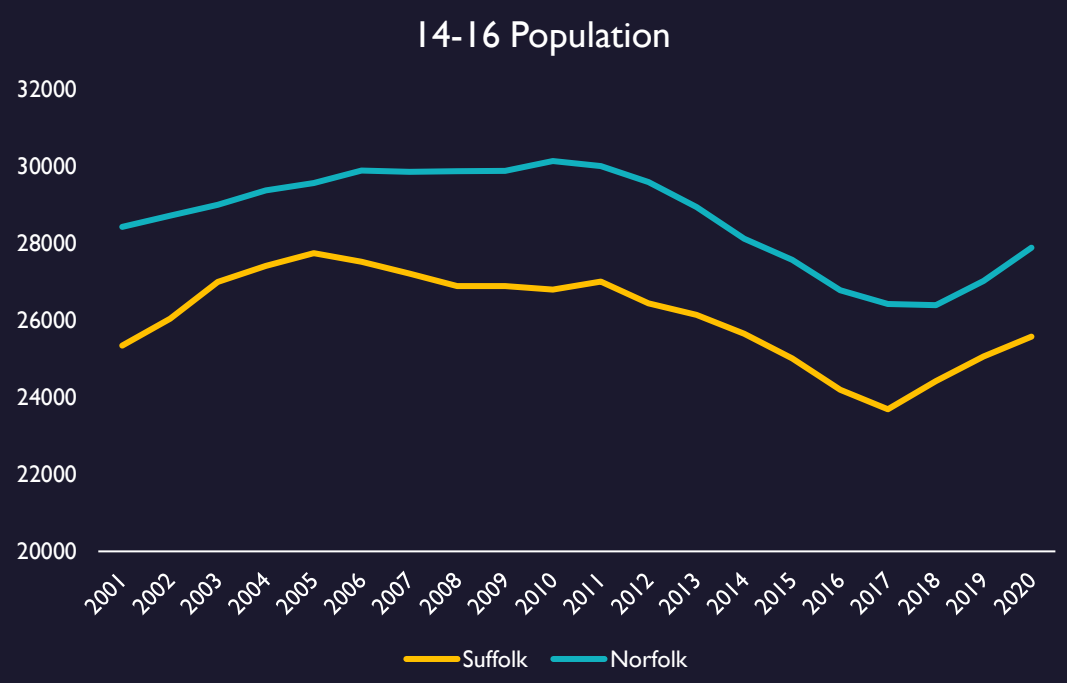
Source: Annual Population Survey, 2021

Recent Population Growth Rates 2013-2020
UK and Suffolk/Norfolk Compared (%)

Source: Annual Population Survey, 2021

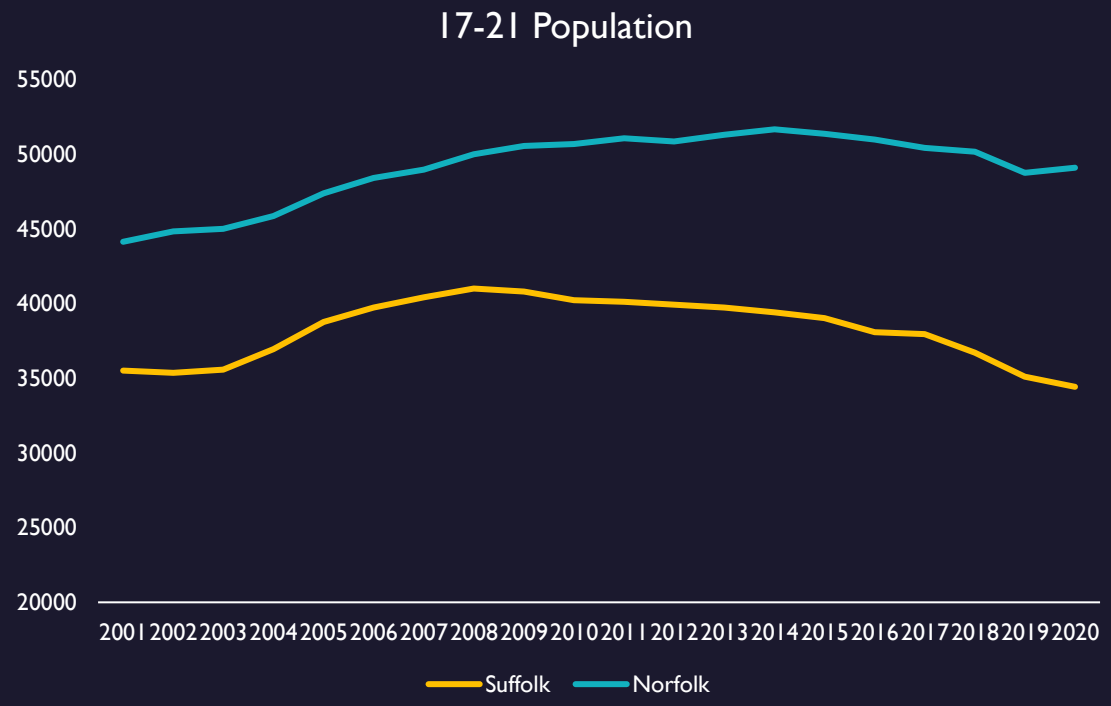


Two-county growth rates mirror the UK pattern but a third lower since 2018.

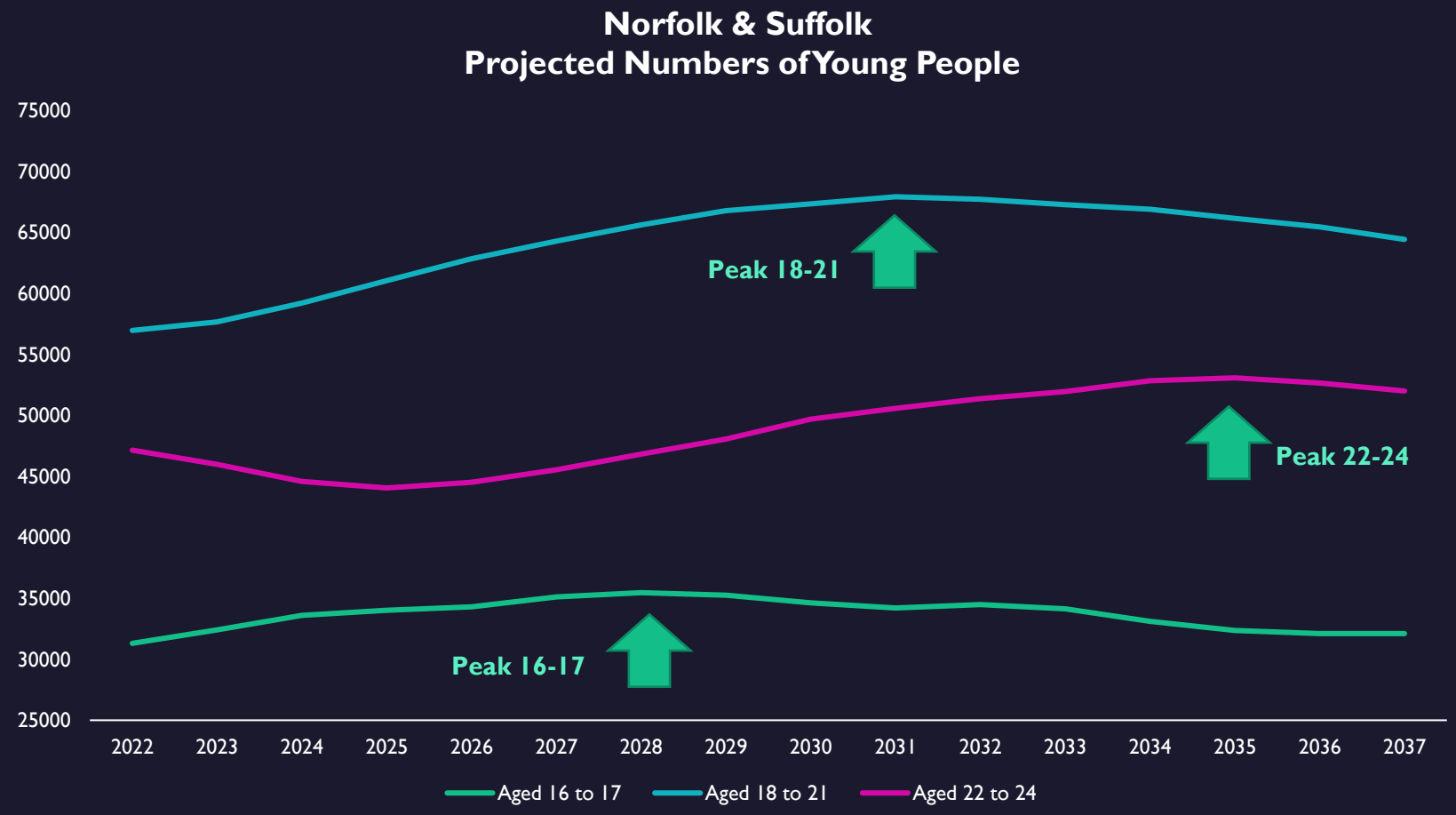


Numbers of 14 to 16 year olds appear to be rising again but remain 7% below 2010 peak in Norfolk and a similar percentage below the 2005 peak in Suffolk.

Numbers of 17 to 21 year olds are roughly 10% above 2001 population figures in Norfolk but slightly below 2001 population for Suffolk.



Source: Annual Population Survey 2021
(MYEB1 Detailed Population Trends)



Population Projections

Younger Age Cohorts Norfolk & Suffolk Combined

Source: Annual Population Survey 2021 (MYEB1 Detailed Population Trends)

The number of 22 to 24 year olds is falling and will not regain their 2022 figure until 2029. The decline in numbers of 16-17 year olds after 2028 is reflected in a decline in 18-21 year olds after about 2031 and the beginnings of decline in numbers in the 22 to 24 age cohort after about 2035.

Workforce

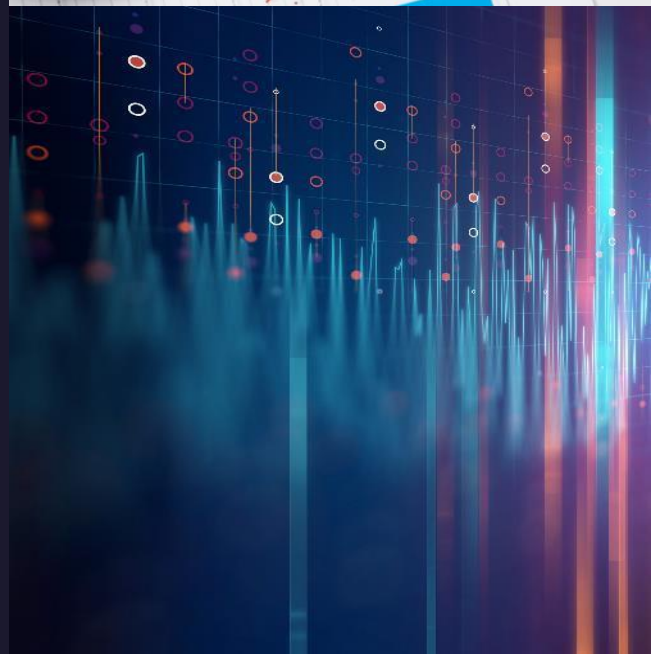
The research has focused on the 14 job roles (SOC codes) identified for the 2019 work as key to ensuring a legacy of technical skills.

113,000 people in the defined technical workforce in Norfolk and Suffolk

20,000 people in the higher professional and technical job roles.

28,000 (25%) are road transport drivers.

Compared with the larger East of England region, Norfolk and Suffolk have lower proportions of the higher professional and technical job roles but generally higher proportions of the skilled and operative grades.

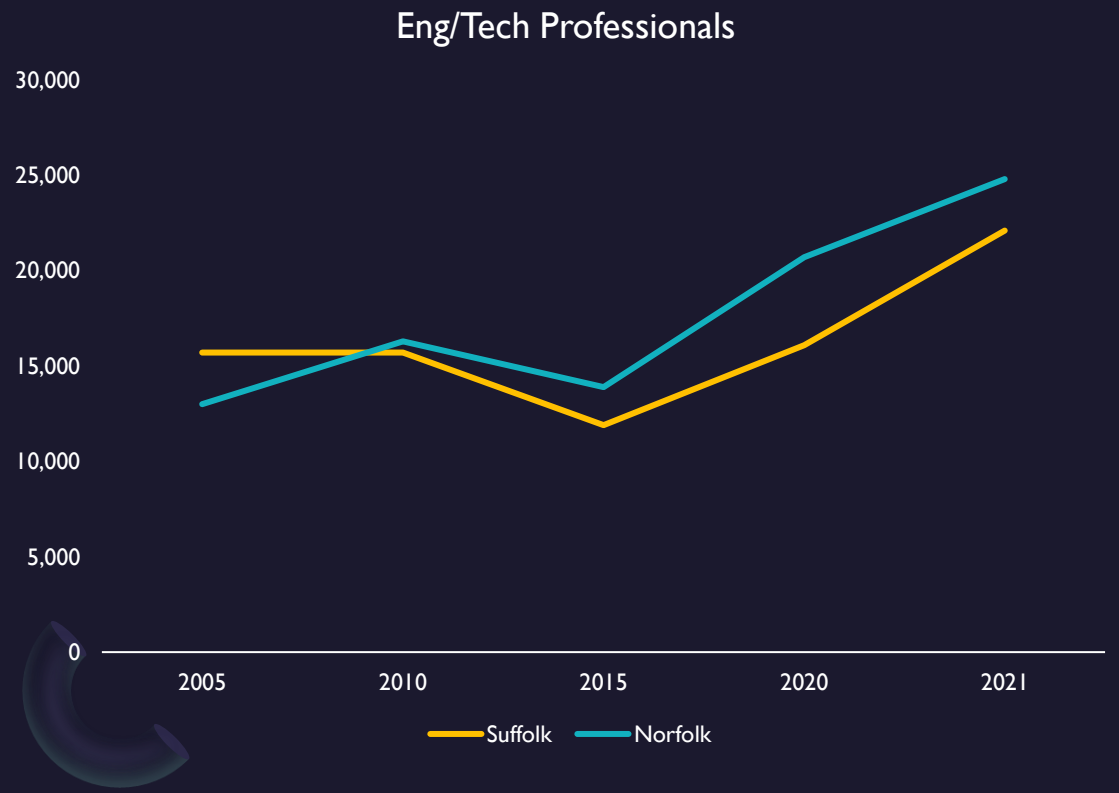


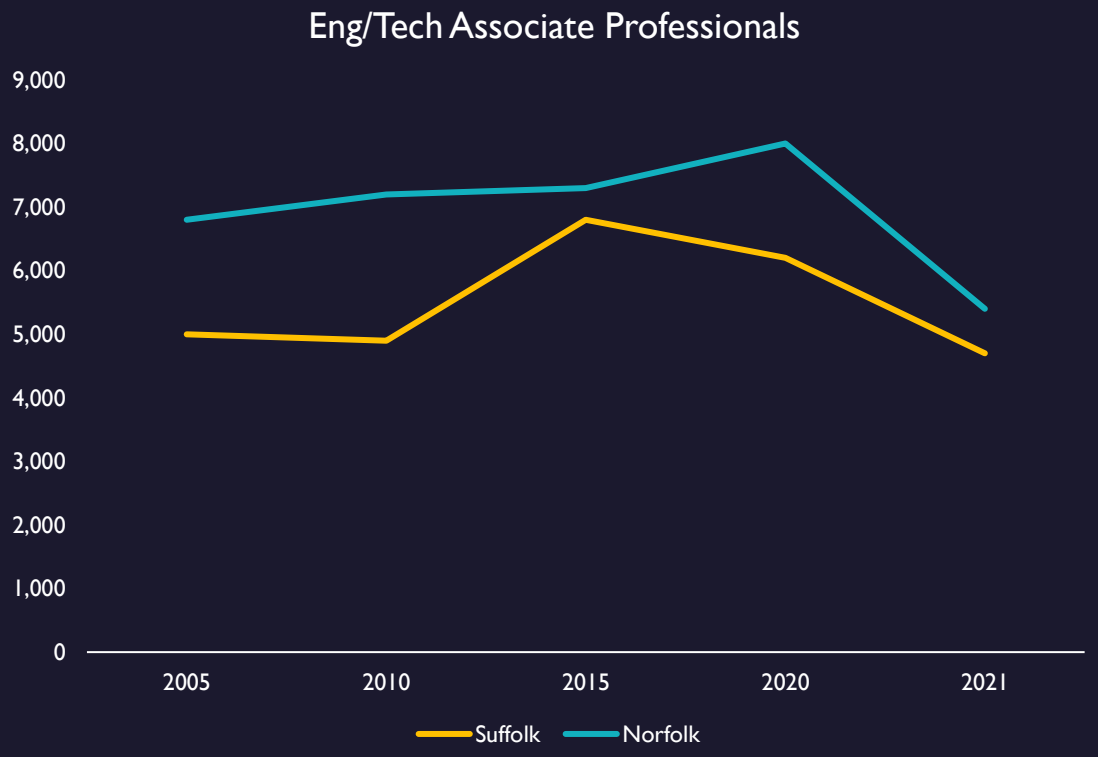
Occupation	East of England	Norfolk and Suffolk	Share in East	Share in Norfolk/ Suffolk	N/S share of the East total
212 Engineering Professionals	51,600	10,320	12.52%	9.1%	20%
311 Science, Engineering and Production Technicians	31,200	5,304	7.57%	4.7%	17%
312 Draughtspersons and Related Arch Technicians	4,200	714	1.02%	0.6%	17%
313 Information Technology Technicians	25,300	4,301	6.14%	3.8%	17%
521 Metal Forming, Welding and Related Trades	5,600	1,736	1.36%	1.5%	31%
522 Metal Mchng, Fitting, Instrument Making Trades	23,600	7,316	5.73%	6.5%	31%
524 Electrical and Electronic Trades	51,300	15,903	12.45%	14.0%	31%
531 Construction and Building Trades	69,900	19,572	16.97%	17.3%	28%
532 Building Finishing Trades	20,500	5,740	4.98%	5.1%	28%
533 Construction and Building Trades Supervisors	3,600	1,008	0.87%	0.9%	28%
812 Plant and Machine Operatives	11,200	3,696	2.72%	3.3%	33%
814 Construction Operatives	11,700	3,861	2.84%	3.4%	33%
821 Road Transport Drivers	85,100	28,083	20.66%	24.8%	33%
822 Mobile Machine Drivers and Operatives	17,200	5,676	4.17%	5.0%	33%
Total for these occupations	412,000	113,230			

Source: NOMIS, 2020

Workforce Trends by SOC Group (1)

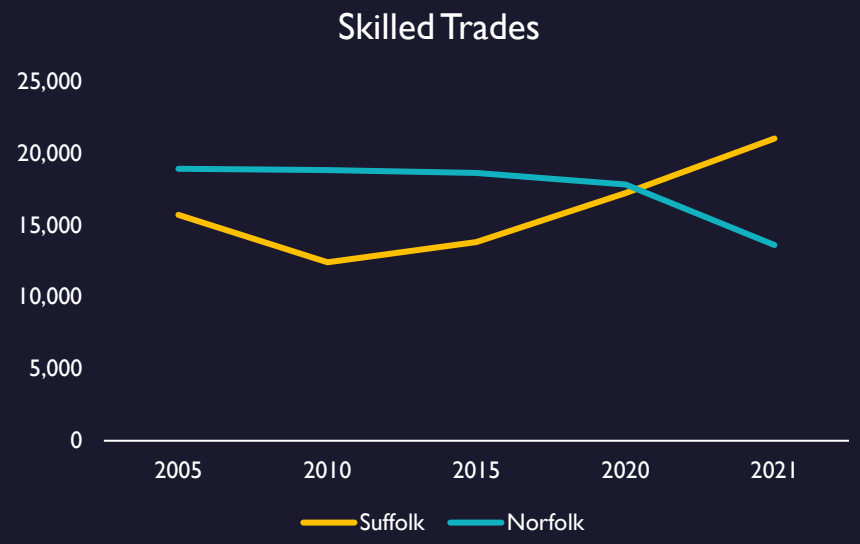
Numbers of Engineering and Technical Professionals have increased over the past fifteen years by around 60%. The much smaller numbers of Associate Professionals have remained largely static or have declined.

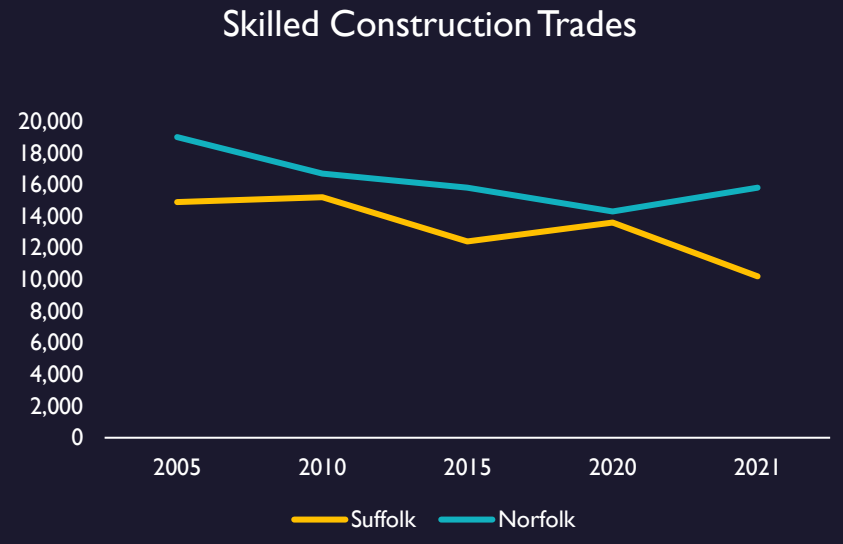


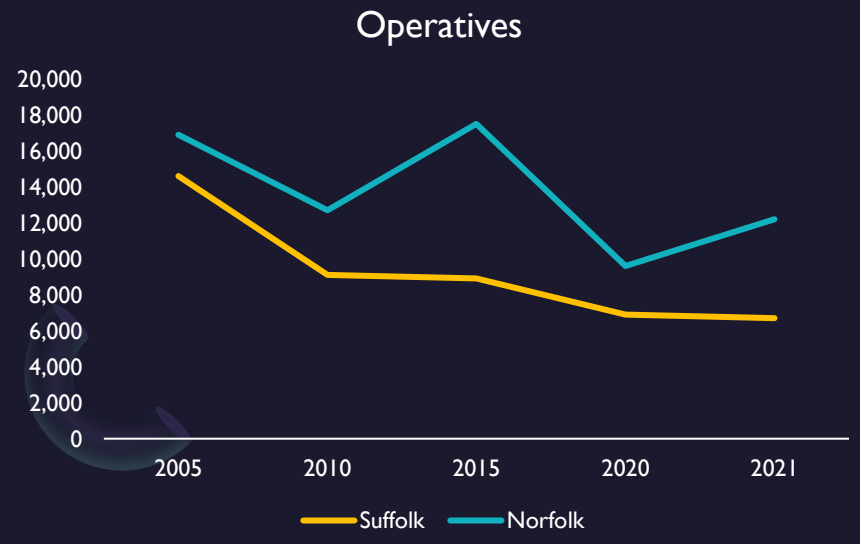


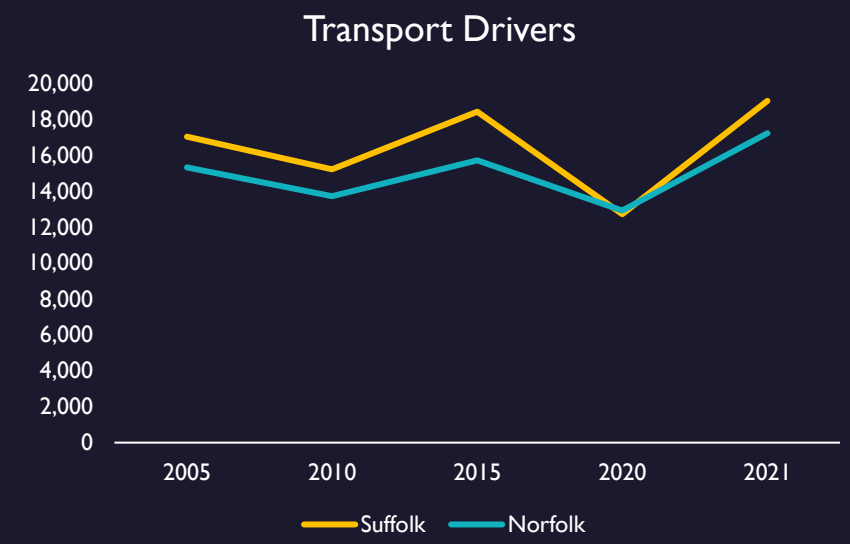
Source: ONS, 2021

Workforce Trends by SOC Group (2)





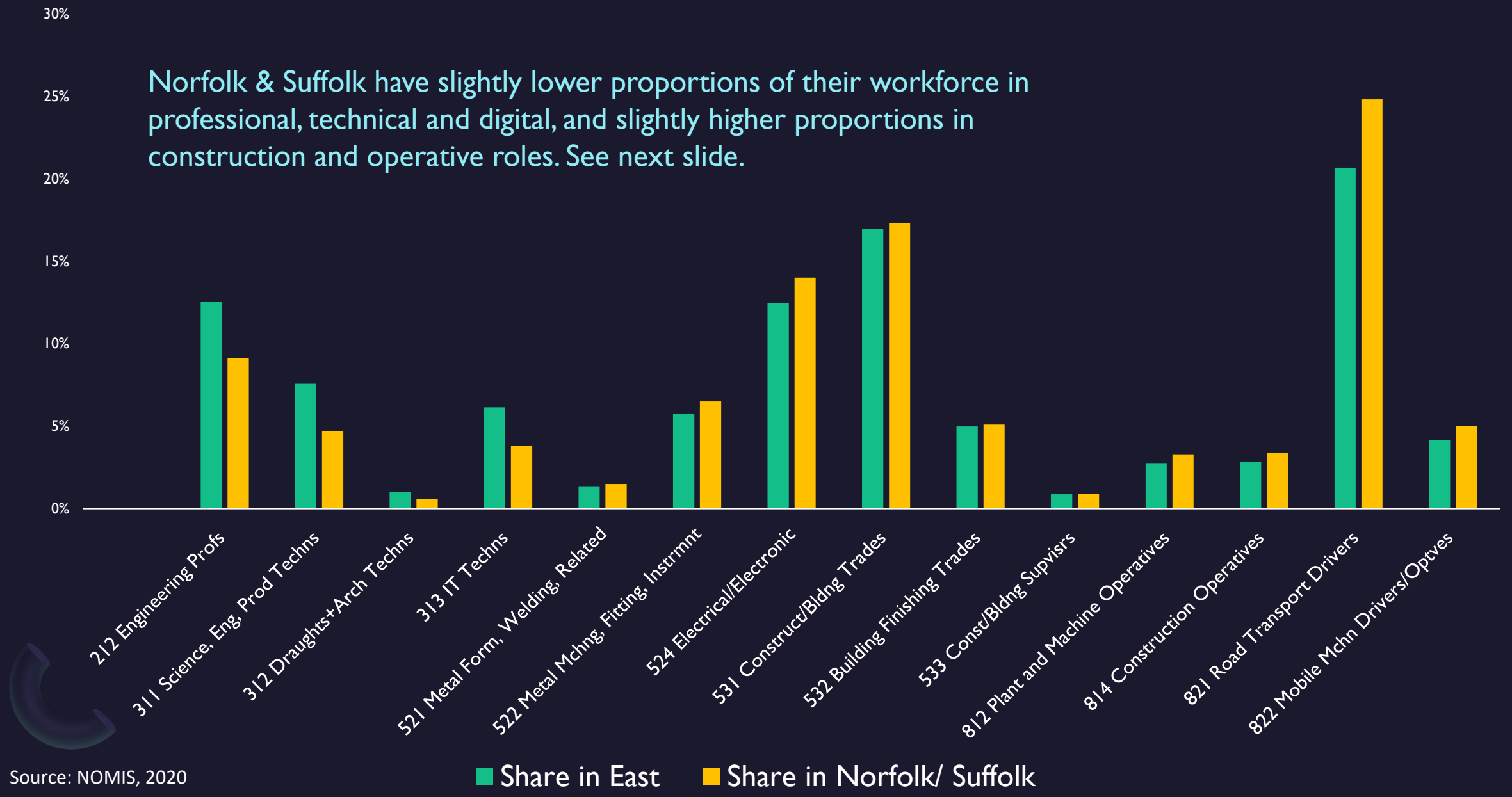




With the exception of skilled trades in Suffolk (+30%) the picture for both counties is either static or of decline in numbers in these SOC roles over the past 15 years .

Source: ONS, 2021

Comparative workforce shares of key technical occupations in the East and Norfolk/Suffolk



Source: NOMIS, 2020

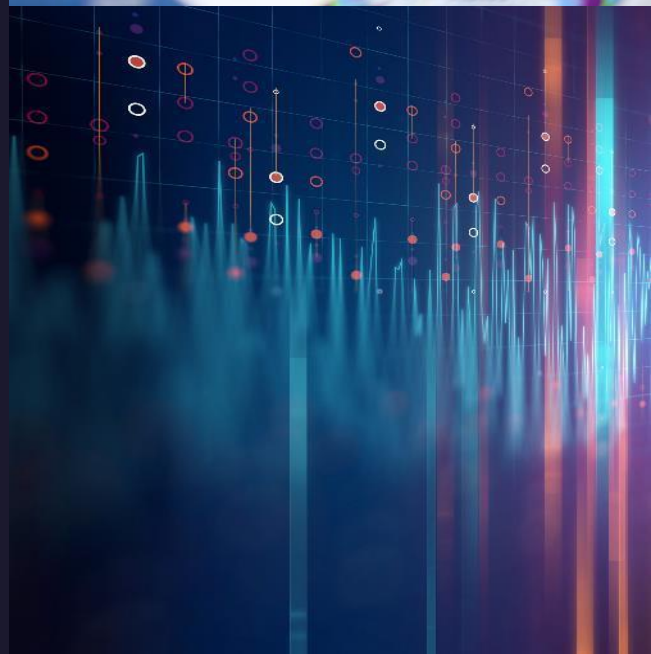
Share of Key Occupational Groups

Source: NOMIS, 2020

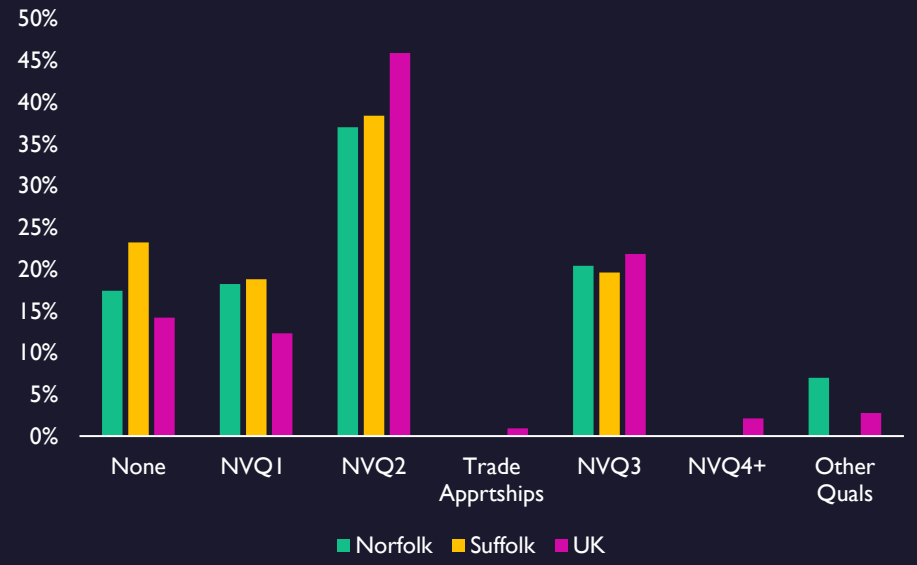
Highest Qualifications

The two counties are close to the national averages in terms of highest qualification levels held within key age groups with the exception noted below.

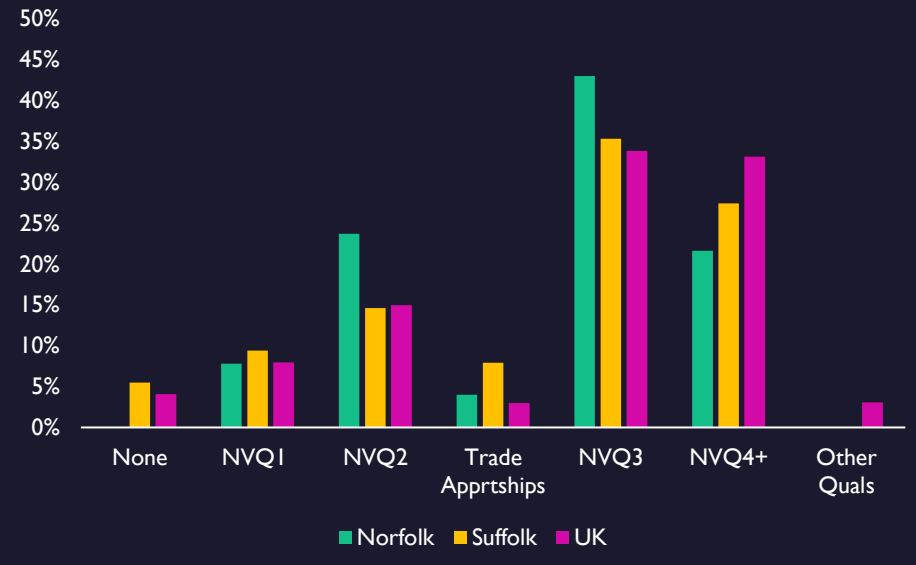
For Norfolk and Suffolk, the charts that follow clearly illustrate the slight under-qualification of the over 50s and the relatively higher achievements at Level 4 and above of the ‘core’ age groups from 25 to 49. However, Level 4+ qualification attainment in the two counties is somewhat below UK proportions.



Qualifications Held - 16-19

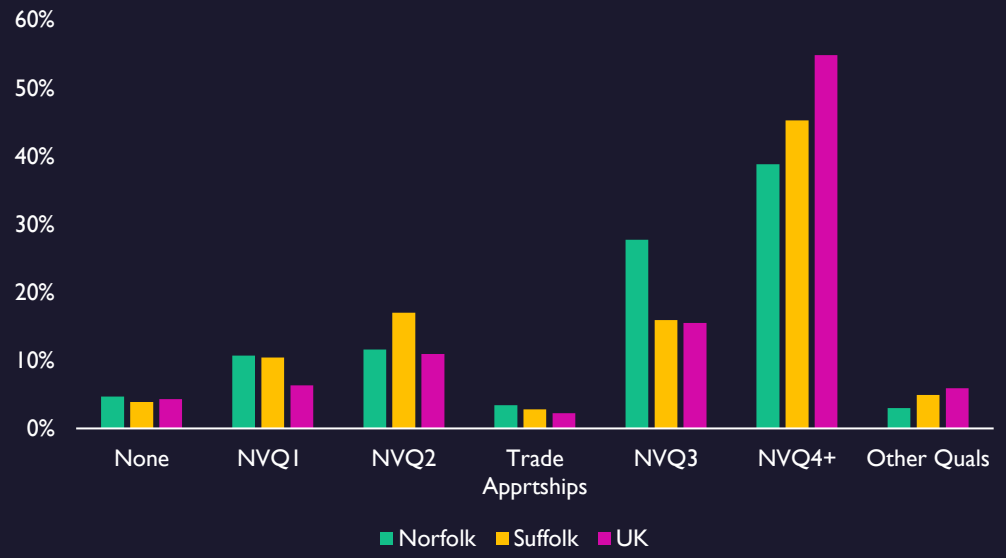


Qualifications Held - 20-24



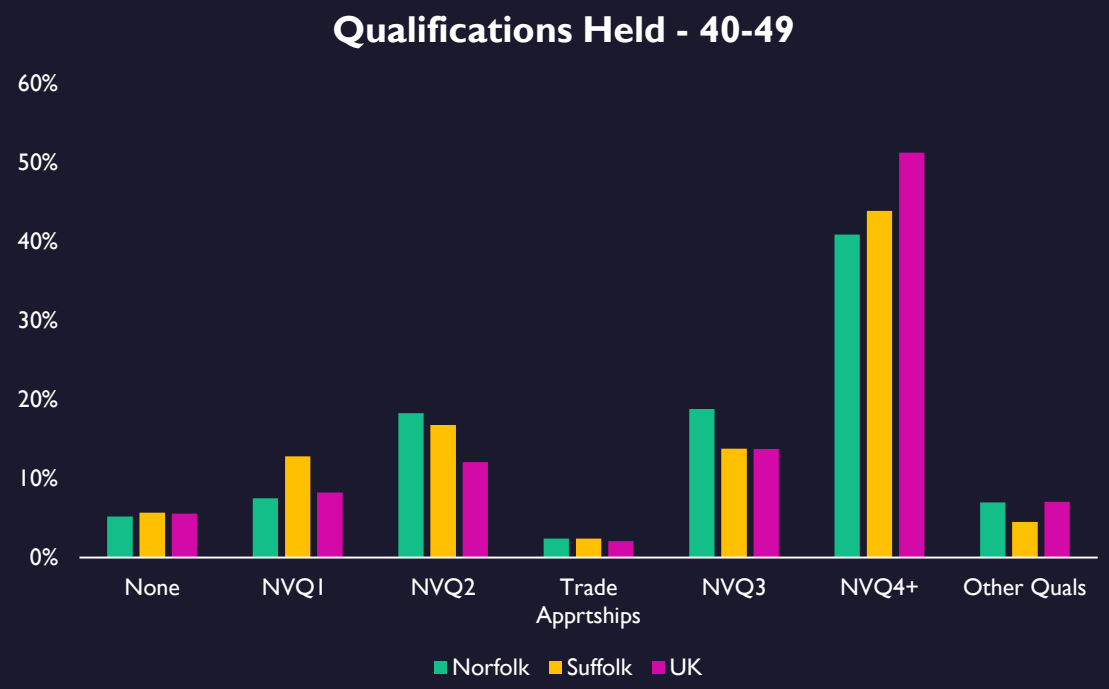
Qualification Profiles 1 by Age Group Norfolk Suffolk & UK

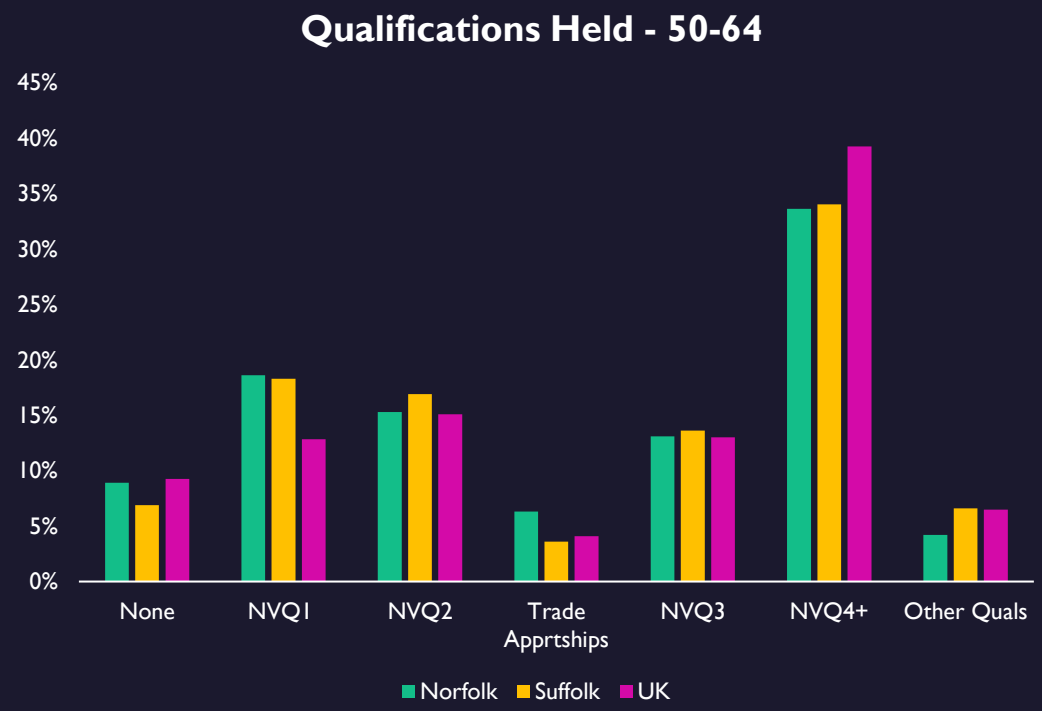
Qualifications Held - 25-39



Source: NOMIS, Annual Population Survey; 2021

Qualification Profiles 2 by Age Group Norfolk Suffolk & UK





Source: NOMIS, Annual Population Survey; 2021

3. Infrastructure Projects

Suffolk and Norfolk are the locations for a number of Nationally Significant Infrastructure Projects (NSIPs) and other projects totaling over £70bn over the next ten to fifteen years.

The National Context 1

Nationally-Significant Infrastructure Projects (NSIPs)

- 270 UK projects in the next nine years (2022-2030) – all in the planning process and qualified as Nationally-Significant Infrastructure Projects.
- £130bn in spend for just the major ones in the list.
- £87bn to be spent on 70 already-approved large scale energy infrastructure projects between 2022 and 2030 – nuclear/solar/wind/interconnectors/pipelines/gas storage/tidal/biomass/etc.
- 39 already approved transport projects including bridges/freight interchanges/rail/motorway and trunk roads/and at least one port outside Norfolk and Suffolk (Tilbury 2

The National Context 2

Ambitious plans, limited human resources

- UK government using a seed-corn approach to push a vision for the future which centres on high tech, high value, high margin, high skill businesses.
- Vision-led strategy is being implemented in space, net zero aviation, urban transport, nuclear power, cyber-security, quantum computing, advanced manufacturing, and several more areas.
- Around 270 large scale infrastructure projects are planned for the period 2022-2030 of which half are already approved (see next slide).
- Competition for highly-skilled people is already extremely severe and projects outside Norfolk and Suffolk will definitely be going ahead.
- The need for highly skilled local people is, therefore, doubly urgent.

Suffolk & Norfolk Infrastructure Project Metrics

- **2022-2037**
- **220+ projects**
- **Over £70bn at current prices**
- **Top 20 projects by value worth £60bn**
- **Top 20 projects c 85% of total spend**
- **Top 50 projects by value worth c£67bn**
- **Top 50 projects c 95% of total spend**

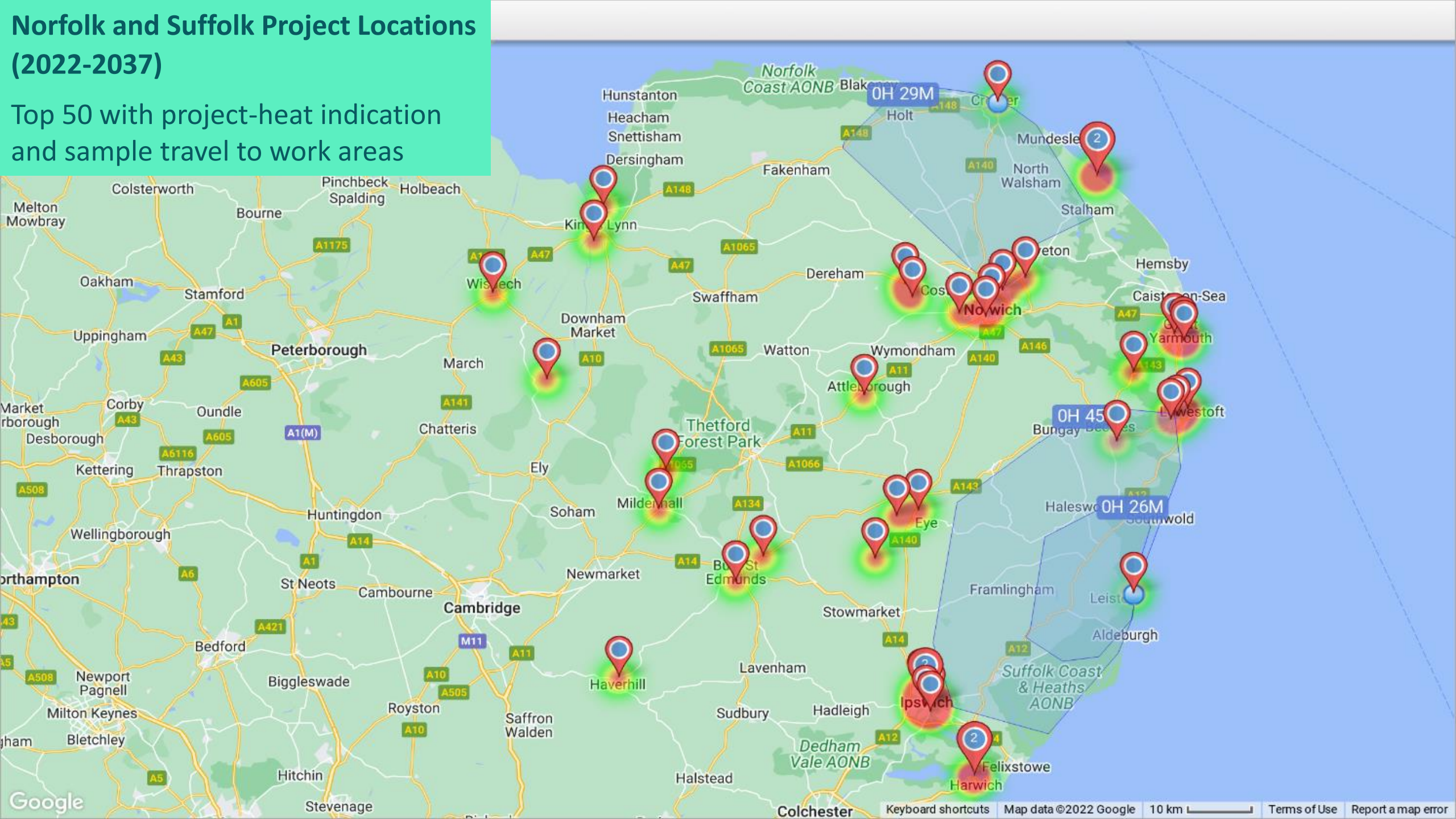
The above relates to all NSIPs decided for Norfolk and Suffolk plus large projects decided locally.

Main Types of Infrastructure Project

Bridges
Electricity Sub-Stations
Network Reinforcement
Houses (Public)
Infrastructure
Motorways & Trunk Roads
Power Stations & Conversions (gas)
Nuclear energy
Railway Track/Works
Renewable Energy (wind/solar)
Sea Defence/Flood Protection
Shipping Terminals/Ports
Utilities (gas, electricity, water infrastructure)

Norfolk and Suffolk Project Locations (2022-2037)

Top 50 with project-heat indication and sample travel to work areas



Main Projects by Type

(*): Bradwell B (estimated at between £10bn and £20bn) is located in Essex very close to the Suffolk border. It is not included in these figures but is another very large potential NSIP that will utilise very similar skillsets to those under consideration for the Technical Skills Legacy.

Planned Projects by Type	Estimated Total Value (£bn)
Nuclear (*)	20.0
Offshore Wind	21.7
Residential (Public/Private)	12.1
Rail	4.7
Highways	2.7
Energy Infrastructure	4.1
Water	2.9
Port Expansion	0.4
Other/Miscellaneous	1.0
	69.6

The following maps illustrate the spread of projects by type. Each has a ‘heat’ indication related to the value of the work in each location.

Housing. Building, and Other Related Projects

As might be expected major centres for residential and commercial building are Ipswich, Norwich, and Bury St Edmunds.

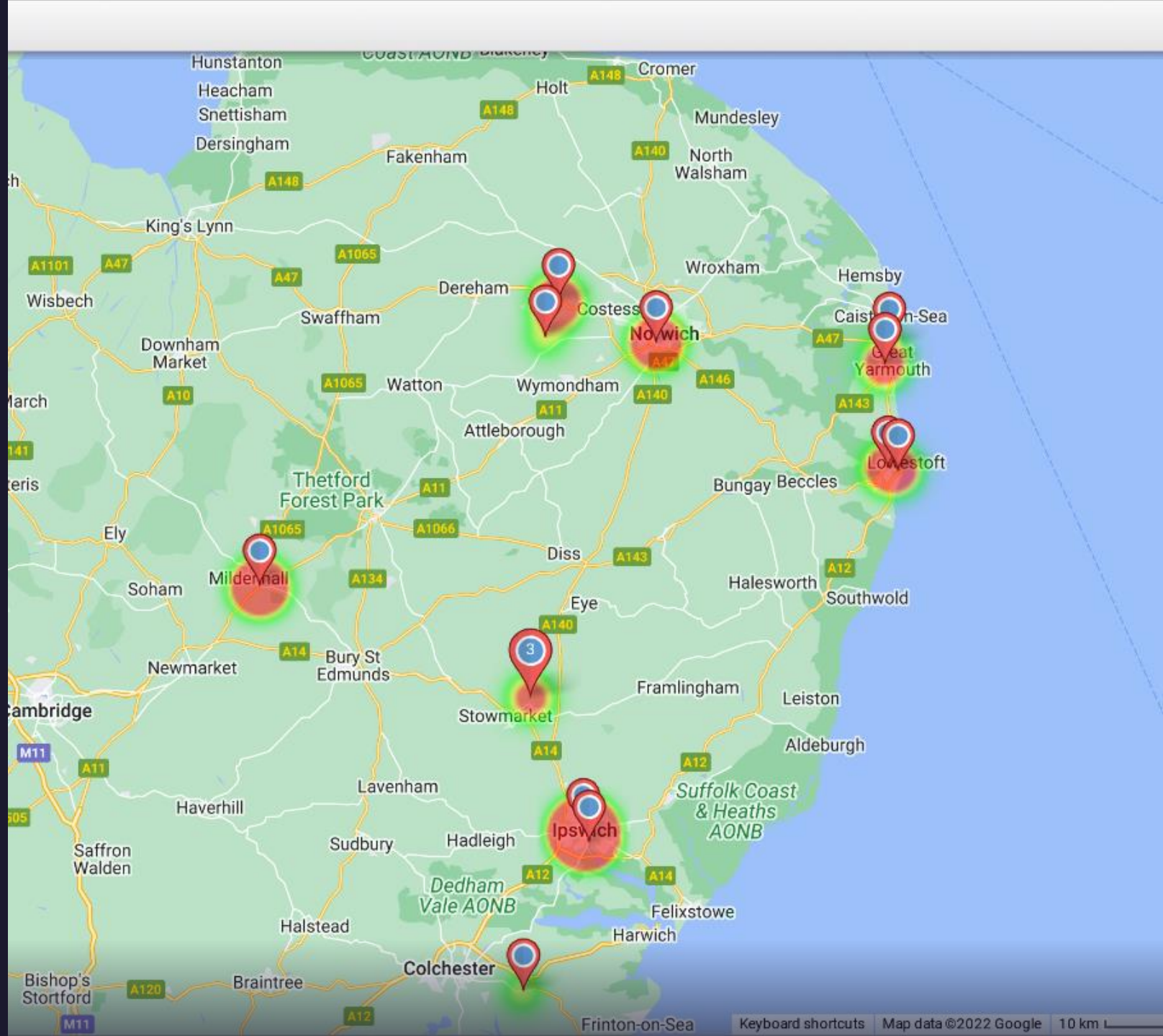
Rail & Coastal Defence Projects

These projects are much less geographically concentrated than appears on this presentation. This is mainly because project headquarters are not necessarily the location for much of the work.

Highways & Roads

This map reflects the work that is planned on major trunk routes but – again – does not necessarily illustrate the geographical dispersion of the work.

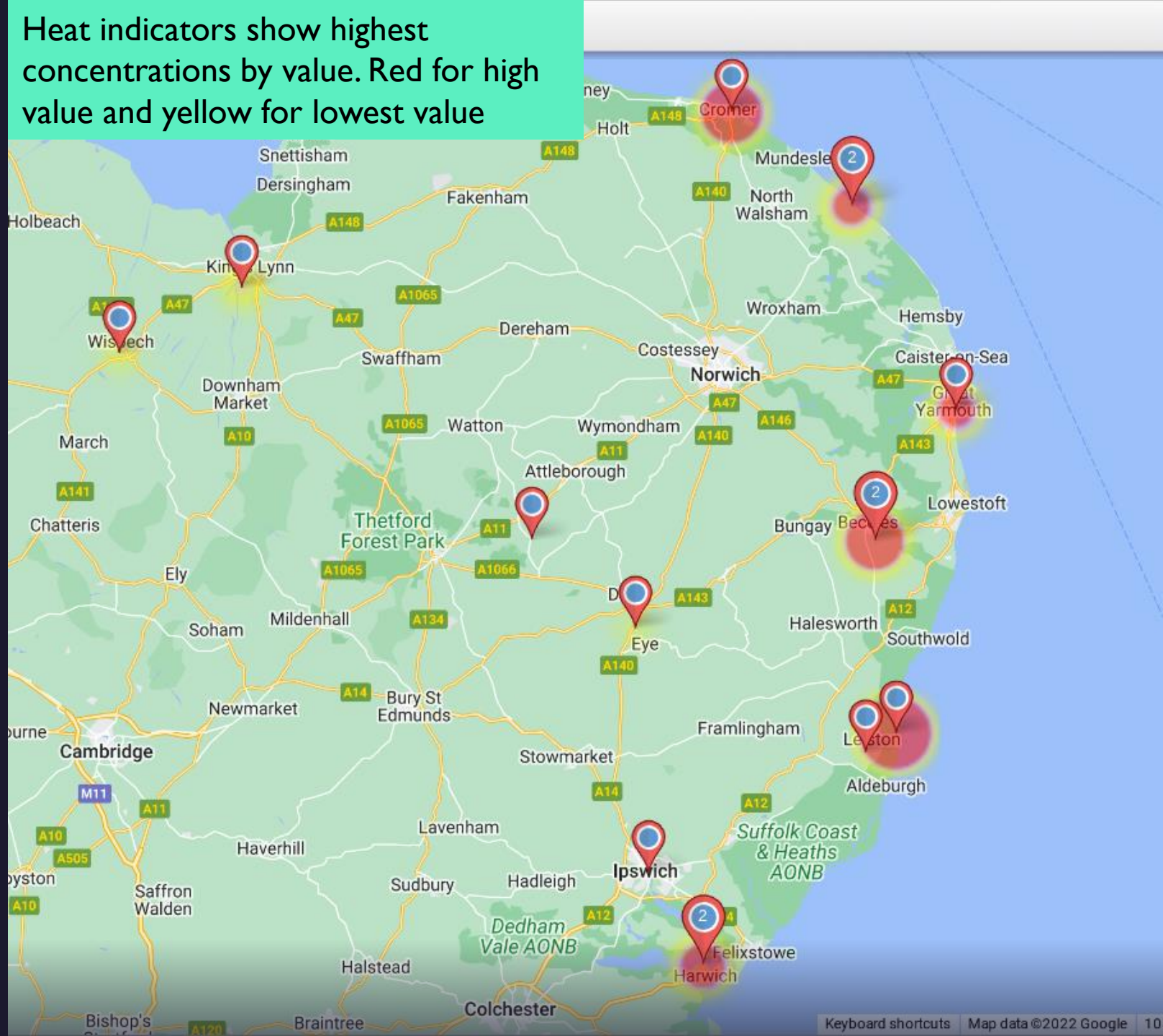
Highways projects are almost always focused on lengthy stretches of trunk road. The key centres for the work are illustrated.



Nuclear, Energy, and Wind Projects

These infrastructure projects are heavily concentrated in the coastal regions of the two counties.

Heat indicators show highest concentrations by value. Red for high value and yellow for lowest value



Travel to Work/Study

Estimating Travel to Work (TtW) and Travel to Study (TtS) times is best approached from the standpoint of personal choice rather than the potential of either public or private transport.

Personal motivation lies behind almost all decisions as to how far one is willing to travel to get to work or study.

However the availability and speed of public transport are also significant criteria and these are extremely difficult to plot unless the exercise is undertaken for a specific place of work or study.

In the past, the guideline for willingness to travel for both work and study has traditionally been around 40-50 minutes each way. However the 2021 UK Census has revealed that 'real-life' **average** travel times are considerably shorter than this.

The Census asked those in work to give a travel to work time experienced during 2018.

The findings from the Census reflect and reinforce anecdotal feedback from employers and providers concerning a reduction in recent years in employee/student willingness to travel.

Travel to Work/Study

The 2021 census (respondents aged 16 and over in work or study) gives actual average times for selected Norfolk and Suffolk areas (in minutes one way) as in the exemplar chart below:

Babergh	31
Forest Heath	31
Ipswich	24
Mid Suffolk	22
St. Edmundsbury	22
Suffolk Coastal	25

An average for exemplar areas in Suffolk of 25.4 mins

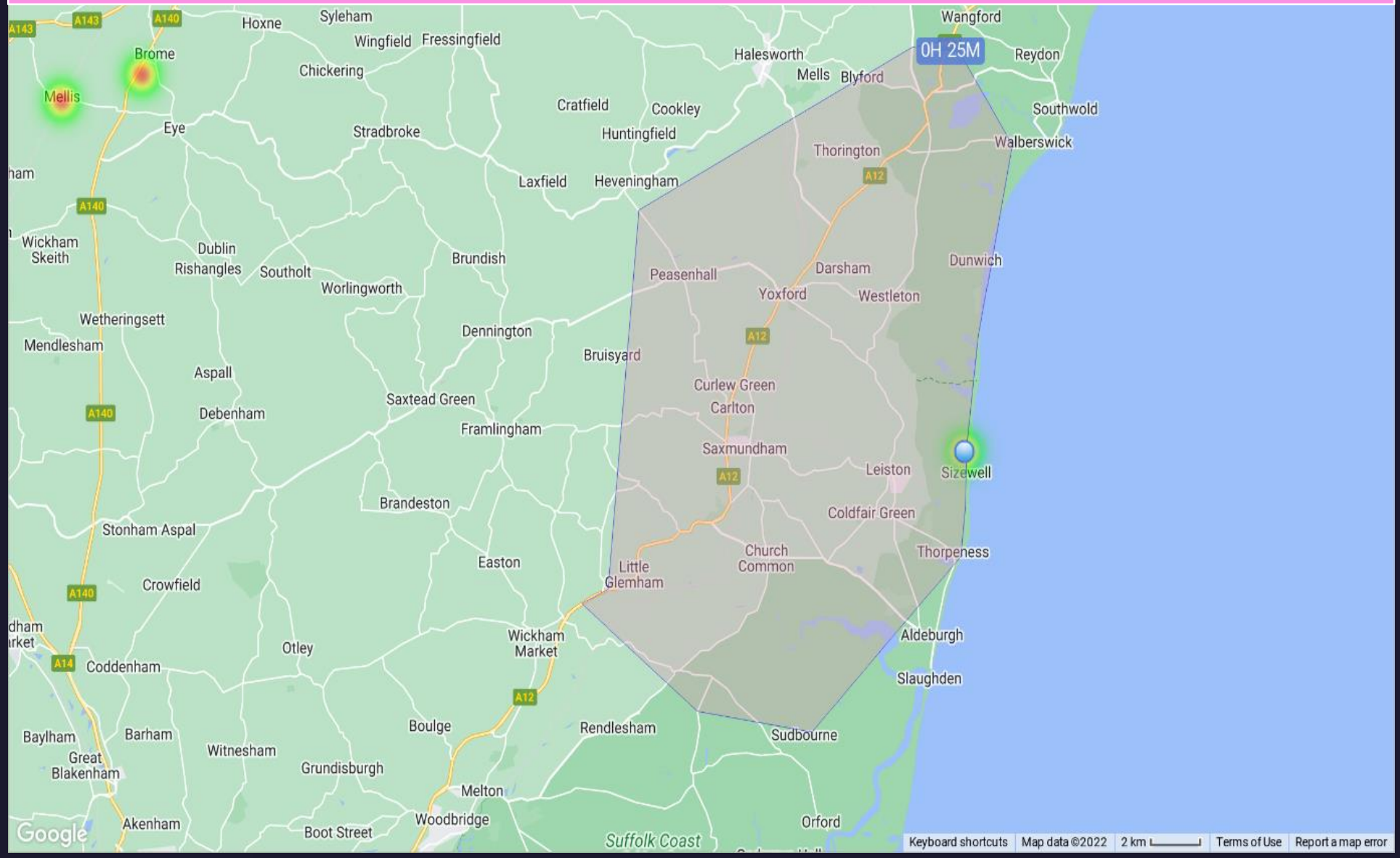
Breckland	22
Broadland	27
Great Yarmouth	34
Kings Lynn and West Norfolk	24
North Norfolk	20
Norwich	20
South Norfolk	25

An average for exemplar areas in Norfolk of 24.7 mins

Source: UK Census; 2021

Sizewell C Project

Valued at around £20bn – with the Leiston 25 minute drive time area.



4. Business Climate

A unique concurrence of economic, political, and social circumstances is making planning extremely difficult for employers and providers.

Radical Change

In 2019 respondents to the Technical Skills Legacy business survey were asked several questions relating to the business climate – particular the impacts of Brexit, labour shortages and skills supply.

In 2022 business and stakeholder interviewees were asked similar questions but on a wider range of potential issues (mirroring the significant changes that have occurred over the past two or three years).

In both cases the responses were subjective but the seniority and experience of the survey/interview/nominal group participants lends great weight to their views.

The chart that follows has been constructed by Pye Tait Consulting to reflect the subjective levels of positivity/negativity of the respondents to the two studies (2019 and 2022). For example, perceptions of the economy and inflation in 2018-19 were generally ‘good’ and there was a degree of optimism around those variables. By 2022, however, perceptions had changed to very negative based on participants views of potential recession and the effects of inflation.

Unprecedented Change

Change has been severe within an extremely short timespan between 2019-2022

In 2019 five of nine business factors were on the positive side of the business climate balance. Only two were having severe impacts.

In 2022 there were no factors at all on the positive side, four were having severe effects and the rest ranged from ‘fairly poor’ to ‘severe’

Selected Business Factors	2019	2022
Brexit trade impacts		
Brexit employment impacts		
Economy/Inflation		
China		
Energy		
Work culture		
Skills supply (competences)		
Labour supply (numbers)		
Supply chains		

Key

Superb	Excellent	Very good	Good	Fairly good	Fairly poor	Poor	Very poor	Severe	Disastrous

Source: Pye Tait Consulting

Economy

Transitioned from slow but positive growth in 2019 to very low or possibly negative growth in 2022 and 2023. Global recession is a serious possibility.

Sterling has fallen – fuelling further inflation through rising import costs. Interest rates have risen, impacting on borrowing costs for business.

Inflation has surged and is causing significant problems for businesses in terms of material and staff costs. Should a wage boom result the inflationary effects will become long term.

Supply chain impacts due to low growth and uncertainty in China and the effects of sanctions on Russian production of important raw materials – e.g. neon, titanium, lithium, are as yet unknown but of potentially high importance.

Covid – two years of pandemic have seriously affected the labour force, production and productivity and further waves look likely.

Trade 1

Brexit, Covid and the effects of the war in Ukraine are dynamic and – most importantly – ongoing processes that will take years to play out and possibly decades before reliable analyses are possible.

Brexit/Covid – the impacts came so close together that it is difficult to separate them. However, official data seem to indicate that Brexit (apart from N Ireland) does not appear to have had as great an economic impact as did the global Covid pandemic.

The UK's economy has been shown to be somewhat less robust than other G7 nations and the multiple-hit of Brexit/Covid/Supply chain damage due to China's Covid policies, the fall in Sterling, and the Ukraine War has sent the economy into shock.

UK exports have not recovered from that shock as quickly as other G7 nations and trade, generally, remains depressed. In 2022 UK goods exports remained 10% below pre-Covid levels.

Trade 2

In chained volume measures British exports to the EU peaked at around £173bn in 2017 – and fell to £148bn in 2021 (imports from the EU over the same period fell from 268bn to £218bn).

Non-EU exports fell from £184bn to £166bn; imports increased from £230bn to £244bn

2022 (temporary) reversal of this picture as UK exports to EU rose due to increased machinery and fuel exports (re-export of Qatar and US LNG). ONS figures say UK-EU exports reached highest EVER monthly level in April 2022 (£16.4bn)

UK exporters are increasingly looking to alternative markets in Latin America, the United States, and the Commonwealth.

The Office for Budget Responsibility (OBR) reports that, under current conditions and assuming normal export markets, both exports and imports will be around 15 per cent lower in the long run than if the UK had remained in the EU.

Energy

There has been a significant shift in Government energy policy – possibly temporary – towards boosting North Sea oil and gas and nuclear – Shell's Jackdaw gas field given approval, and new review of the Cambo oilfield. Restrictions on fracking have recently been partially lifted. A revised low-tax regime under the Truss government may help both energy and manufacturing.

Nuclear policy was a key part of the government's Strategic approach but the final decisions on large scale projects and modular reactors are not yet known.

Potential for a small, short term compensatory boost to the UK economy from increased North Sea oil deliveries to Europe to replace Russian oil and by UK gasification and onwards sale of LNG imports.

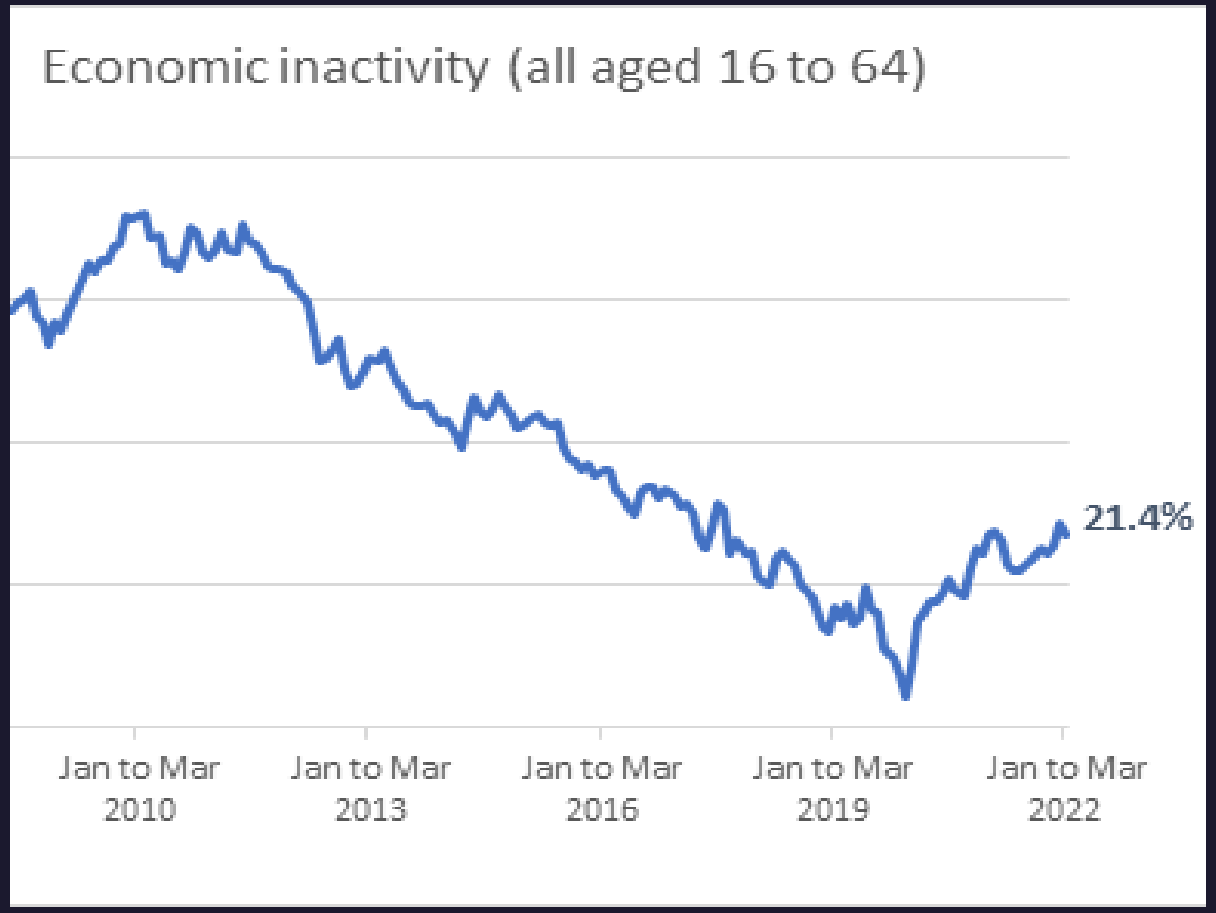
Calls for Geothermal energy may receive a more sympathetic hearing.

Covid Shock

The Covid pandemic, coming so soon after Brexit, has damaged the UK economy and the ongoing impacts of global uncertainty and supply-chain disruption will further affect infrastructure planning and implementation.

A possibly temporary shift has also occurred in people's willingness to stay in the labour market and there is an enhanced 'work-from-home' culture which may affect productivity.

The twin pressures of changed social attitudes to work and global economic and supply chain issues will have an unpredictable effect on Norfolk/Suffolk infrastructure plans.



UK data; ONS Labour Force Survey 2022

Workforce participation dropped in all age groups and genders between 2019 and 2022 – from around 64.5% to 63%. The reasons for the long-term trend are not clear.

Employer Views 1

Employers are reasonably optimistic … but, they are facing …

- Severe difficulties in recruitment (skills shortages)
- Serious issues with skills gaps in the existing workforce
- Problems finding the right training and releasing people for training

Covid has had a negative impact on recruitment. Employers feel it has encouraged a ‘remote working mindset’, causing skilled workers, drivers and operatives to be in low supply.

Geography is felt, by employers, to be a considerable factor, as there is a relatively small talent pool in the Norfolk and Suffolk region. This, they say, is due to a lack of temp agencies, too few young people engaging with the relevant sectors, and overall better working opportunities and pay in other regions.

Employer Views 2

Shortages reported in recruitment for virtually all levels and types of staff.

Listed by level and type not by severity of need.

- directors
- managerial
- site managers
- surveyors
- architects
- structural/civil engineers
- design
- steelworkers
- electricians
- plumbers
- bricklayers
- carpenters
- groundworkers
- plasterers
- painters
- drivers
- plant operators
- office staff (business administration).

Employer Views 3

Blue-sky thinking …

Employers were asked in the Nominal Group exercise to say what they would want to change in the education/training system if there were no constraints at all.

Employers are focused on the vital importance of work experience for young people arguing that the expectations around it need to be changed. Work experience needs to be more flexible because capacity within employers is so limited.

Two employers argue that the design and launch of courses and qualifications takes far too long, leading to obsolete content and poorly-prepared young people. One of them called for more of what they called ‘informal courses which do not necessarily lead to a qualification’.

One employer proposed that college tutors should be part-time with a matching part-time job in the relevant industry. It was suggested that older executives and supervisors might welcome the chance to work on ‘both sides of the fence’.

Employers in a region should be asked to share their project workforce needs as accurately as possible (BEIS supply chain plan questionnaire can provide impetus/methodology for this) so that the job level data can provide an accurate picture of needs over a period of 5-10 years. Government can identify the top 2-4 gaps and proactively work with providers to attract positive growth and benefit to the community.

Provider Views 1

Major skills shortages: across almost all providers – cannot find people to teach …

One provider said “every area, every course”.

- Network and AI tech
- Specific coding languages (C++)
- Creative coding professionals / Software developers / Game engineers
- Green skills
- Construction, carpentry, joinery
- Digital / IT
- Warehousing demand is increasing
- Engineering
- Welders

Provider Views 2

Technical Tutors

One provider said ‘Difficult to find and impossible to pay enough’.

- All providers say they are facing difficulties recruiting
  - Cross-sector issue but higher issue in technical skills where lecturers have to be industry experts
  - Example: an offshore engineer is paid £80,000 but the maximum salary an FE college can offer is £32,000
  - One provider is losing the top Network and AI tech tutor because a company offered £50,000 pa more

- 3 to 4 months on average to recruit someone in the FE sector
- 6 months for an IT tutor for one provider
- One senior lecturer role in IT/Digital took 18 months to fill
- Civil engineers, almost impossible to find people to recruit

‘Systemic funding issues’

Provider Views 3

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‘Systemic funding issues’

Provider Views 4

Blue-sky thinking …

Providers were asked in the Nominal Group exercise to say what they would want to change in the education/training system if there were no constraints at all.

One senior executive of a provider suggested that the most effective change to assist employers would be to enable the provision of training that employers need regardless of the type, or even whether qualifications are attached. (This matches employer blue-sky thinking). It would, they argue, permit a more agile and rapid response to employer training requirements.

Along a similar line, another provider argued that sticking to formal qualifications as the basis of funding works to slow the whole system down and to create 'immense bureaucratic barriers to change'. The respondent likened the process to 'trying to walk through treacle'.

There was also great frustration at what one contributor sees as a dysfunctional relationship between employers and the whole education system. On one side an expectation that education is there to serve employment but where employers are unwilling to contribute in a meaningful sense, while on the other side a good deal of ignorance about the world of work leading to young people entering unsuitable careers.

5. Labour Demand & Supply

The fundamental driver for this work is the ambition to develop and embed a strategy designed to create a legacy of higher technical skills roles in Suffolk & Norfolk.

Demand

Modelled in two different ways to cross-check accuracy and reliability.

1. ‘Top Down’ using national statistics (ONS/NOMIS)

2. ‘Bottom Up’ using one major local project and its published labour needs as a proxy for the total infrastructure employment need.

The Approach to Demand & Supply 1

In forecasting demand and supply different approaches are possible.

We used one approach in the 2019 work, and introduced a second for comparison in the 2022 work.

The second approach was made possible by the publication in 2021 of detailed data by EDF relating to Sizewell C demand.

The Approach to Demand & Supply 2

The two modelling approaches have resulted in broadly similar demand forecasts, which lends confidence to the figures.

Results are that a significant increase in technical job roles is forecast – c.10% within five years and possibly more in the future.

We also looked at current supply – who is delivering what type of course and what issues providers are facing.

Results also show Travel to Work and Study areas have likely diminished and that providers face other barriers .

212 Engineering Professionals

311 Science, Engineering and Production Technicians

312 Draughtspersons and Related Architectural Technicians

313 Information Technology Technicians

521 Metal Forming, Welding and Related Trades

522 Metal Machining, Fitting and Instrument Making Trades

524 Electrical and Electronic Trades

531 Construction and Building Trades

532 Building Finishing Trades

533 Construction and Building Trades Supervisors

812 Plant and Machine Operatives

814 Construction Operatives

821 Road Transport Drivers

822 Mobile Machine Drivers and Operatives

Key SOC Groups

These are the Standard Occupational Classification groups on which this work has focussed.

The ONS Approach

ONS statistics on overall workforce numbers were obtained for the fourteen skillsets and modelled by population growth predictions (the Predicted Steady State numbers).

A proportion of this total is estimated to be the labour required to supply infrastructure projects in the two counties (Available Workforce for Infrastructure Projects).

From that number, a further proportion is estimated to constitute 'additional' people required (the 'Additional Workforce Opportunity).

Not all of these people will require education or training but a proportion are assumed to do so and from this proportion is estimated the education and training requirement and the potential additional annual cost.

NB: for 2022 an additional SOC Code – 213 was added to the detailed calculations. All other charts have been presented with the original 14 Codes in order to permit easy comparison with 2019.

The ‘Ground-Up’ Approach

A completely separate set of calculations based on the actual demand profile for one very large project (SZC) which was then scaled up on the basis of project value.

The modelling as illustrated by the graphs in subsequent slides shows that these calculations match fairly closely to the ‘additional workforce opportunity’ approach up to around 2029-30 when the current projects on the database will have completed their main recruitment cycles.

‘Additional Workforce Opportunity’ after those dates illustrates the possible demand for each set of skills should the pipeline of infrastructure projects continue to grow in the same way and at the same pace as over the past three years.

		2022	2023	2024
212 Engineering Professionals	Predicted 'steady state' numbers	14,477	14,550	14,623
	Available Workforce for Infrastructure Projects	10,858	10,912	10,967
	Additional workforce opportunity	651	764	768
	Training requirement	39	46	46
	Training costs (estimate at current costs)	£117,268	£137,496	£138,184
213 IT Professionals	Predicted 'steady state' numbers	4,132	4,153	4,173
	Available Workforce for Infrastructure Projects	3,099	3,115	3,130
	Additional workforce opportunity	186	218	219
	Training requirement	11	13	13
	Training costs (estimate at current costs)	£33,470	£39,243	£39,439
311 Science, Engineering and Production Technicians	Predicted 'steady state' numbers	8,754	8,798	8,842
	Available Workforce for Infrastructure Projects	6,565	6,598	6,631
	Additional workforce opportunity	394	462	464
	Training requirement	24	28	28
	Training costs (estimate)	£70,906	£83,137	£83,553

Sample Calculations

The chart shows a sample segment of the output from the modelling based on ONS data.

Source: Pye Tait Consulting

SZC

Using the EDF 2021 Prospectus, recruitment patterns have been derived (allowing for staff turnover of 15% in the years after 2024).

In the previous report, we stated: “[Sizewell C] is likely to require a workforce of around 7,900 at its peak in 2029.”

Figures from the ***EDF Employment and Training Prospectus 2021*** suggest this number is “*about 7,800 workers … at peak construction to build Sizewell C … a third expected to be homebased and the remainder will require accommodation*.”

Additionally, EDF envision “an aspiration to create 1,500 new apprenticeship opportunities across the Sizewell C project”. Around half of this total is planned to be from Norfolk and Suffolk.

With staff turnover estimated at the UK average of 15% the actual need over the course of the SZC project will be at least 14,000 people.

EDF

Recruitment requirements from the ***EDF Employment and Training Prospectus 2021***

Long Term Roles

Operations Support	100
Office Admin / Document Control	500
Catering Assistants, Chefs	95
Bus Drivers	275
Access Control Officers/Supervisors	40
Security Officers	175
IT/Officed Technician Roles	150
Managers Assistants, QS	120
Drivers (other)	300

Enabling works from 2022 to 2024

Construction Gen Operative	650
Scaffolders	450
Fitters/Mechanics	275
Crawler/Mobile Crane	65
360 Excavator (All sizes)	300
Temporary Buildings	175
Electricians	150
Dump Truck (Articulated)	130
Concrete Pump	50
Tower Crane (First Two Years)	80

Civil Engineering 2024 to 2028

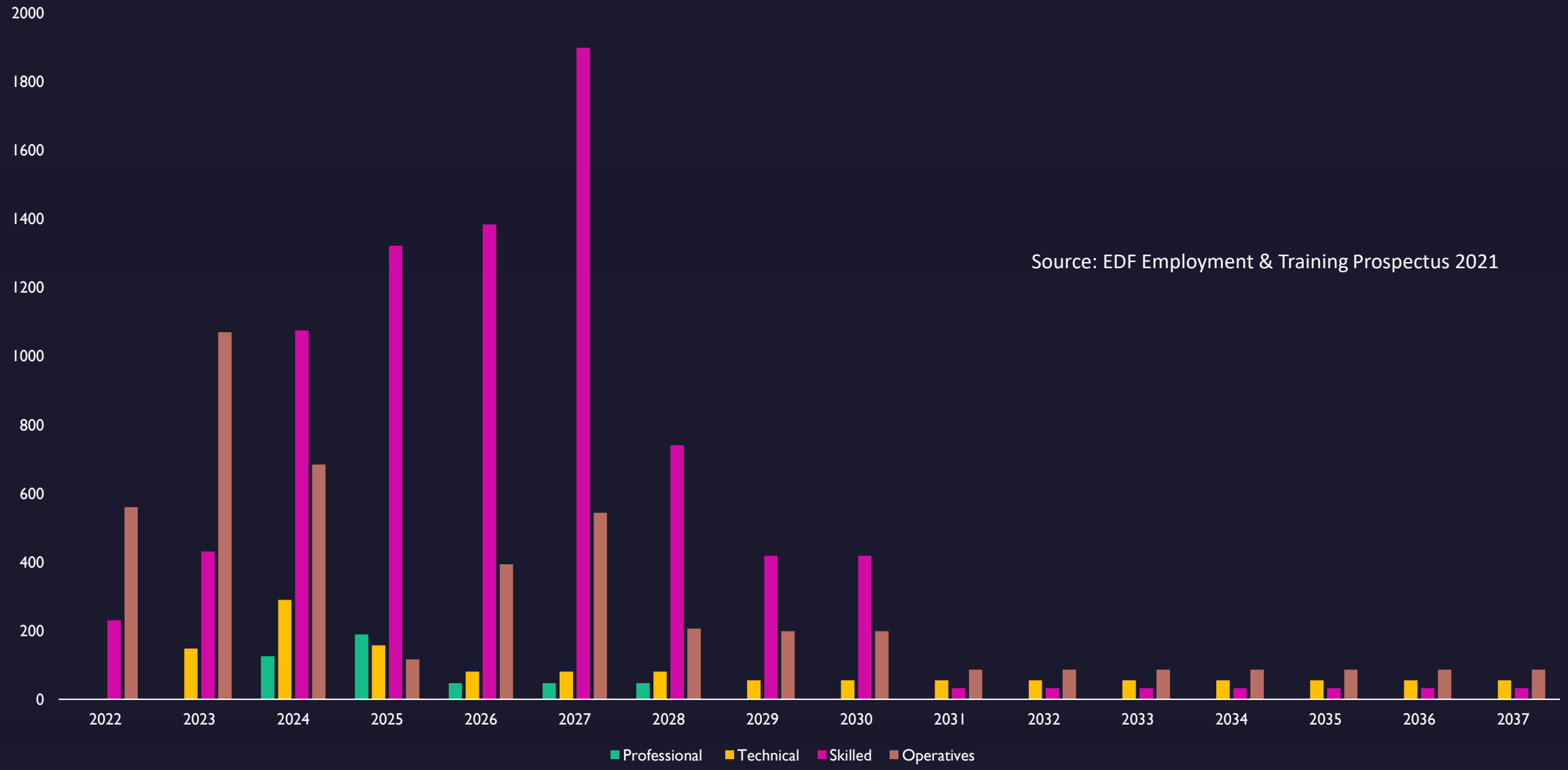
Lifting Supervisors and Appointed Persons	150
Joiners/Formworkers	300
CAD/BIM (Various Levels)	120
Project/Site Engineers (Grad Entry Plus)	175
Tower Crane (Longer Term)	200
Slinger Signallers	300
Steelfixers	800*
Lab Technicians	50
Project Mangers	140

Mech, Elect, Heating - 2026 to 2030

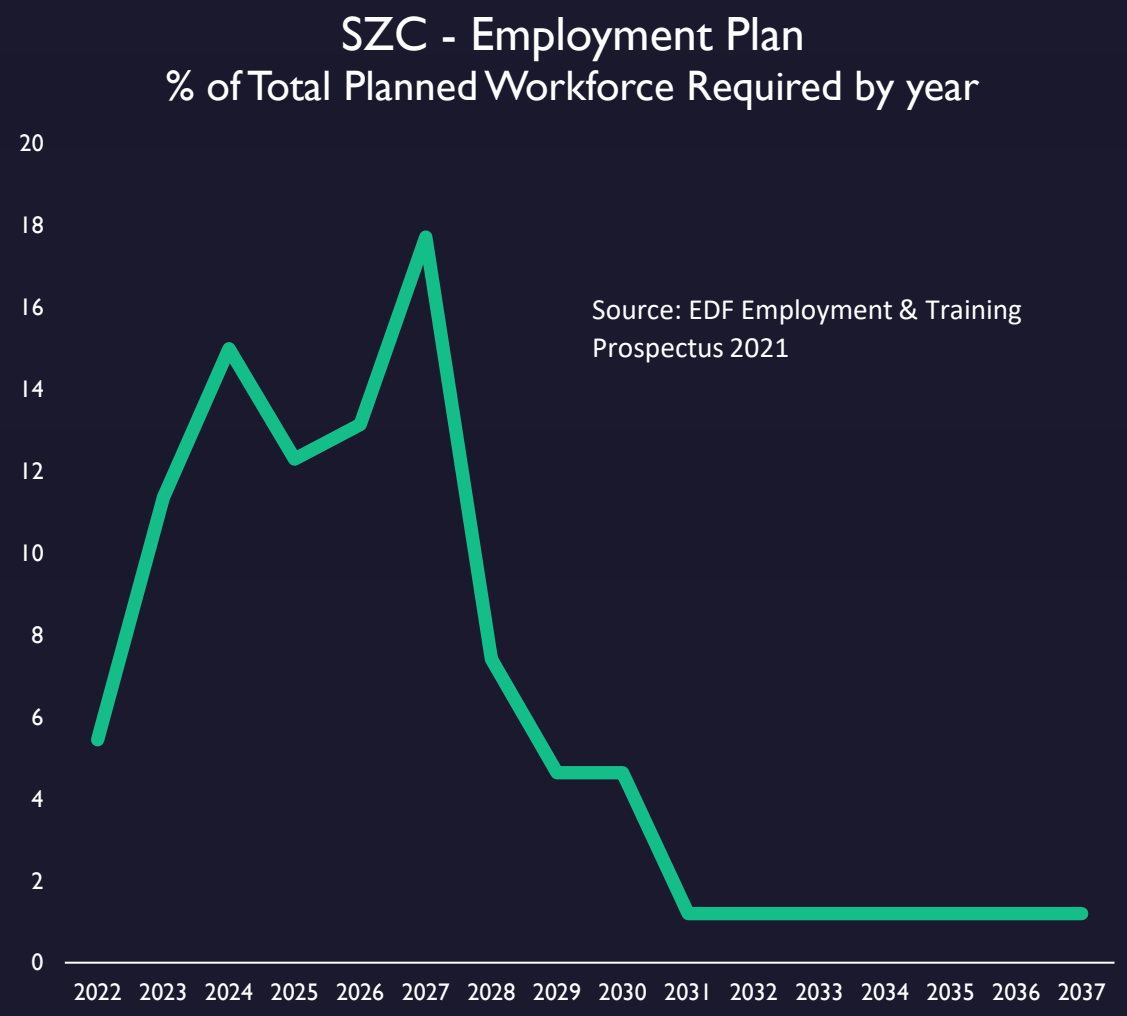
Welder Craftsmen	490
Cable Installation	170
Coatings	180
Pipe Fitters	270
HVAC Operatives	260
Level 2 OP	580
Mechanical Fitters	130
Scaffolders	300
Approved Electricians	775
Thermal Installation	170

SZC – Estimated Recruitment Profile by Skill Level

(Numbers - Includes turnover following peak employment)



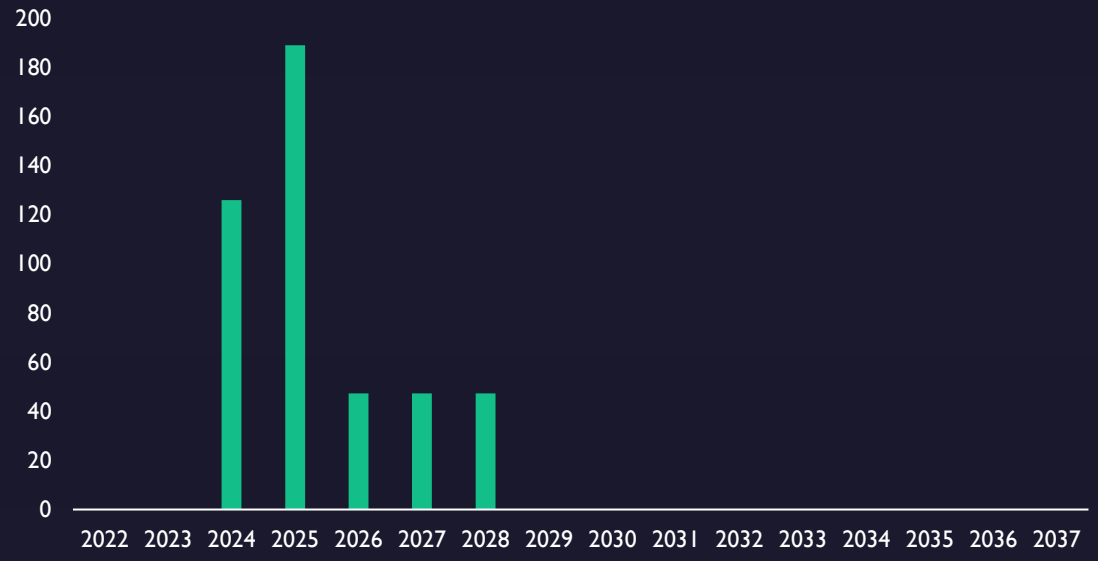
Source: EDF Employment & Training Prospectus 2021



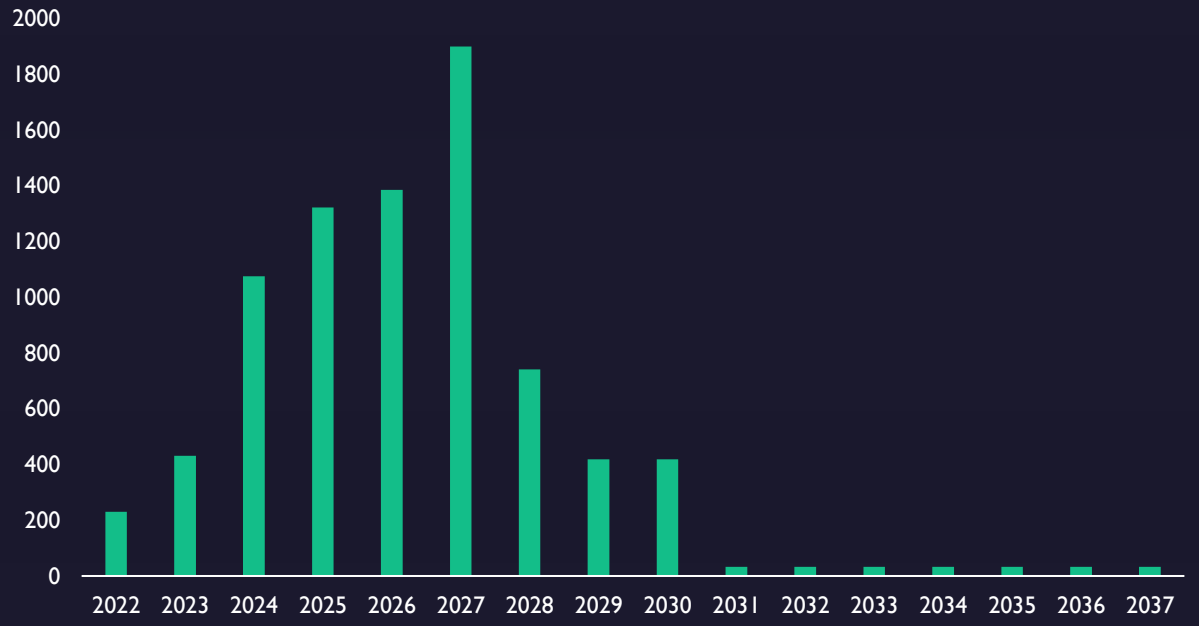
	2022-2027	Total 2022-2037	% 2022-2027
Professional	410	457	89.7
Technical	758	1338	56.6
Skilled	6113	8147	75.0
Operatives	2808	4575	61.4
	10088	14517	69.5

Approximately 70% of recruitment will take place by the end of 2027 (on current projections). This will include around 90% of professional grades, over half of technical skilled staff, three-quarters of skilled, and sixty-percent of operative staff.

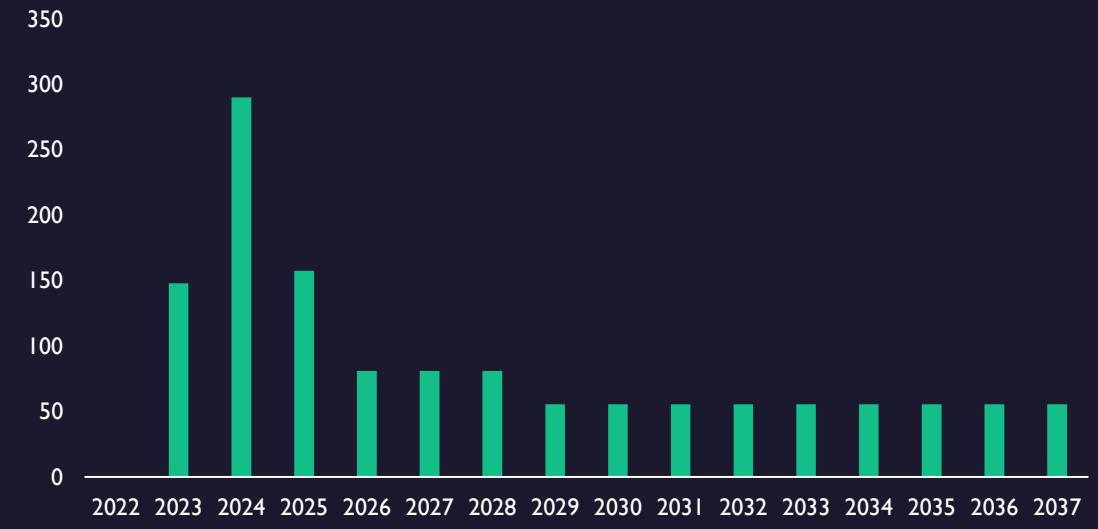
SZC Estimated Engineering Professional Recruitment by Year



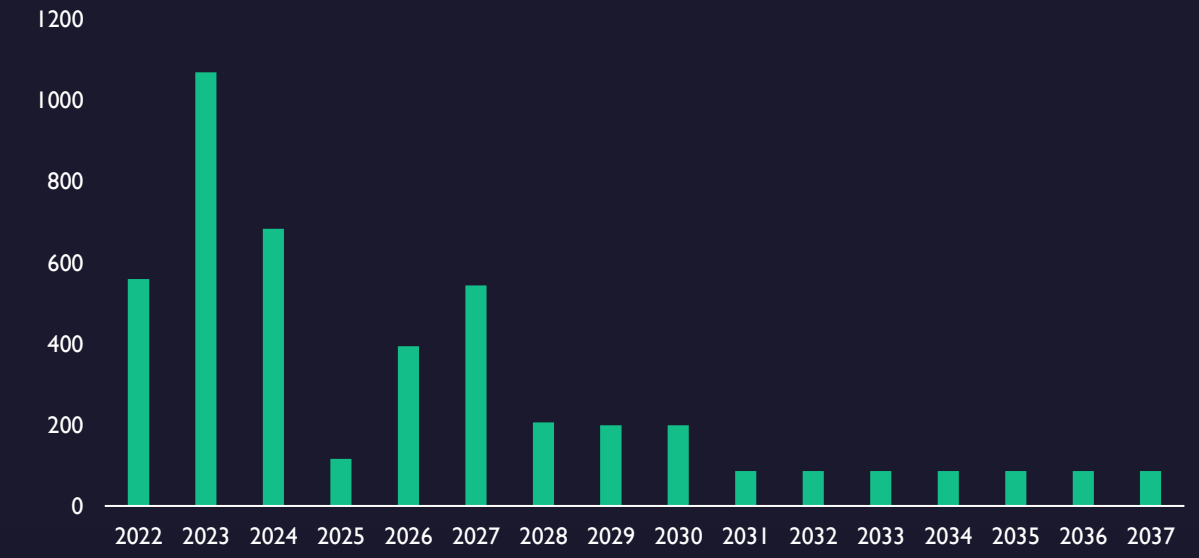
SZC Estimated Skilled Recruitment by year



SZC- Estimated Science Technical Recruitment by year

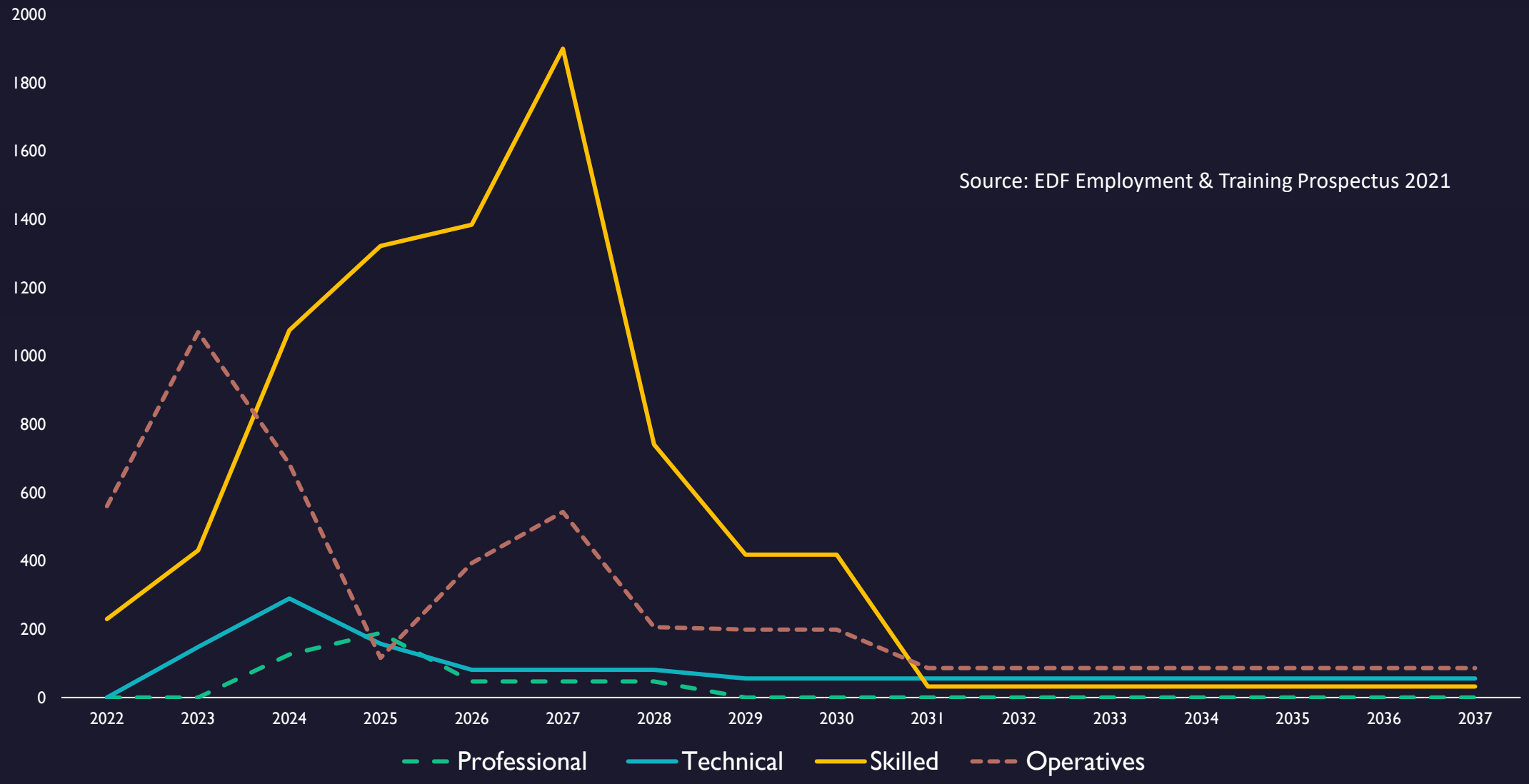


SZC Estimated Operative Recruitment by year



SZC - Recruitment Profile by Skill Level

(Numbers per year - Includes replacement following peak employment)



Source: EDF Employment & Training Prospectus 2021

Modelling

The SZC was used as a model. Workforce requirements were then scaled up on the basis of value. For clarity the skillsets have been combined into four groups each corresponding to a top-level SOC group:

Top-Level Occupation	SOC Group
Engineering Profs	200
Science and Techns	300
Skilled Trades	500
Operatives	800

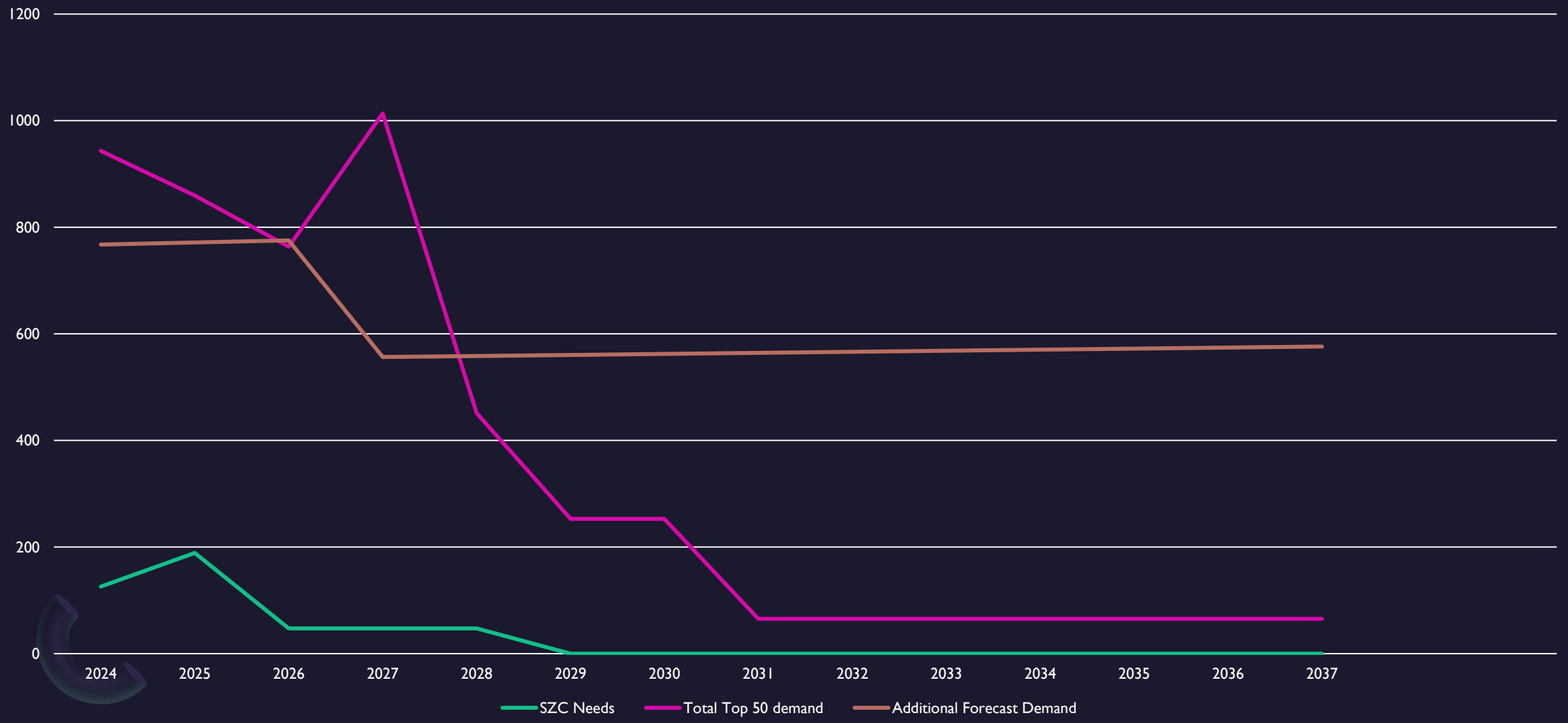
Each of the following graphs shows aspects of the two approaches to workforce demand estimation – A: the newer approach, based on project values and demand-spread, modelled on the SZC profile; and B: the original approach based on the latest ONS/NOMIS data. The graphs display three data-lines:

1. Numbers of people in a given occupational group required for the Sizewell C project by year (from the EDF 2021 Prospectus).
2. Numbers, based on project value required by the complete set of Top 50 projects (96% of all Norfolk and Suffolk projects (Approach A)
3. The Additional Forecast Demand derived from ONS/NOMIS workforce figures for Norfolk and Suffolk for the same periods (Approach B – 2019).

In all four skillset groups there is close agreement between the two approaches concerning the workforce demands up to around the end of this decade when one would expect a good number of new projects to have come onto the database.

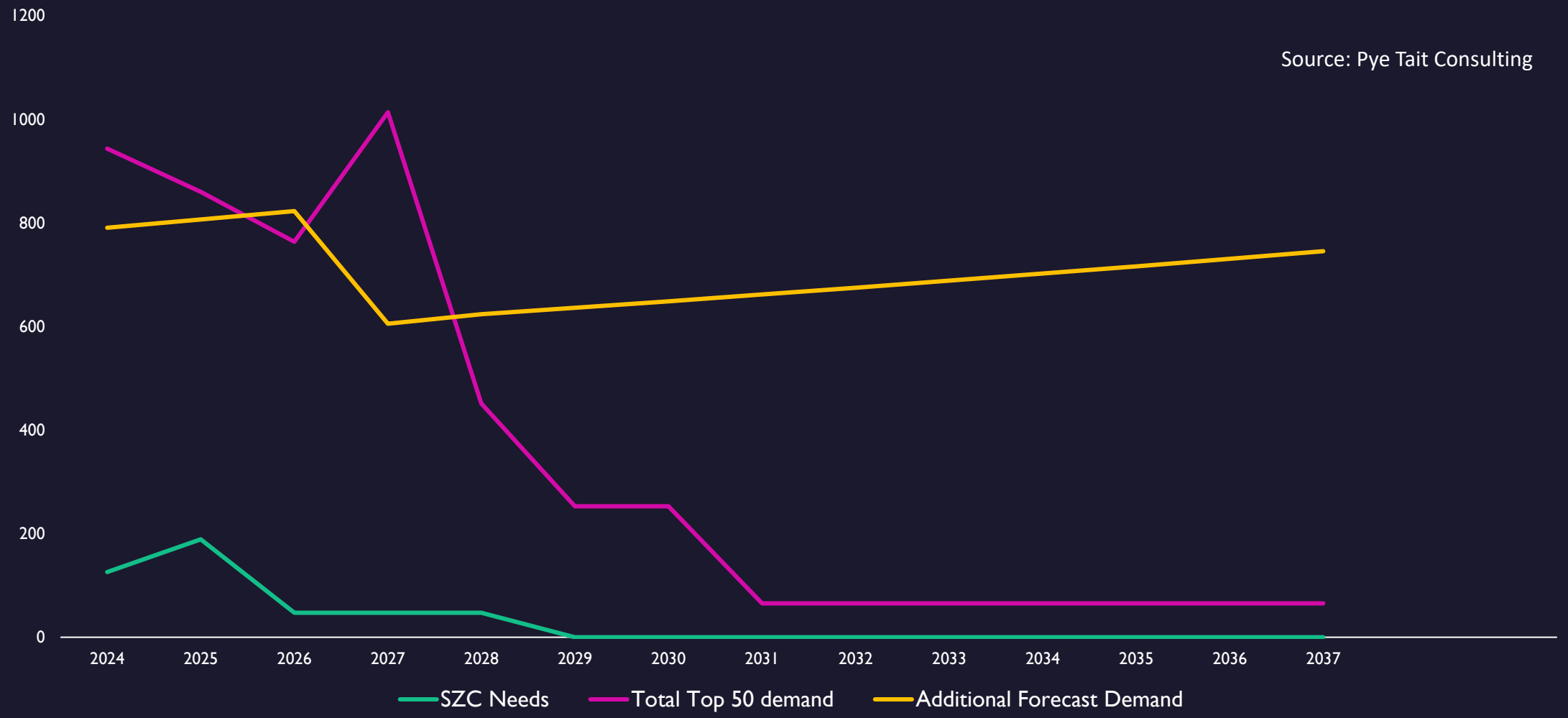
Note: only five of the top 50 projects have end dates beyond 2030 (Two for Residential housing, one for the Fens Reservoir, one Highways maintenance project and the Sizewell C build.

Top 50 Professional Needs (2024-2037)



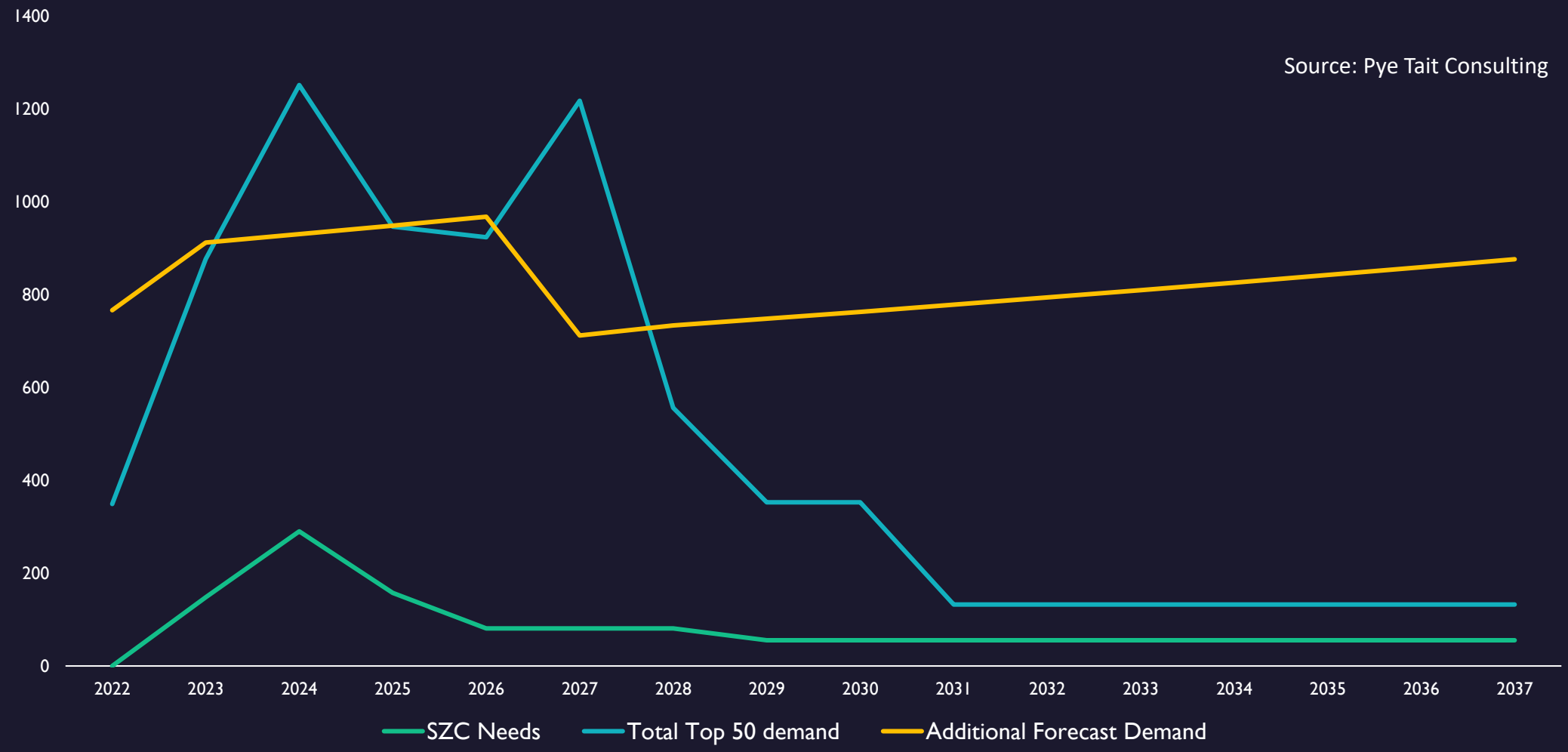
Source : Pye Tait

Top 50 Engineering Professional Needs (2024-2037)



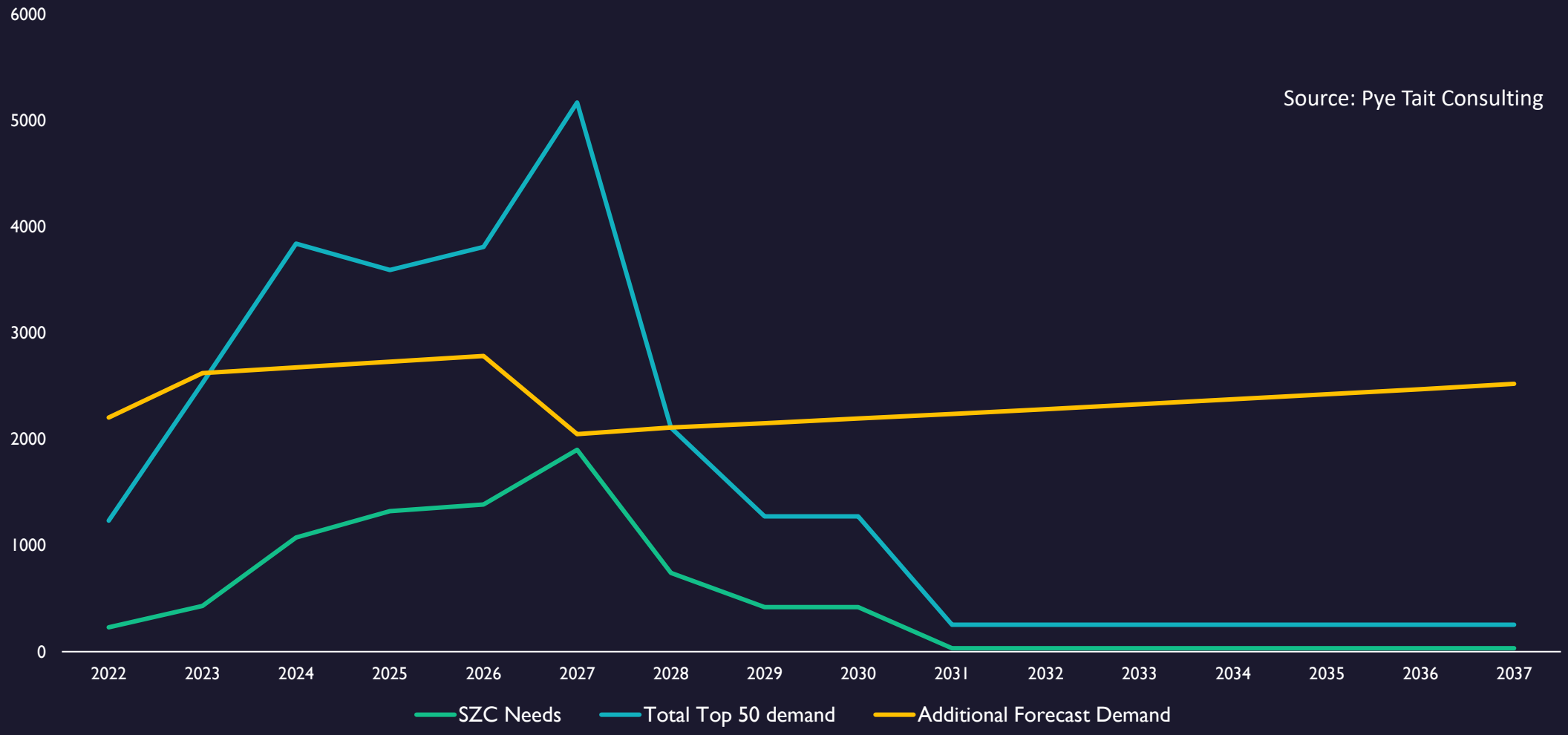
Source: Pye Tait Consulting

Top 50 Science/Technician Needs (2022-2037)



Source: Pye Tait Consulting

Top 50 Skilled Trades Needs (2022-2037)



Source: Pye Tait Consulting

Top 50 Operative Staff Needs (2022-2037)

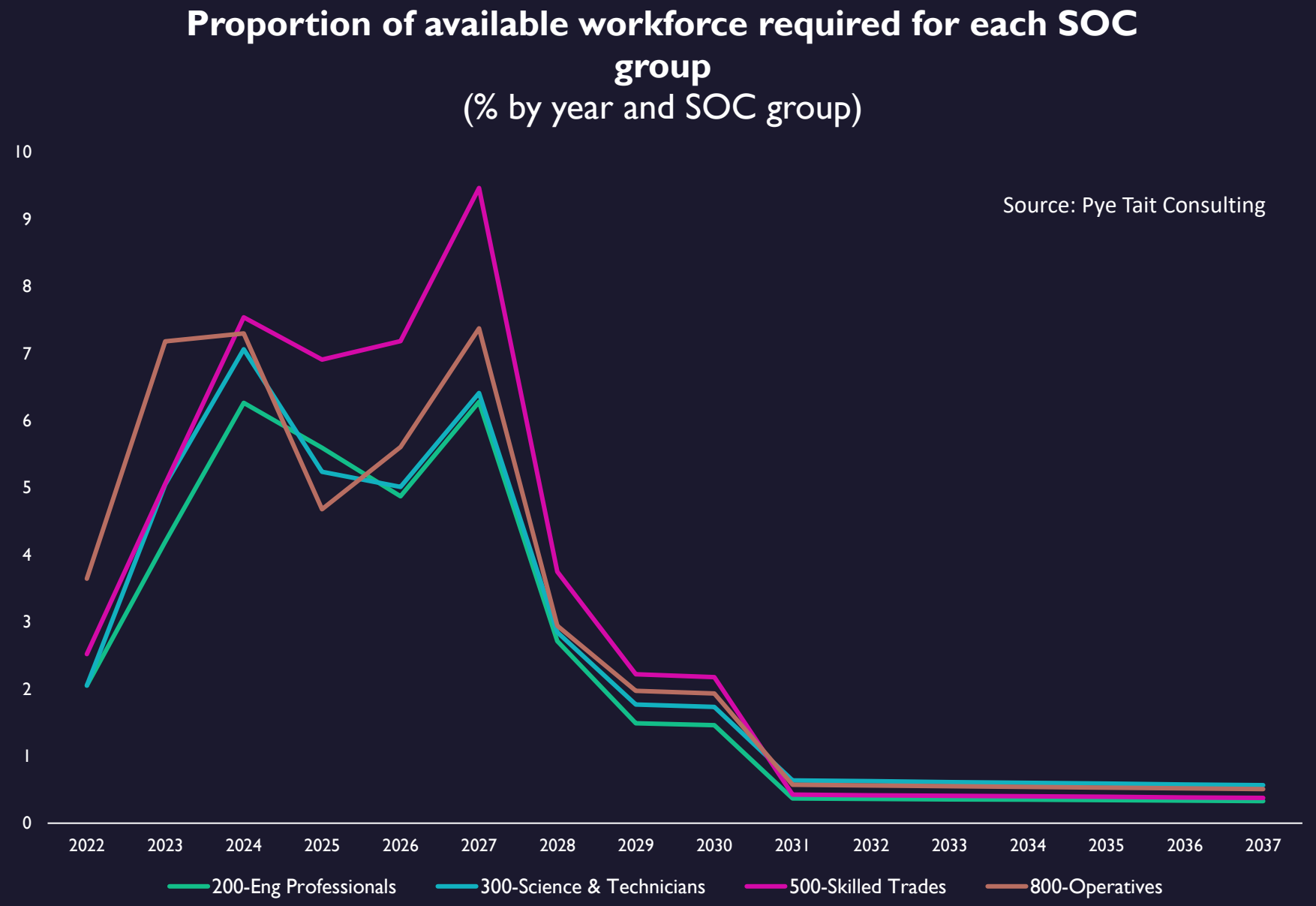
Source: Pye Tait Consulting

Relative Demand

As a proportion of the available labour force within each SOC group, demand for the skills associated with different SOC groups peaks in different years.

- Engineering Professionals – demand peaks at over 6% of the available workforce in 2023 and 2024 and again in 2027.
- Science & Technicians – demand peaks at about 7% in 2024 and at 6% in 2027.
- Skilled Trades – demand for skilled trades is at around 7% of the available workforce for the three years 2024 to 2026 with demand peaking at almost 9.5% in 2027.
- Operatives – demand is at 7% in both 2023 and 2024 and again in 2027.

Relative Demand



An Urgent Need

This research has shown a serious current shortage of technically-skilled staff and significant current gaps in the technical skills of the existing workforce.

The compelling need for additional numbers of technically-skilled people implies an imperative to expand technical training by at least 10% in the next five years.

The additional technical skills requirement in five years' time will undoubtedly major on even higher levels of cyber and digital skills and will include high degrees of skill in robotics, basic machine programming, drone usage, digital twinning, lidar-based measuring systems, big data, advanced manufacturing and 3D printing.

Skills Priorities

Priority skills are those that will be required earliest in the development of the infrastructure projects.

However, while there are some clear needs, the data show that all skill types will be required to some degree at all points in the timeline.

In the three years to the end of 2024, needs will be mainly skilled trades and construction operatives. For the Top 50 projects professional and technical role needs will be highest in the years between 2022 and 2027.

Skilled trades needs will peak between 2024 and 2027.

Feedback on skills shortages and gaps indicate that industry is already experiencing severe shortages and education possibly even worse ones. Forthcoming infrastructure projects can only stress this situation further and lead to greater gaps in, and shortages of, skills.

Skills needs in numbers

2.5% rising to 10%

of the available workforce between 2022 and 2027 will be additional demand

Given existing skills gaps and shortages, the impact of the combined infrastructure projects will represent additional workforce demand in specific SOC groups of between 2.5% and 9.5% of the available workforce in the first half of the timeframe under consideration.

A proportion of recruitment may possibly be from the existing workforce but the indications that key skills and job roles are already in extremely short supply mean that a very high proportion – if not all – of the demand entailed by infrastructure projects will be additional.

This has significant implications for education and training and particularly the need to ramp up the supply of skilled people.

Skills needs in subjects/job roles

By 2027 SZC will have recruited

90%
of the required professional engineers

60%
of the required technicians

We know broadly what technical job roles will be required over the next fifteen years but prioritisation of them is only possible using estimated needs based on the SZC profile of demand and assuming that all technical infrastructure projects will entail similar profiles.

This is clearly not necessarily the case – especially with very different technical projects in the house building, rail, road, and similar specialisms.

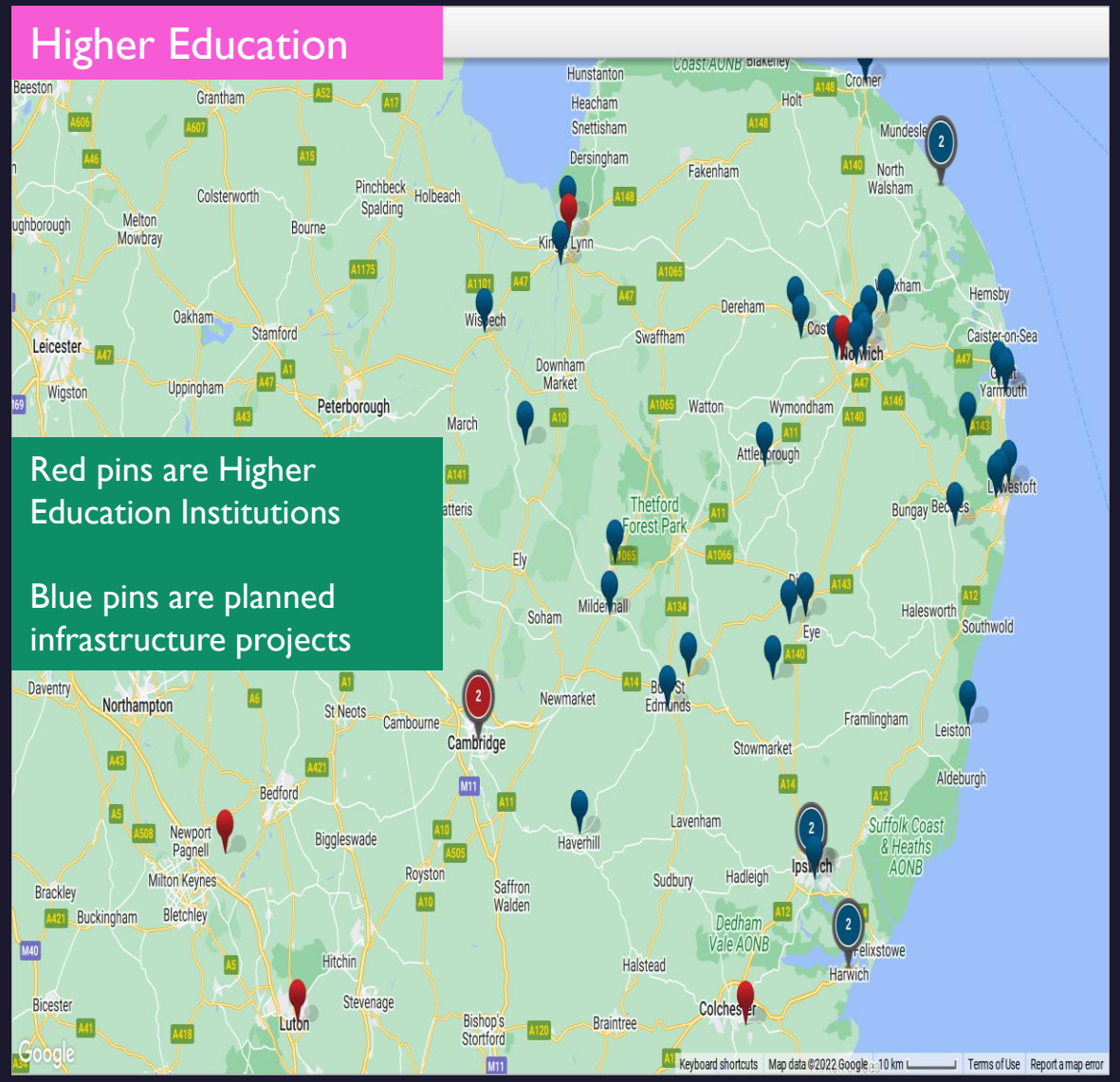
Skills Supply in Geographical Terms

It is impossible to give precise needs for specific universities and colleges in terms of courses and skills due to the differences between projects' needs, the differences of timescales, and the impossibility of predicting the geographical recruitment areas for projects – many of which are spread over quite large areas (e.g. highways, rail, windfarms, etc.).

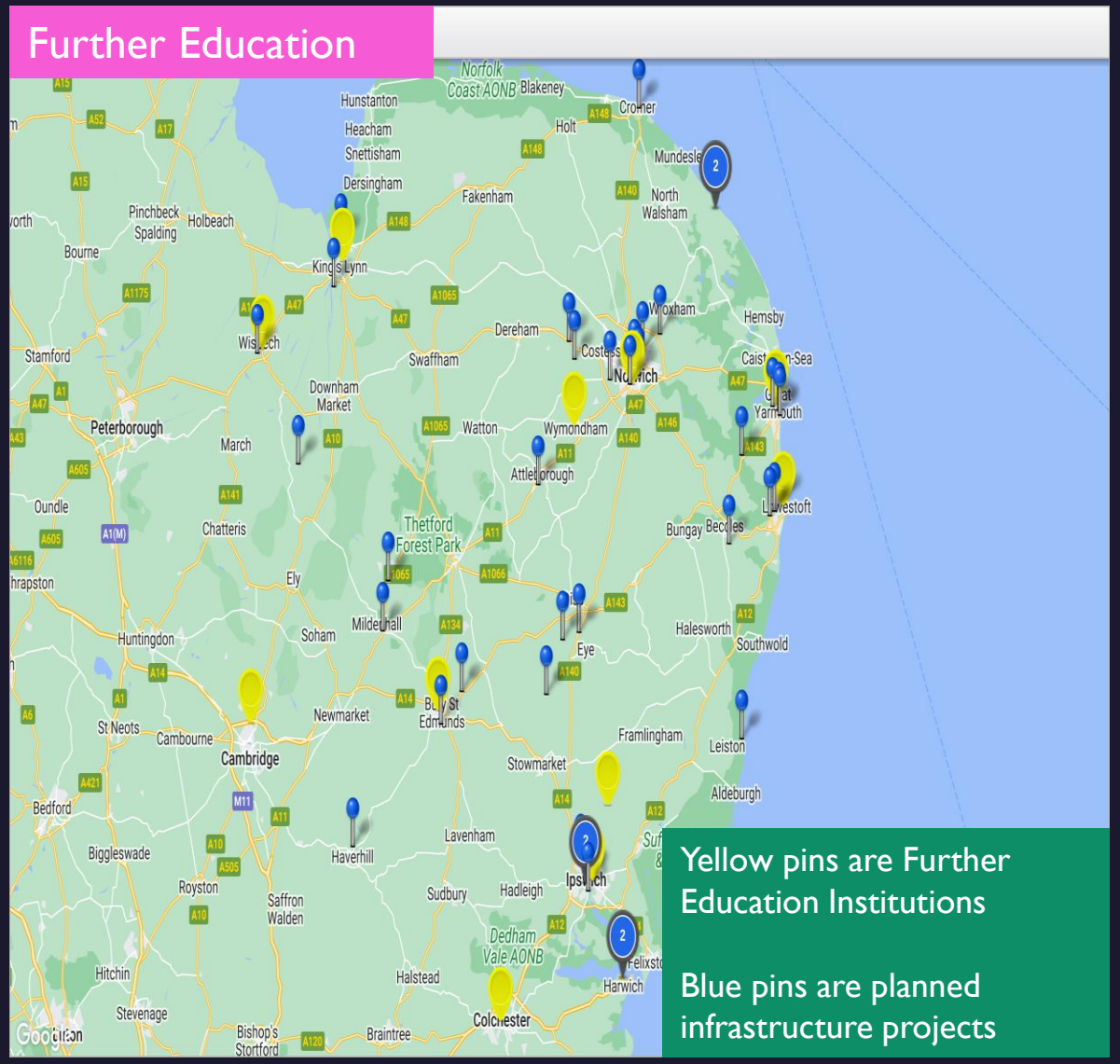
The following two maps illustrate the relationship between HE and FE provision and infrastructure projects across Suffolk and Norfolk.

Skills Supply in Geographical Terms

Higher Education



Further Education



Skills Gaps Revisited

Virtually all interviewed employers feel there are significant skills gaps in their existing workforces

These extend from entry-level skills such as basic office computer software skills and customer service abilities through senior management skills to advanced technical skills.

Employers tell us that it is ‘difficult to impossible’ to find specialist training in the region.

It is likely that the providers will be experiencing similar gaps in their tutor workforces.

Employers are struggling to find training at reasonable cost that will upskill their workforce in skills such as:

- Project management
- Contract management
- Site management
- Digital skills
- BIM/3D design
- Digital twinning
- Modelling – big data
- Logistics skills – supply chain management
- Blockchain
- Robotics awareness and skills
- Net Zero skills (retrofitting, heat pumps, PV solar instalments, windfarm engineers etc)

Skills Shortages Revisited

A majority of employer respondents say they are experiencing shortages of specific skills or roles and that these shortages are becoming worse.

Recruitment conditions also seem to be worsening – employers report 3-9 months to fill technical roles and providers saying that some of their tech roles are taking up to 18 months to fill.

High skilled, senior positions
Directors
Staff with BIM/3D design skills
Project Managers
Contract Managers
Surveyors/Planners
Civil/structural engineering
Electrical engineers
Health and Safety supervisors
Site Managers
Surveyors
Architects
Structural/civil engineers
Designers
Steelworkers/erectors

Welders
Electricians
Plumbers
Cable jointing/laying
Fabricators
Bricklayers
Carpenters
Groundworkers
Traditional construction trades
Below ground drainage designers
Pipe installers
Hydraulics
Plasterers
Painters
Drivers
Plant Operators – forklift, crane, etc.

PROVIDERS

MAJOR SKILLS SHORTAGES ACROSS ALMOST ALL PROVIDERS – CANNOT FIND PEOPLE TO TEACH …

ONE PROVIDER SAID “EVERY AREA, EVERY COURSE”.

- Network and AI tech
- Specific coding languages (C++)
- Creative coding professionals / Software developers / Game engineers
- Green skills
- Construction, carpentry, joinery
- Digital / IT
- Warehousing demand is increasing
- Engineering
- Welders

EMPLOYERS

SHORTAGES REPORTED IN RECRUITMENT FOR VIRTUALLY ALL LEVELS AND TYPES OF STAFF.

LISTED BY LEVEL AND TYPE NOT BY SEVERITY OF NEED.

- directors
- managerial
- site managers
- surveyors
- architects
- structural/civil engineers
- design
- steelworkers
- electricians
- plumbers
- bricklayers
- carpenters
- groundworkers
- plasterers
- painters
- drivers
- plant operators
- office staff (business administration).

Quantifying Demand

Demand will be significant if all infrastructure projects go ahead – which is entirely likely.

Given the existing skills gaps and shortages, the demand from new infrastructure projects is very likely to be additional to the current workforce (which already appears to be inadequate to meet employer demand).

For example: a 9% increase in skilled trades demand as predicted for 2027 means a need for over 5,000 people over and above employer needs (already in deficit) and bearing in mind that providers are already up to capacity in technical training and having problems recruiting qualified tutors.

2027 alone will see additional demand for approximately:

- 1,000 engineering professionals
- 1,200 technicians
- 5,000 skilled trades workers
- 3,000 operatives

Quantifying Demand

A total of around 10,000 additional technically-skilled staff by 2027 (additional to the existing – severely overstretched – workforce).

In all, the Top-50 infrastructure projects are predicted to require the filling of at least 43,000 technical job roles over the next fifteen years.

A proportion of these skilled people will require educational and training.

It is impossible to do more than guess at the level of additional demand but even a figure of 6% implies a need for 600 more trained people in 2027 (more than double the training requirement predicted by the existing model).

The need for 10,000 more people in 2027 alone represents a little over 10% of the forecast technical workforce of 96,000 people – a very significant, likely additional, demand for skilled employees.

Supply

Availability of, and barriers to, the provision of relevant technical education and training.

Prediction Issues

Translating overall numbers from the above graphs into precise course requirements is not possible.

Each type of project has a specific skills profile by level and course as well as experiencing slightly different underlying technical changes in skills (impacting on course design and upskilling needs).

For example the Sizewell project has a specific need for engineers and construction staff trained in nuclear technologies and unique safety requirements. The extensive wind-farm projects on the other hand need electrical engineers and very specific construction staff with different knowledge and skill sets. Similarly the engineering and technician skills required for the region's rail infrastructure developments are highly specialised.

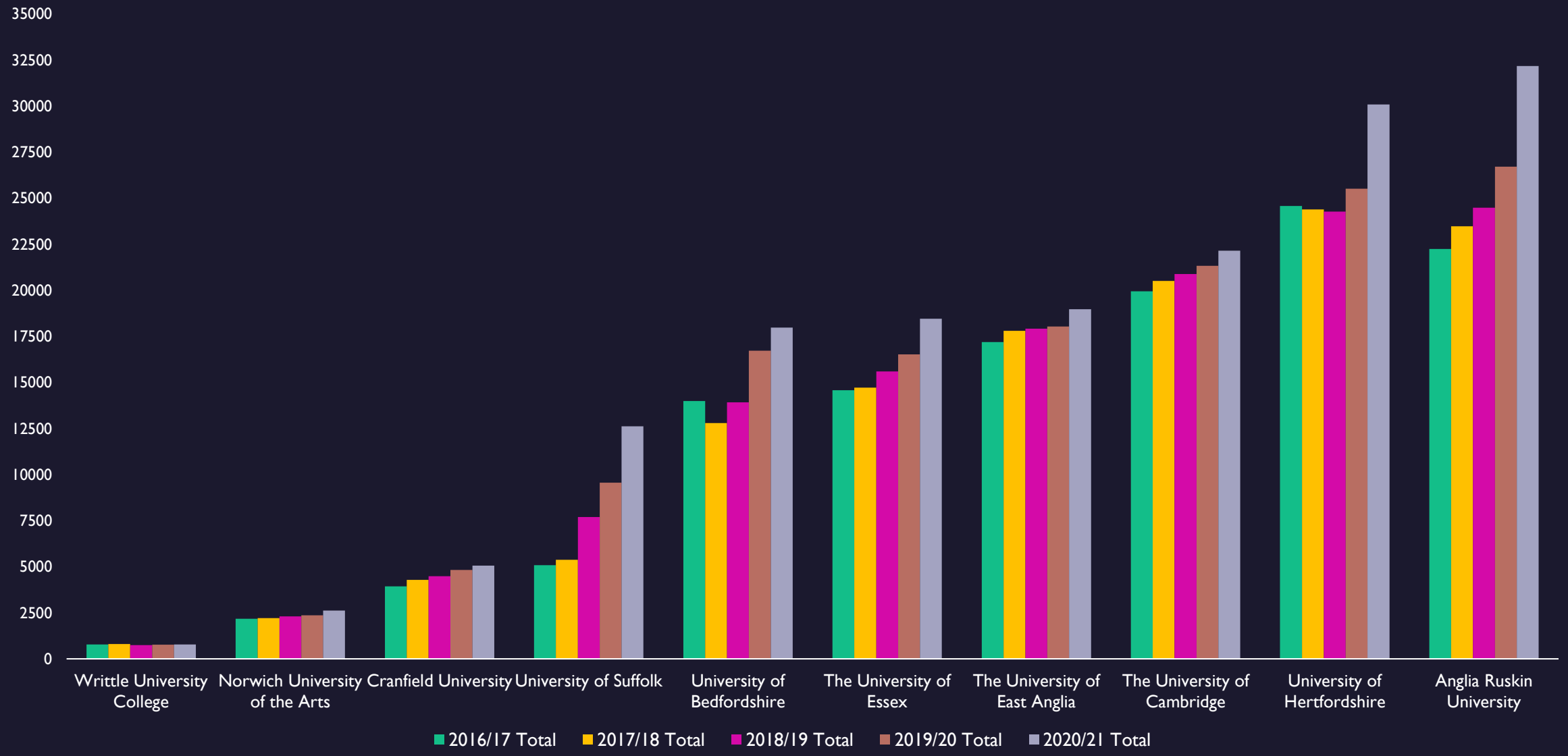
The adjustment of provision to meet the needs of the forthcoming infrastructure projects is, therefore, not easy. This topic is taken up again in the final section on priorities and provision.

Key developments in Higher Education

- External factors – particularly Covid – have greatly affected education provision
- HE institutions moved a significant amount of teaching online
- HE enrolment has grown steadily since 2016 – a 28% increase over the past five years
- For Norfolk and Suffolk there have been rises in the numbers of students studying Engineering & Technical subjects (25%), and Computing subjects (50%).

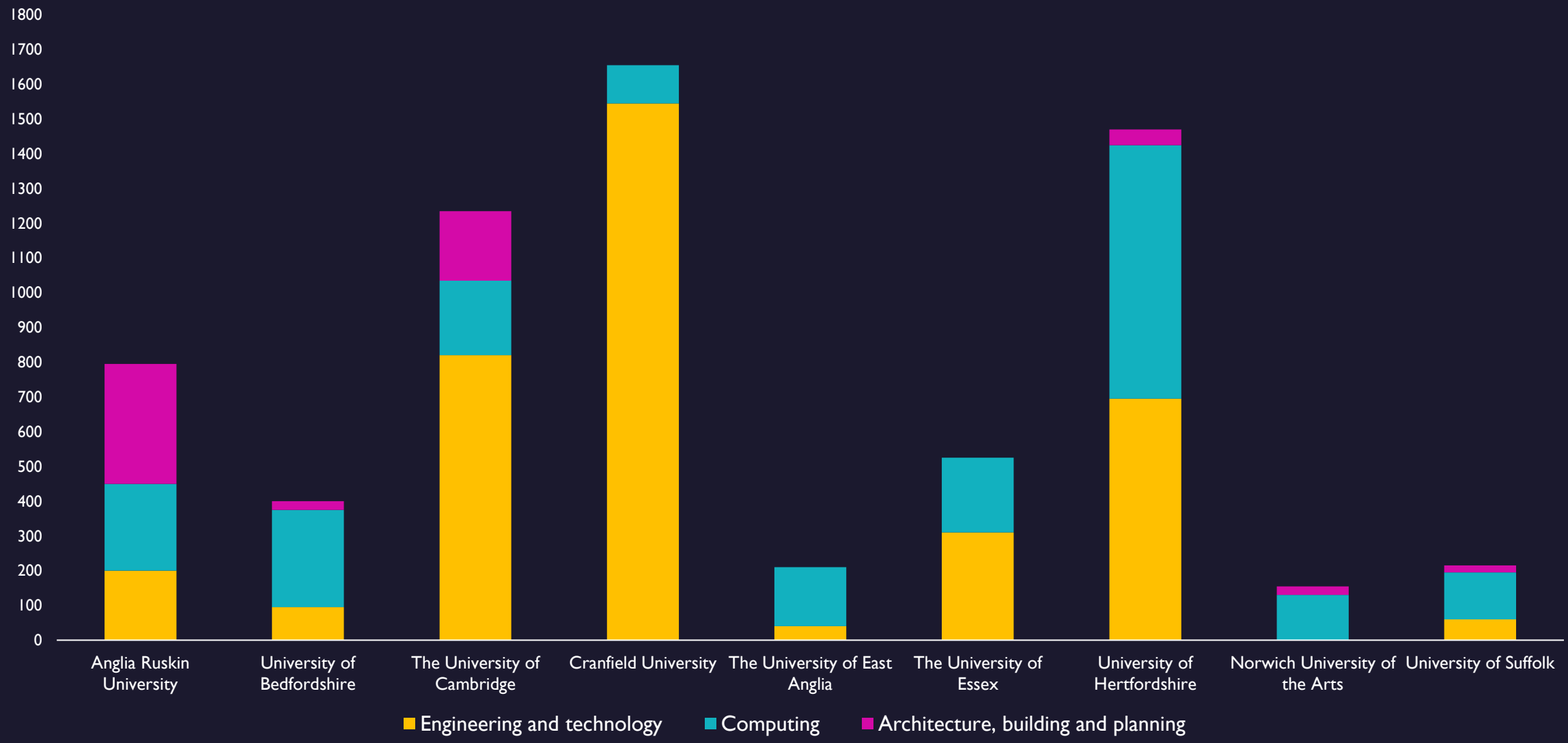
Higher Education - demand & supply

Students attending regional HE (by academic year)



Source: HESA/DfE; 2022

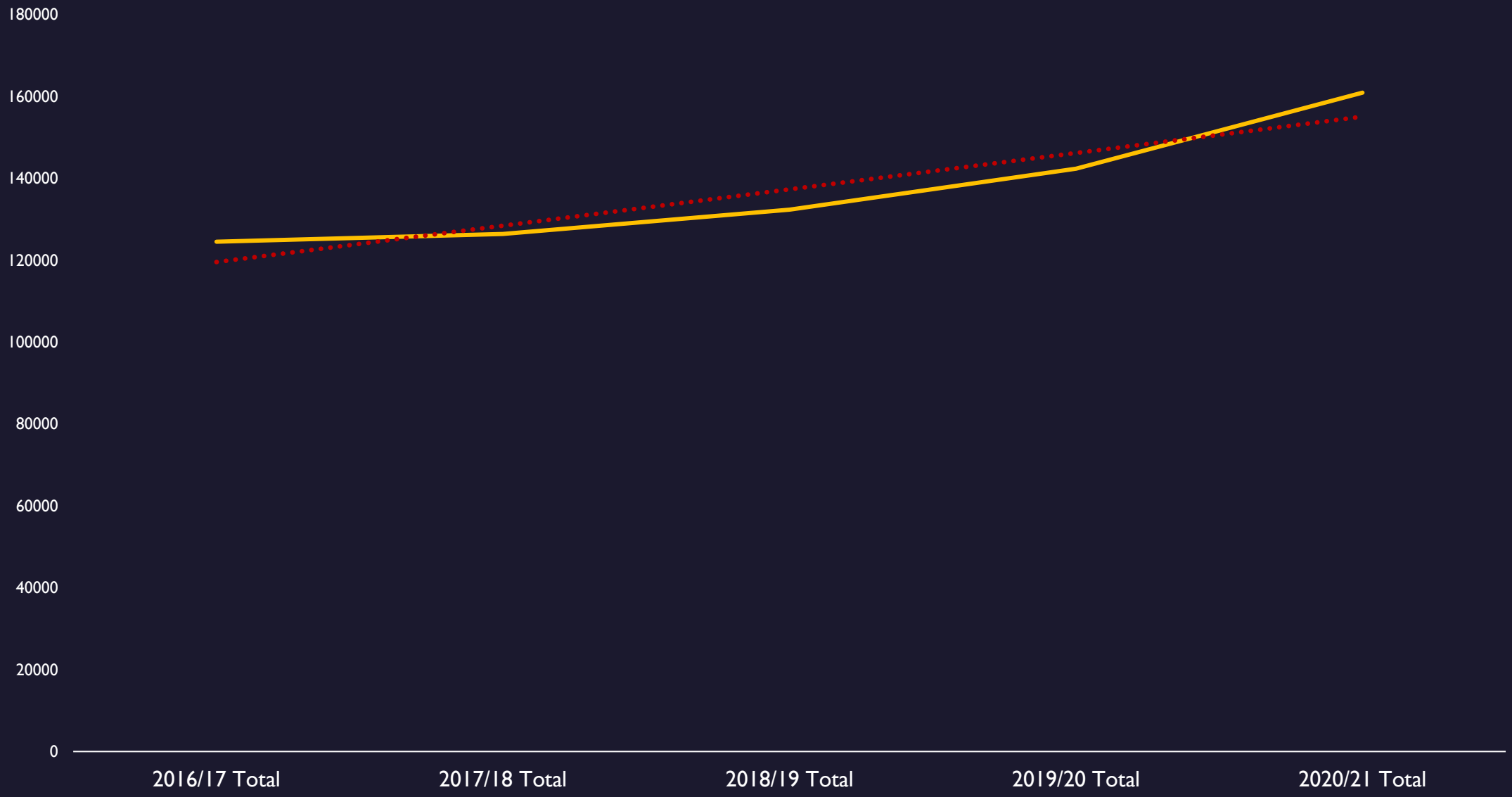
Regional Universities - Key Subjects Enrolments 2020/21



Source: HESA/DfE; 2022

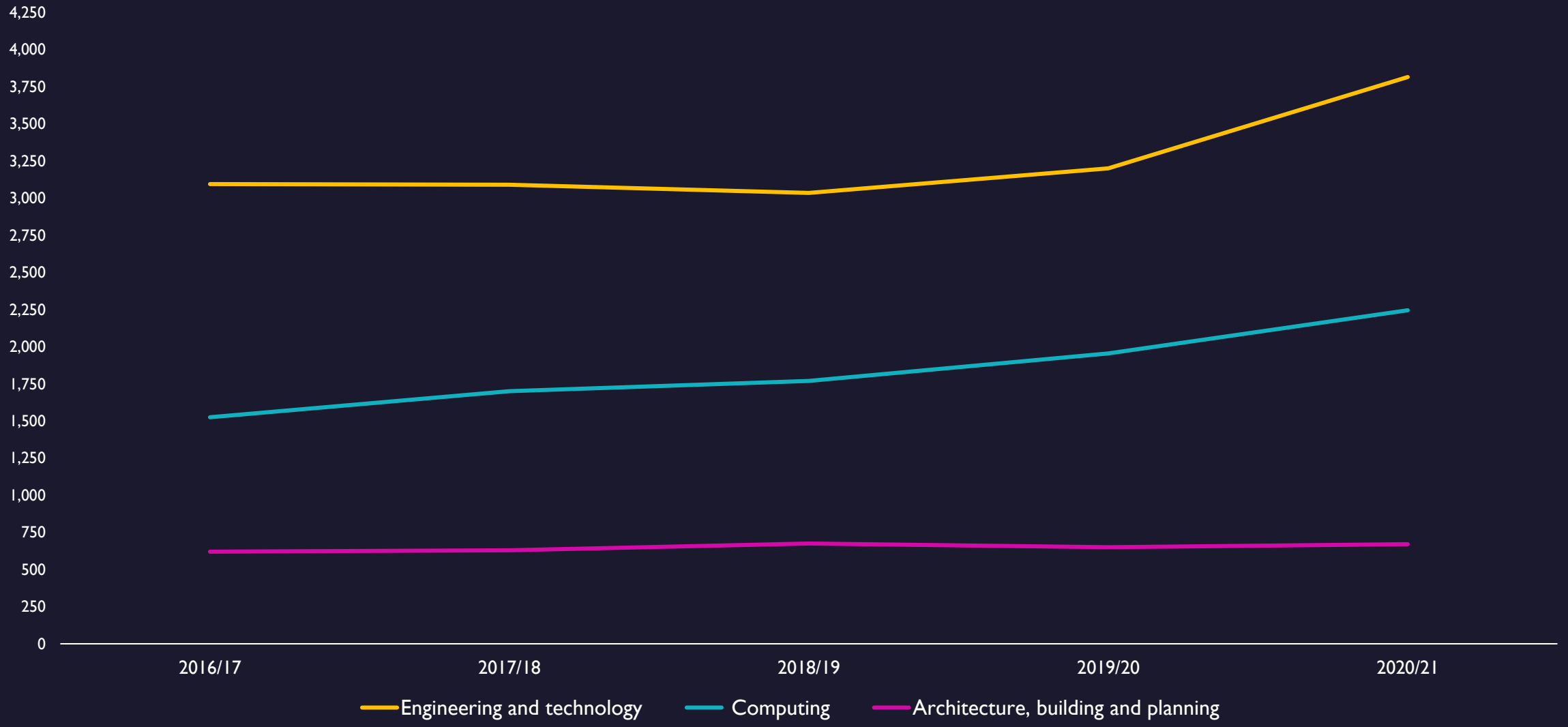
Regional HE Students

(All subjects - 10 institutions; 2016-2021; with trend)



Source: HESA/DfE; 2022

Regional students enrolled by primary discipline (by academic year)



Source: HESA/DfE; 2022

Travel to Study

The two counties are reasonably well-served by FE/HE colleges delivering technical skills in the legacy subject areas. In terms of modern travel attitudes, however, there may be some ‘education deserts’ of varying sizes across Norfolk and Suffolk.

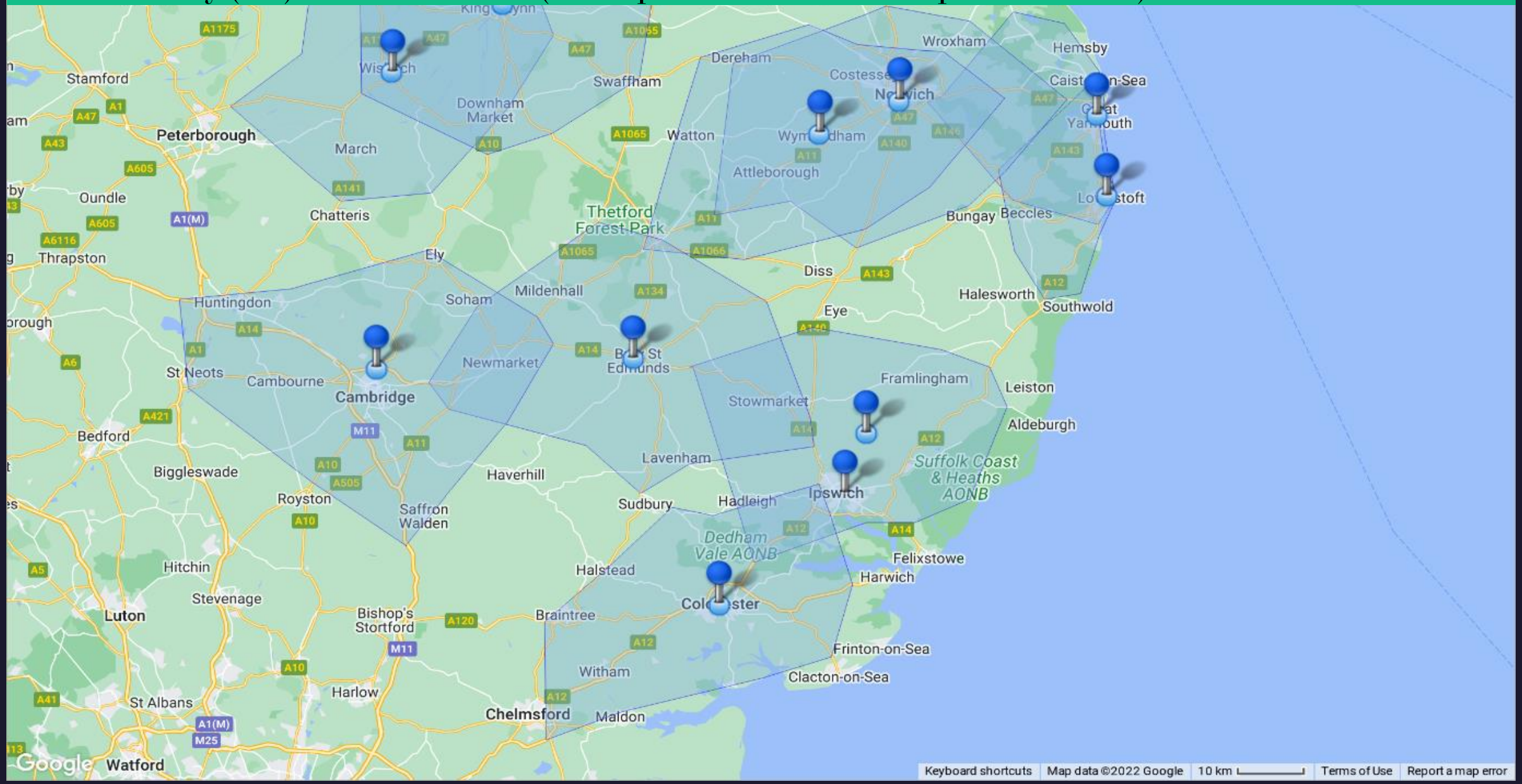
The following two maps show the region’s colleges for relevant courses with travel-to-study polygons set to a one-way travel time of 26 minutes.

The polygons are based on the quality of road and average traffic speeds. Public transport takes approximately 50% to 100% longer to cover the same distances so these polygons exaggerate the distances possible for those using public transport (where it exists and assuming the same preferences for travel time).

The drive time of 26 minutes was selected on two bases: the average travel to work times indicated by the 2021 Census and referenced elsewhere in this report, with a degree of caution based on the feedback from both educational institutions and employers that people are becoming less willing to engage in lengthy journeys to work and study. The Census revealed average travel times of a little over 25 minutes for both Norfolk and Suffolk. A rounded figure of 26 minutes has therefore been selected for the two maps which, together, cover Suffolk and Norfolk.

Travel to Study (FE) – northern area (overlaps with southern on next slide)

Travel to Study (FE) – southern area (overlaps with northern on previous slide)



Travel to Study 1

Based on the 2021 Census results, young people from Hunstanton to Cromer and the north-east Norfolk coast are clearly having to undertake much longer journey times if they wish to attend an FE/HE college.

The 26 minute journey time is clearly an accurate indication of average travel to work/study times in the two counties in 2018 (pre-Covid). Obviously some people travel for longer, but the average is more likely to apply to students. Longer journey times may be a disincentive to study.

Travel to Study 2

Travel to Work or Study is not always simply a matter of time spent and the availability of transport. Individual motivation, course/employer reputation, and even local custom are often significant factors.

One provider told us that generally, those who live north of Great Yarmouth will not travel further than Great Yarmouth for study, and those who live south of Lowestoft will not travel north of Lowestoft.

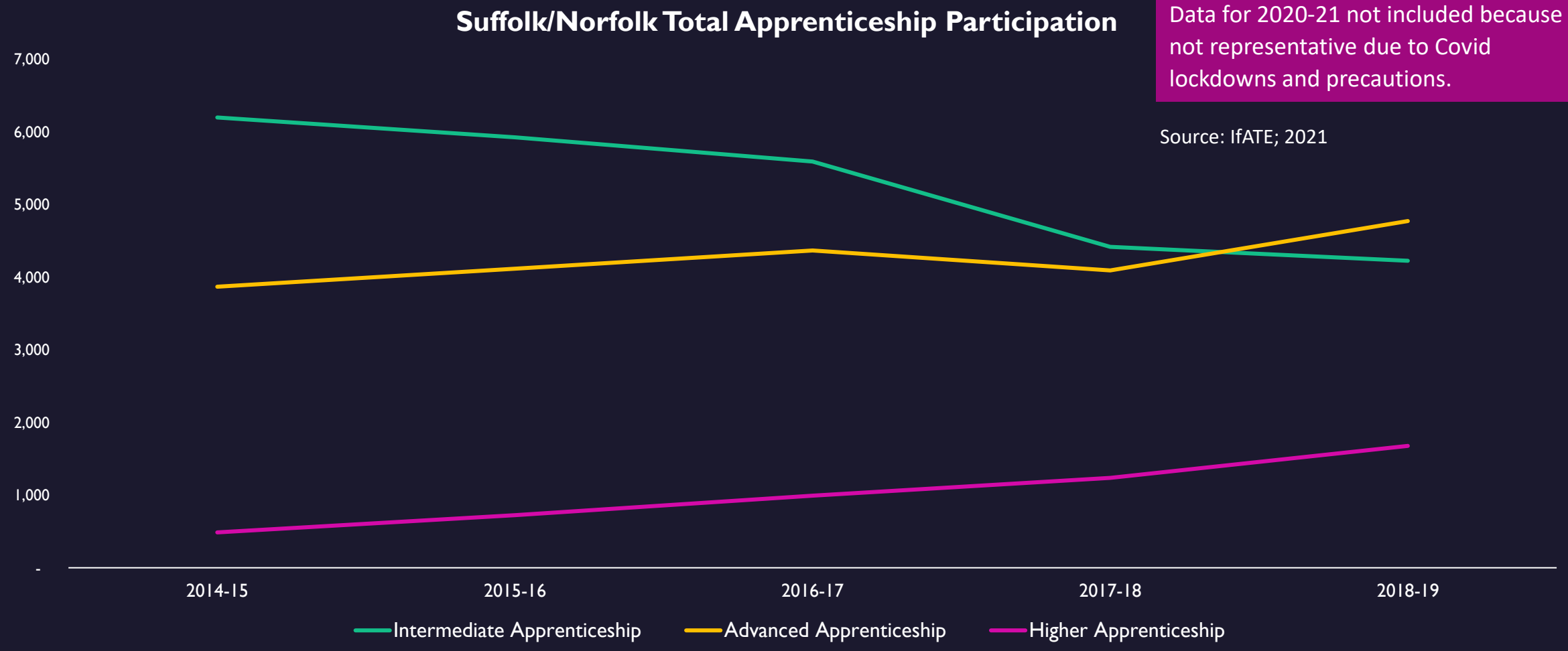
Some providers have students from five counties coming to them. Rural students in particular are willing to travel further

Apprenticeships

The next two slides compare participation with achievements for Norfolk/Suffolk 2016-2019

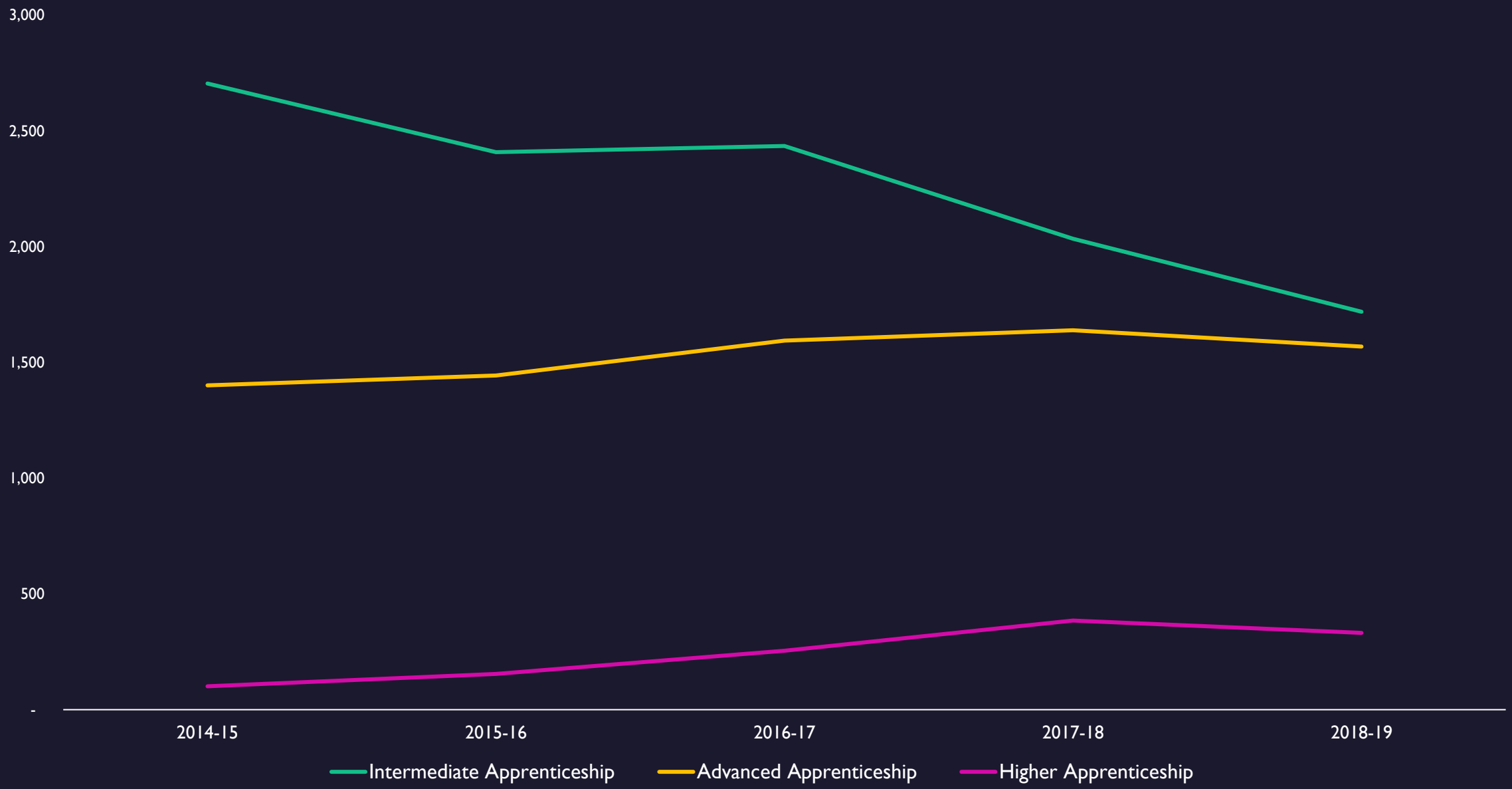
Data for 2020-21 not included because not representative due to Covid lockdowns and precautions.

Source: IfATE; 2021



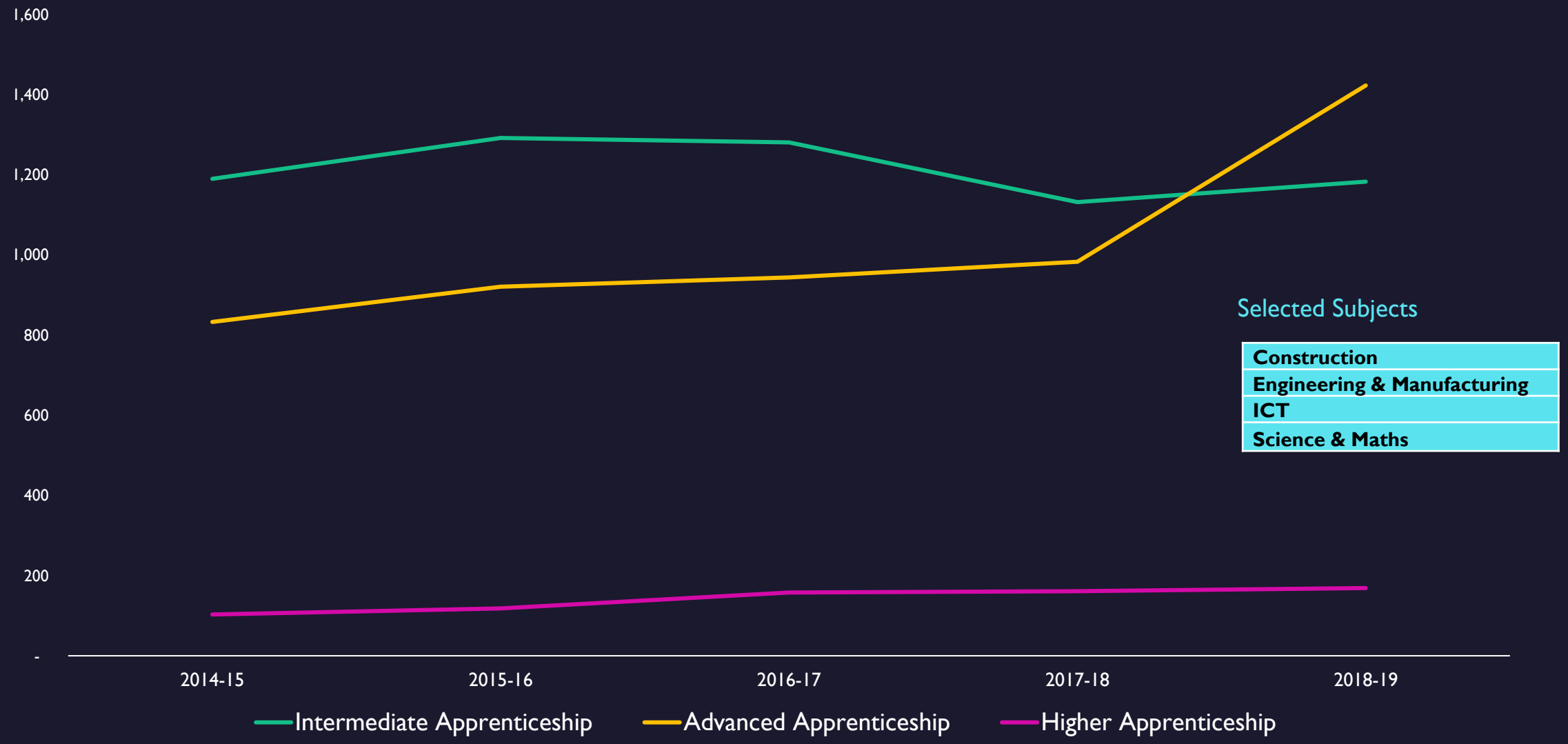
Suffolk/Norfolk Total Apprenticeship Achievements

Source: IfATE; 2021



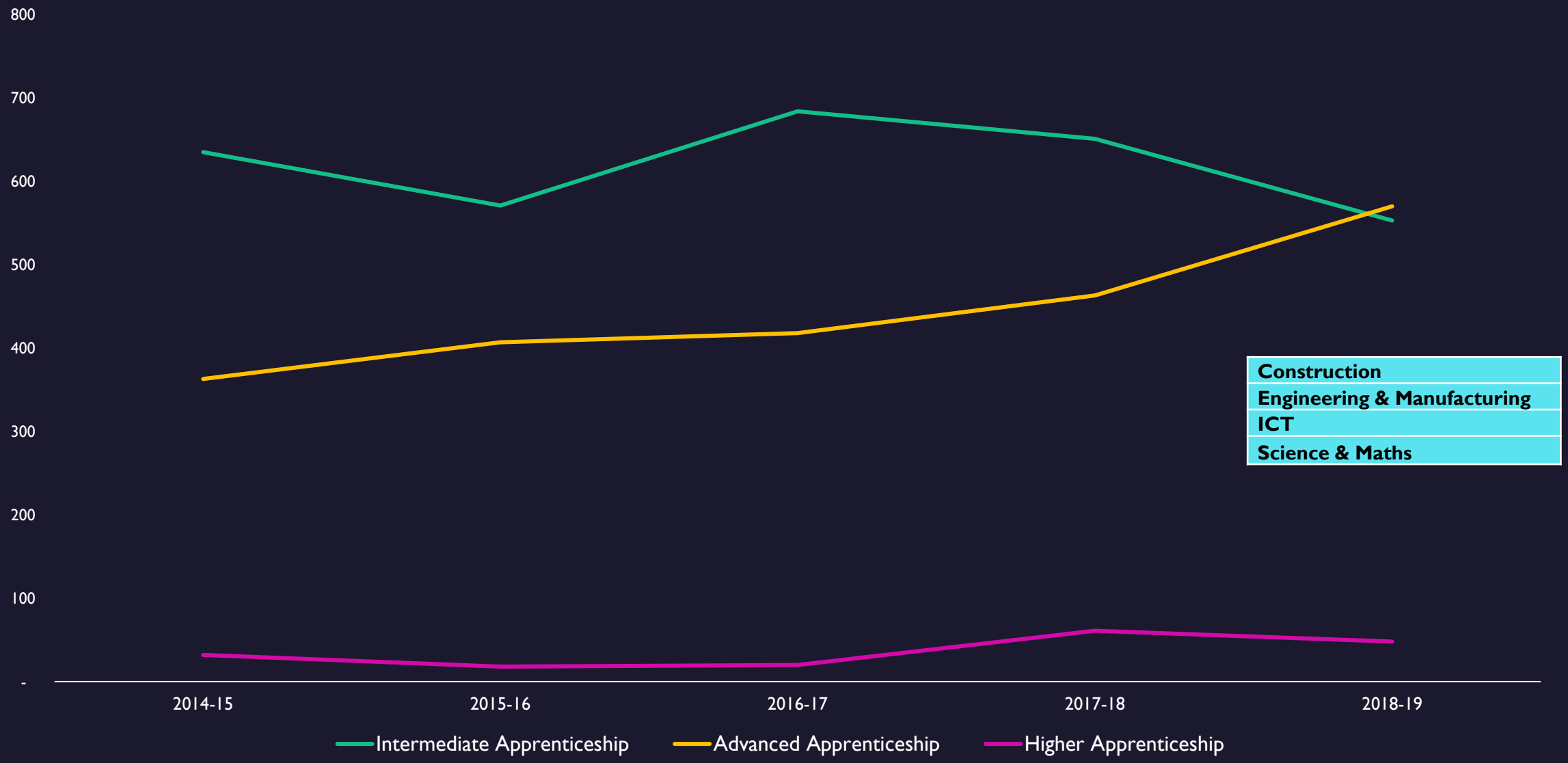
Suffolk/Norfolk Apprenticeship Participation in four selected subjects

Source: IfATE; 2021



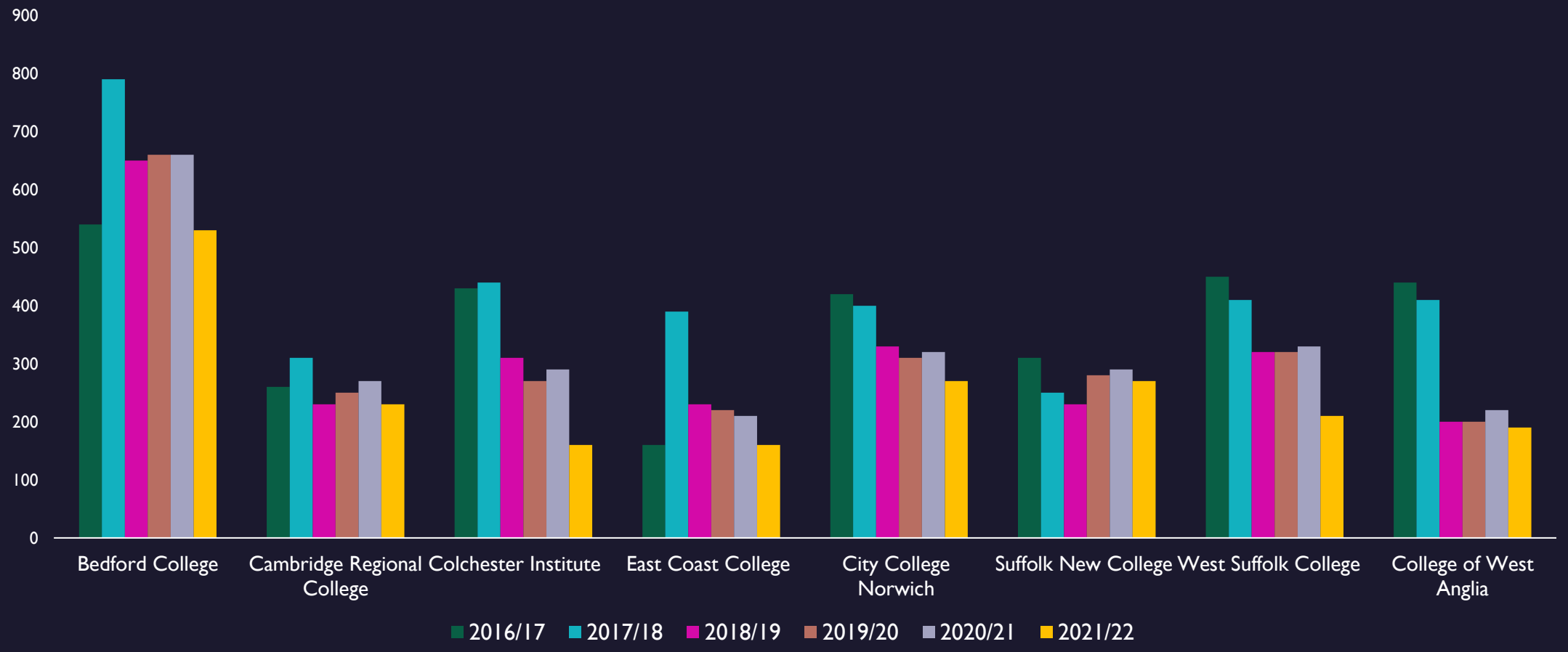
Suffolk/Norfolk Apprenticeship Achievements in selected subjects

Source: IfATE; 2021



Full Level 3 Participation (2016-2022 by College)

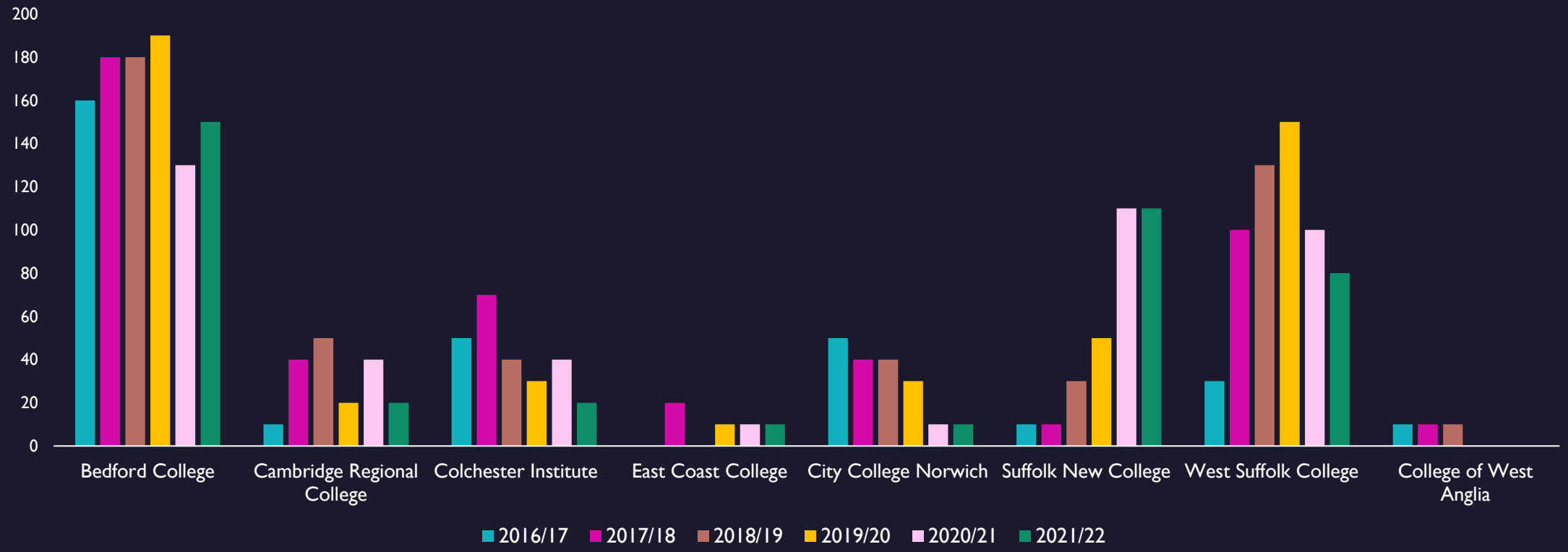
Source: DfE; 2022



Participation in Level 3/GCSE subjects at FE colleges appears to have dropped by around 30% since 2016 at a time when the overall 14-16 year old population is rising. This is almost certainly due to the increased focus on intermediate apprenticeships and the initial cohorts taking T-Levels at FE institutions.

Level 4+ Participation 2016-2022

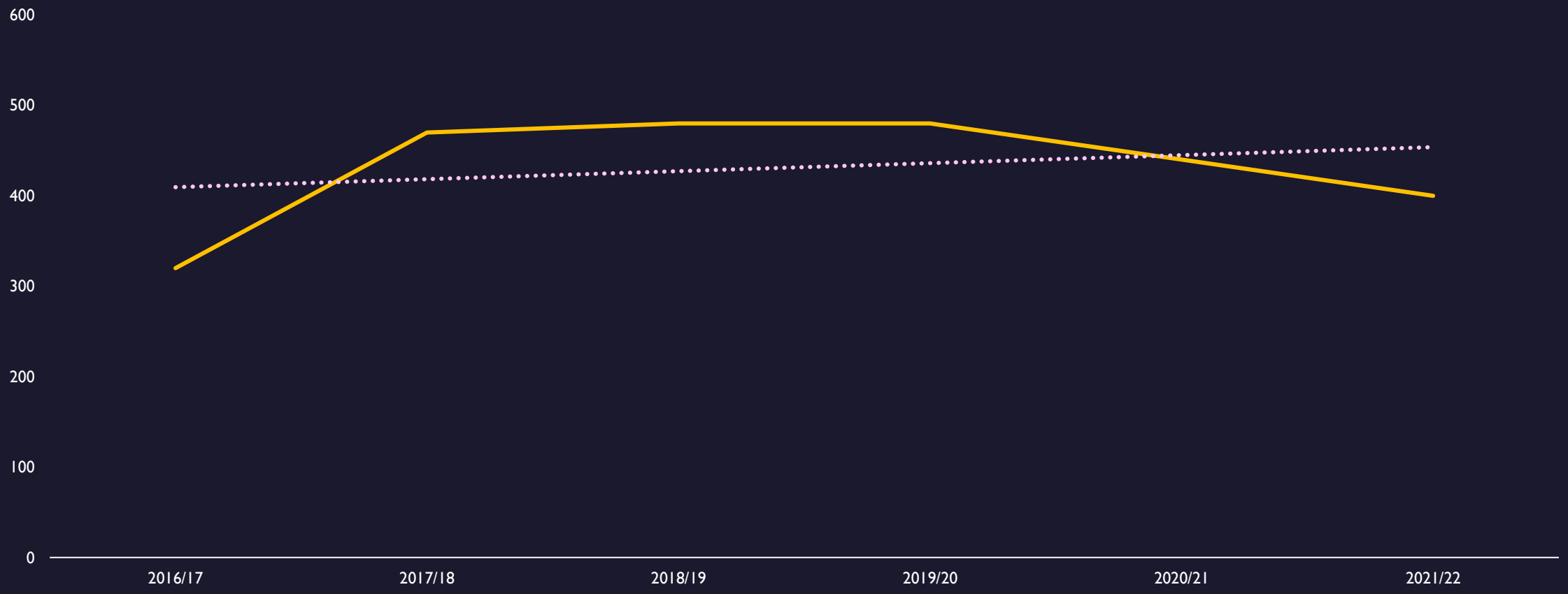
Source: DfE; 2022



Level 4 participation at local colleges appears to have risen by around 30% since 2016 but to have stagnated for the past five years.

Level 4+ 2016-2022 (all 8 colleges)

Source: DfE; 2022



Level 4+ participation at local colleges appears to have risen by around 30% since 2016 but to have stagnated for the past five years.

Barriers to Technical Skills Development 1

A number of barriers are seen as hindering FE providers from providing more and better technical skills. Almost all institutions claim they are already at full capacity in such subjects. Four barriers to expansion predominate:

- **Equipment** – technical skills such as science technicians, advanced electricians, digital skills (digital twinning, BIM, 3D modelling, big data), welding, robotics, etc. all require on-site equipment that is up-to-date. As technology is developing and changing rapidly there is a parallel need to refresh and modernise this equipment and software on an increasingly frequent basis.

- **Facilities** – most providers say they are short of physical space for new or expanded technical course delivery. Technical skills require specialist facilities.

Barriers to Technical Skills Development 2

- **Staff** – almost all providers mentioned difficulties in recruitment as well as their ongoing concern at keeping staff up-to-date and upskilling them in rapidly-developing technical subjects.

- **Low apprenticeship achievement rates** (averaging around 65% in construction-related skills) – implying significant waste of resources. This may be exacerbated by low minimum wages for apprentices and the much higher wages being paid by alternative jobs in the retail and even in the hospitality sectors.

There were several mentions in interviews of the need to coordinate resources across colleges in order to avoid duplication, and a need to find ways of economically transferring students from location to location without having to rely on public transport for the younger ones (older students and adults tend to use their own transport).

Several providers mentioned the dearth of good public transport in the evenings (as a few are already offering night classes and weekend provision).

6. Priorities & Provision

Setting a strategy to achieve Technical Skills Legacies across the fourteen critical skill groups.

Key Changes since the 2019 Report

(l)

- Economic conditions have deteriorated significantly – inflation and exchange rate now driving increases in costs for materials and staff.
- Population growth relatively slower in the two counties than in the rest of England and Wales
- Workforce continues to age but this may be offset to a certain degree by people working beyond normal pension age and by a small increase in the numbers of 14-16 year olds.
- Skills gaps and shortages in the private sector workforce have not improved and have probably deteriorated.

Key Changes since the 2019 Report

(2)

- Skills gaps and shortages in the technical teaching workforce have also not improved and may have deteriorated.
- T-Levels starting to come in but no clear statistics as to how fast and in what subject areas.
- Apprenticeships growing in number and more at higher levels – but drop out rates remain too high.
- But, while apprenticeship participation growing, achievements – especially at the advanced level – are static at best.
- University expansion continues but the story for FE is less positive for both full level 3 qualifications and those for level 4 and above..

Key Changes since the 2019 Report

(3)

- Employers see the impacts of Brexit as being not as important as those from other conditions and events such as Covid (lockdowns and Work-from-Home (WfH) leading to worsening shortages of skilled labour at all levels), supply chain issues, and potential global recessionary pressures.

- At least one provider has found a rare benefit from WfH due to its ability to recruit an IT tutor further afield. However, this cannot apply to more than a very small proportion of tutors.

- Within the two counties Travel-to-Work and Study zones appear to be reducing as people wish to travel less to find work and to attend places of education (could be temporary?) – possibly due to social changes but also at present to fuel costs and inflation

Conditions

Economic climate and conditions are almost uniquely poor at present

- high inflation and weak currency impacting on business costs
- cultural and continuing staff impacts of Covid still negatively affecting willingness and ability to work
- continuing issues with education and training (strong demand for non-technical subjects, high costs of technical training, employer demand for technical education not matched by learner demand, issues concerned with current transfer to T-Levels and Apprenticeships, serious issues with finding and paying technical tutors, etc).

Both employers and providers are experiencing extremely serious issues with:

- Skills gaps in their existing workforces
- Skills shortages and recruitment challenges – particularly for technically-skilled people

The Imponderables 1

Perhaps more than at any time in recent memory the projections in this study are subject to a number of powerful caveats. Some of these are ‘constants’ while others – which may have more profound effects – are unique to the times.

The main imponderables include:

- UK economy – trade (rising costs of imports), growth (extremely sluggish to non-existent), and inflation and interest rates (both high and uncertain whether they will reduce soon), cost of living impacts (potential effect – negative or positive – on willingness to train)

- World economy – the Ukraine War and its impacts on food supplies plus the effects on supply chains of China’s Covid policies and resulting slower growth, as well as inflation and reduced growth in other countries.

The Imponderables 2

- Industry – the extent to which industry in developed nations will now attempt to avoid supply chain issues by ‘localising’ – i.e. building local supply chains even at higher cost. In the US the aviation sector is already taking this approach and there are signs that some UK sectors are already adopting the same approach driven by chain uncertainty and exchange rates.

- Social factors – Covid has had an immense but as-yet poorly understood impact on the UK economy, society, and culture. Working from home may have an enduring effect and travel to work and study times seem to be getting shorter, the willingness to travel to study may also be affected by rising fuel costs. Covid shattered the traditional working culture and caused many people to leave their careers and job roles. Whether this will continue in harder economic times remains to be seen.

The Imponderables 3

- Education – There is not yet a clear understanding as to how T-levels will grow and the extent to which they will deliver the necessary high technical skills. Links with apprenticeships are also unclear. How will colleges react to demand or lack of it and the requirement for increased employer engagement & placement support?

- Energy policy – current government policy is in flux due to the Ukraine War and the sanctions on Russia. The key imponderable lie in the cost and gestation time of large nuclear projects and the possibility that the government will, instead (or as well as) adopt a modular reactor (AMR) strategy and re-examine fracking and geo-thermal projects.

The Known

Leaving the imponderables to one side we know that:

Employers and providers are experiencing severe skills gaps and shortages right now

Around £70bn of new infrastructure work is planned for Norfolk & Suffolk between now and 2037

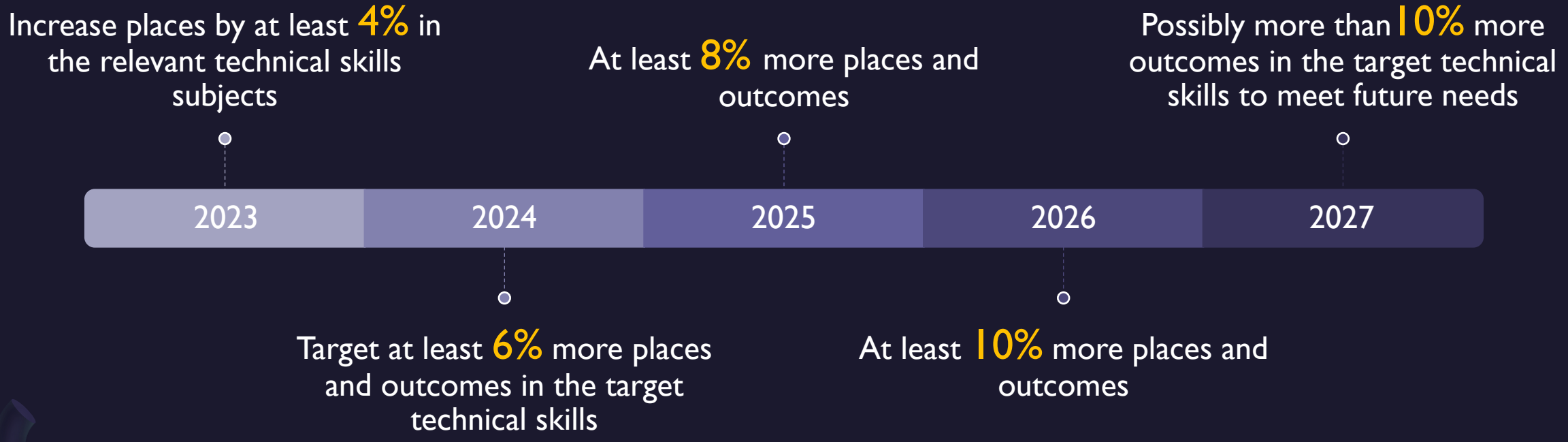
A high proportion of the employment need will be additional to the existing workforce

Leading to a need for around 43,000 jobs (10,000 by 2027)

Necessitating a ramp up towards at least 10% more education and training places in technical skills by 2027

Technical Skills Timeline

In order to increase technical skills supply by at least 10% before 2027 in will be necessary to begin the ramp up as soon as possible – e.g. by at least 4% in the relevant technical skills subjects in 2023. The following timeline illustrates a possible progression route towards the target.



Recommendations 1

Even with a background of serious existing skills shortages and gaps, the upcoming new infrastructure projects represent a major opportunity for Suffolk and Norfolk to create a local legacy of higher skills and capability for the future …

we recommend that technical skills education provision covering the key fifteen SOC codes be rapidly and urgently increased to a target of at least ten percent more places and outcomes than current numbers by 2026.

the focus for this effort should be on the higher technical skills and advanced skills within the construction and engineering industries covering all SOC Groups that cannot be addressed through private training (e.g. drivers)

Recommendations 2

in order to ‘future proof’ the technical skills legacy we recommend that a ‘leap-frog strategy’ be adopted, looking to develop skills ahead of need in areas such as advanced skillsets for science technicians, advanced electricians/electronics, digital skills (digital twinning, BIM, 3D modelling, big data), advanced manufacturing including welding, robotic applications, AI applications, smart/connected applications, etc.

we also recommend that providers be given help to develop economical ways of acquiring sufficiently highly skilled and knowledgeable tutors for the subjects involved.

we anticipate that this will only be efficiently achieved through ‘visiting tutor’ arrangements with suitable companies. Companies would be asked to ‘donate’ the time of such tutors (perhaps half a day to one day per week) with the expert able to list themselves as a ‘visiting tutor’ on their CVs and the company able to carry a ‘Tutoring the Future’ logo on their publicity.

Recommendations 3

for economical expansion of technical skills provision, collaboration and coordination between colleges will be essential. Suitable mechanisms may already be in place but may need to be strengthened and possibly integrated into decision-making processes.

additional effort should be implemented to inform school teachers of technical skills careers opportunities, and developments within relevant sectors.

we further recommend that an expert working group be established to design, implement, and monitor the mechanisms necessitated by these recommendations and that urgent action be guided by tight deadlines.

End

Pye Tait Consulting

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