Partneriaeth Sgiliau Prifddinas Ranbarth Caerdydd | Cardiff Capital Region Skills Partnership

Cardiff Capital Region Skills Partnership

Employment and Skills Plan 2019-22

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Foreword

The Cardiff Capital Region Skills Partnership has been established to bring people together to promote strategic and collaborative decision making. Representatives from business, further and higher education, training providers and government join together to share their knowledge and understanding of the sectors they represent to ensure the region is truly able to respond to a demand led approach to developing skills and talent.

This three year vision for Employment and Skills across the region has been developed by the (RSP) in consultation with business, education and training providers to inform and influence Welsh Government on its future planning and funding of post 16 learning ensuring a demand led and sustainable skills system which will lead to increased productivity and prosperity across the region.

Skills are often the number one issue and priority for business throughout the development of this plan we have heard that having a well skilled and able labour market ready to embrace industries of the future is the prerequisite for most businesses.

We believe our plan recognises and sets out the actions needed by a wide range of partners to addresses the skills gaps and shortages that are a barrier to growth across the Cardiff Capital Region and will support the objectives outlined in the CCR **Industrial and Economic Plan**.

Whilst we appreciate that there is not an infinite pot of money to support the priorities and recommendations we have made we believe they are appropriate and agile to respond to the changing needs of business.

I would like to thank all of our board members past and present that gift us their time and expertise, all businesses involved in the sector groups; your input and contribution has been invaluable.

Leigh Hughes,
Chair Cardiff Capital Region Skills Partnership

Executive Summary

The Cardiff Capital Region (CCR) Regional Skills Partnership acts as a strategic body to produce and analyse labour market intelligence aligned to economic data. Through the development of an employment and skills plan it provides a mechanism to review regional skills provision and advise Welsh Government on future prioritisation – effectively maximising future available funds and stimulating innovation.

The development of the employment and skills plan has been led by the CCR Regional Skills Partnership and has involved a collaboration with business, education, training providers and Welsh Government, it is informed by **Prosperity for All**, the **Employability Delivery Plan**, **Apprenticeships Skills Policy Plan**, **Economic Action Plan** and **The Well-being of Future Generations (Wales) Act 2015**.

The recommendations contained within the plan will help to shape and influence Welsh Governments approach to funding post 16 learning and details how the actions it will take working with partners over the next three years will support the CCR **Industrial and Economic Plan** objectives to accelerate economic and inclusive growth in the region.

"Our mission is to identify and respond to the social, economic and skills needs of the Cardiff Capital Region, to engage with employers and other stakeholders to identify current and future skills needs and plan accordingly and to enable an inclusive regional response to both Cardiff Capital Region City Deal and Welsh Government Policy and initiatives".

The Cardiff Capital Region Skills Partnership has developed the Employment Skills Plan under six key themes with the aim over the next three years to:

Strengthen the post-16 further education offer in priority sectors through increased specialisation to meet the demand from employers across the City Region

The CCR RSP has supported Transport for Wales (TfW) to undertake a skills needs analysis to ensure relevant provision is available to respond to the employment and skills demands of the South Wales Metro and the employment opportunities it will generate

Going forward the CCR RSP will:

- Work with Colegau Cymru and FE colleges in the region to ensure that training provision and facilities meet current and future needs of businesses and learners as evidenced through its research, identifying centres of excellence
- Work with Cardiff Capital Region to ensure the employment and skills needs of infrastructure investment made via City Deal is understood and adequate provision is in place to respond

Improve planning of curriculum to ensure colleges, training providers and others are delivering the right balance and mix of provision for learners and businesses

The RSP has worked with sector priority groups to understand the skills gaps and shortages particular to those industries and made recommendations for amendments to provision to address the gaps and shortages

Going forward the CCR RSP will:

- Use its evidence base to engage with providers at an early stage to better inform planning and funding recommendations
- Identify the requirements for Continued Professional Development and support the development and delivery of programmes
- Continue to work with employers, colleges and training providers to address concerns of employability (soft) skills, literacy, numeracy and digital.

Develop a more joined-up approach to skills delivery across the City Region to support people into work and to progress in work

The RSP has recognised that the Regional Economic Growth Partnership and CCR Business Council have identified several new and emerging industries as priorities and to ensure a more joined up approach to skills delivery the RSP has undertaken a mapping exercise to compare the priority and key sectors. There was some general comparability across the three groups and have taken steps in the plan to align these

Going forward the CCR RSP will:

- Work closely with the CCR Business Council and Regional Economic Growth Partnership to better engage with business to ensure the employment and skills needs of new and emerging sectors are captured
- Conduct further research into new and emerging sectors such as Compound Semiconductors, Creative and Digital technology and develop standard industry profiles

Broaden the apprenticeship offer at levels 3, 4, higher and degree by responding to government policy changes

The CCR RSP is fully supportive of Welsh Governments ambition to achieve its target of 100,000 apprentices in its Assembly term and has supported the Blaenau Gwent and Aspire Merthyr Tydfil Shared Apprenticeship Scheme and the Y Prentis shared apprenticeship scheme in the region. The RSP has also assisted businesses to fully understand the Welsh Government Apprenticeship programme in the context of the UK Government Apprenticeship Levy and championed the pilot degree apprenticeship scheme (IT, Engineering and Advanced Manufacturing).

Going forward the CCR RSP will:

- Use its evidence base to influence future apprenticeship framework developments
- Where appropriate continue to support apprenticeships and shared apprenticeship schemes
- Work with Colleges and Universities and training providers to articulate employer needs for Higher and Degree Apprenticeships from across the priority sectors

Influence the work of Qualifications Wales and work with key stakeholders to maximise opportunities and ensure that emerging qualifications meet industry needs.

Through its sector groups the RSP has supported the sector review work undertaken by Qualifications Wales in Care, ICT and Construction.

Going forward the CCR RSP will:

- Continue to support Qualifications Wales work through its engagement with the sector groups
- Ensure the recommendations of Qualifications Wales relating to new provision are identified in the Employment and Skills Plans
- Work with Colegau Cymru, NTFW, Colleges, Training providers and Schools to ensure teachers, staff and lectures are suitably trained, qualified and experienced to deliver new qualifications and the requirements outlined

Establish more effective approaches to careers information, advice and guidance to address issues of sector perception and promote the key sectors as viable career options.

The RSP has supported the development and launch of the CCR Graduate scheme, local initiatives such as Cardiff Commitment and National programmes including Education Business Exchange and Business Class.

Going forward the CCR RSP will:

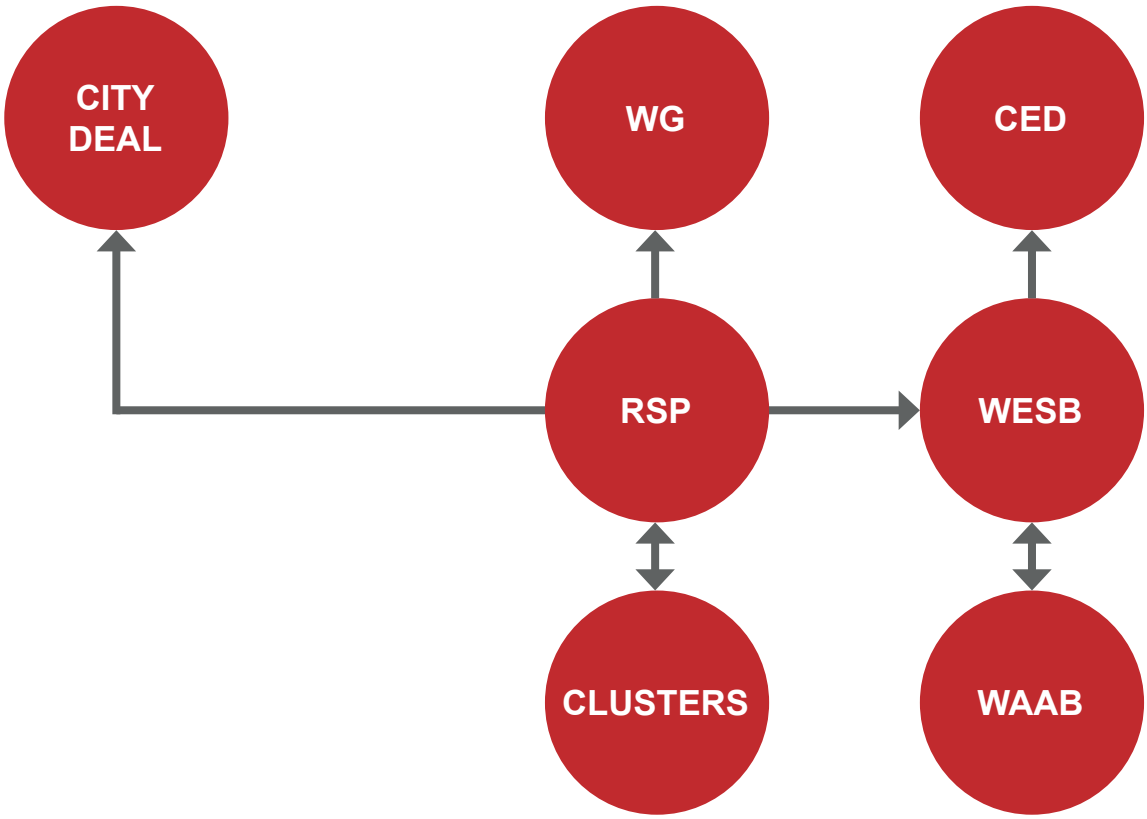
- Encourage business to engage with schools ready for the introduction of the Curriculum for Wales in 2022
- Support Careers Wales to promote greater parity of esteem between academic and vocational pathways
- Work with sector groups to produce sector specific careers resources to address misconceptions of perception of industry and address the gender imbalance

Governance

The Cardiff Capital Region Regional Skills Partnership (RSP) is answerable to Welsh Government, the role of the partnership is to identify and prioritise skills needs and advise Welsh Government on regional prioritisation of skills funding to support economic prosperity.

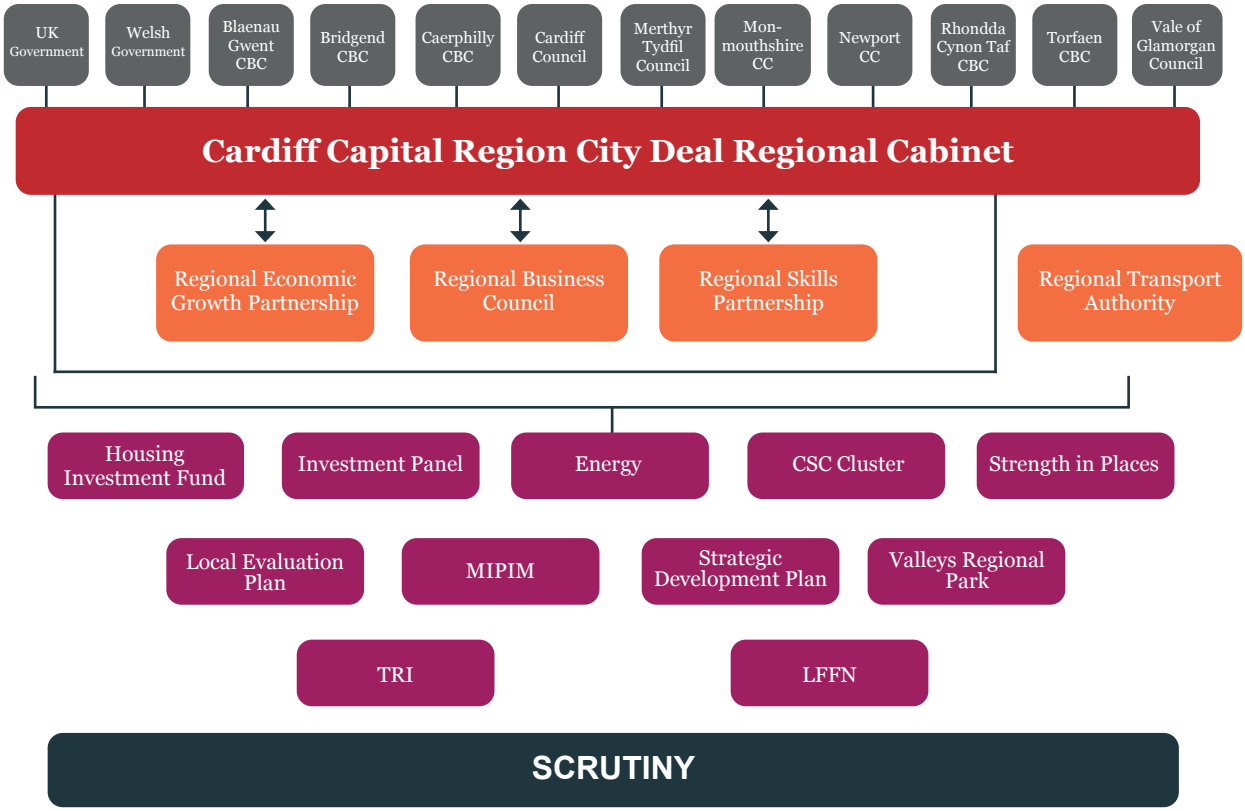
The Employment and Skills Plan produced by the RSP is demand-led and inclusive, involving industry and working with the Cardiff Capital Region to ensure skills delivery is in response to economic need.

The Employment and Skills Board is Chaired by an industry member. Membership is drawn from a wide variety of stakeholders and all members attend as representatives of their sectors or networks. The Regional Employment and Skills Board is represented on the Wales Employment and Skills Board (WESB), Wales Apprenticeship Advisory Board (WAAB) and Council for Economic Development (CED).



The RSP and Employment and Skills Board are integrated within regional structures as a part of the Cardiff Capital Region Programme Management Office. The Regional Skills Partnership is now managed by Newport City Council and its Employment and Skills Board is recognised as one of four Regional Partnership Boards which are supported by the Programme Management Office and which act in an advisory capacity to the Cardiff Capital Region Cabinet. The Regional Skills Partnership and Employment and Skills Board support the delivery of a shared Cardiff Capital Region employment and skills agenda for the City Deal and Welsh Government.

The chair of the RSP has an observer role on both the Regional Economic Growth Partnership and Regional Business Council to ensure that the RSP and City Deal are aligned and that the skills agenda supports the ambition of the CCR City Deal, it ensures that the employment and skills plan produced for Welsh Government is consistent in the aims and objectives of the CCR/ City Deal economic growth plan and all parties work from one employment and skills plan.



Employment and Skills Board and Sector Champions

The Employment and Skills Board is representative of the regional economy and includes representation from the Cardiff Capital Region City Deal, CBI, FSB, South Wales Chamber of Commerce along with employers from regionally identified priority sectors including Advanced Materials, Manufacturing and Energy, Compound Semiconductors, Construction, Creative, Digital Technology and the Foundational Economy.

Each member of the Employment and Skills Board adopts an ambassadorial role and champions the work of the CCR RSP across their associated networks; an activity that enhances engagement and ensures that 'reach' is maximised across the plethora of business networks and wider economic structures within the region.

For some time, the Board has also identified a dedicated employer engagement work stream within its programme. Here, business representatives and sector champions are required to lead engagement activity; particularly within sectors identified as priority sectors. Sector champions connect with industry representatives from across wider business communities on a sectoral level. This approach helps to maximise impact and ensure that a wide range of employers are able to engage with the work of the CCR RSP and play a pivotal role to identify and address industry priorities.

Key Sector Groups

To support engagement activity and to promote positive working relationships with employers, the CCR RSP continues to support six industry sector groups. The sector groups directly align with the sectors that have been deemed a priority for the region and each is driven by the relevant sector champion:

- Advanced Materials, Manufacturing and Energy
- Compound Semiconductors
- Construction
- Creative
- Digital Technology
- Foundational Economy

There is also increasing consistency in the sector group's terms of reference, meeting agenda items and reporting arrangements. Each sector (through the sector champion) defines the engagement strategy and existing groups or networks are utilised in an attempt to avoid duplication. To elaborate, the Construction, Digital Technology and Foundational Economy sector sectors were initiated by the CCR RSP in conjunction with the relevant sector champions as opposed to the Advanced Materials, Manufacturing and Energy sector engagement activity which is undertaken in partnership with Industry Wales.

The Digital Technology group is at an early stage of development and as challenges and opportunities arise in the region we are now working closely with the CCR Creative sector as we have identified this sector as a shared priority for the Cardiff Capital Region.

Current membership of the sector groups can be found in the annex, with a commitment to continue to broaden membership.

Research including Business Skills Survey

In addition to the industry sector groups, the CCR RSP has gathered robust and reliable industry labour market intelligence through a range of sector bodies including that produced by the CITB, FSB, SEMTA and Industry Wales to name but a few.

High level research findings are then triangulated with qualitative data generated through broader employer engagement activity and through a quantitative online business skills survey which has been undertaken annually by the CCR RSP.

The online business skills survey has been repeated in 2019 and has increased its individual response rate from businesses. Findings are used to inform the development of this plan and template recommendations.

Meetings, Networks and Events

The RSP and individual members of the Employment and Skills Board support wider employer engagement activities by attending and/or presenting at meetings, networks, conferences and events as and when required. For 2019, detailed presentations have been delivered across the Cardiff Capital region including four breakfast engagement events which were organised by the Cardiff Capital Region business council. These business engagement events helped to ensure that the RSP could interface with over 250 businesses.

Business Organisations

We recognise the need to give attention to small businesses. Small businesses account for 61.7% of employment and 40.6% of turnover in Wales.[1] Over 99.3% of total enterprises in Wales are micro, small or medium sized. Their day to day needs are likely to differ to large companies, and their ability and capacity to respond to macroeconomic challenges, such as Brexit and digitalisation, differ to larger companies.

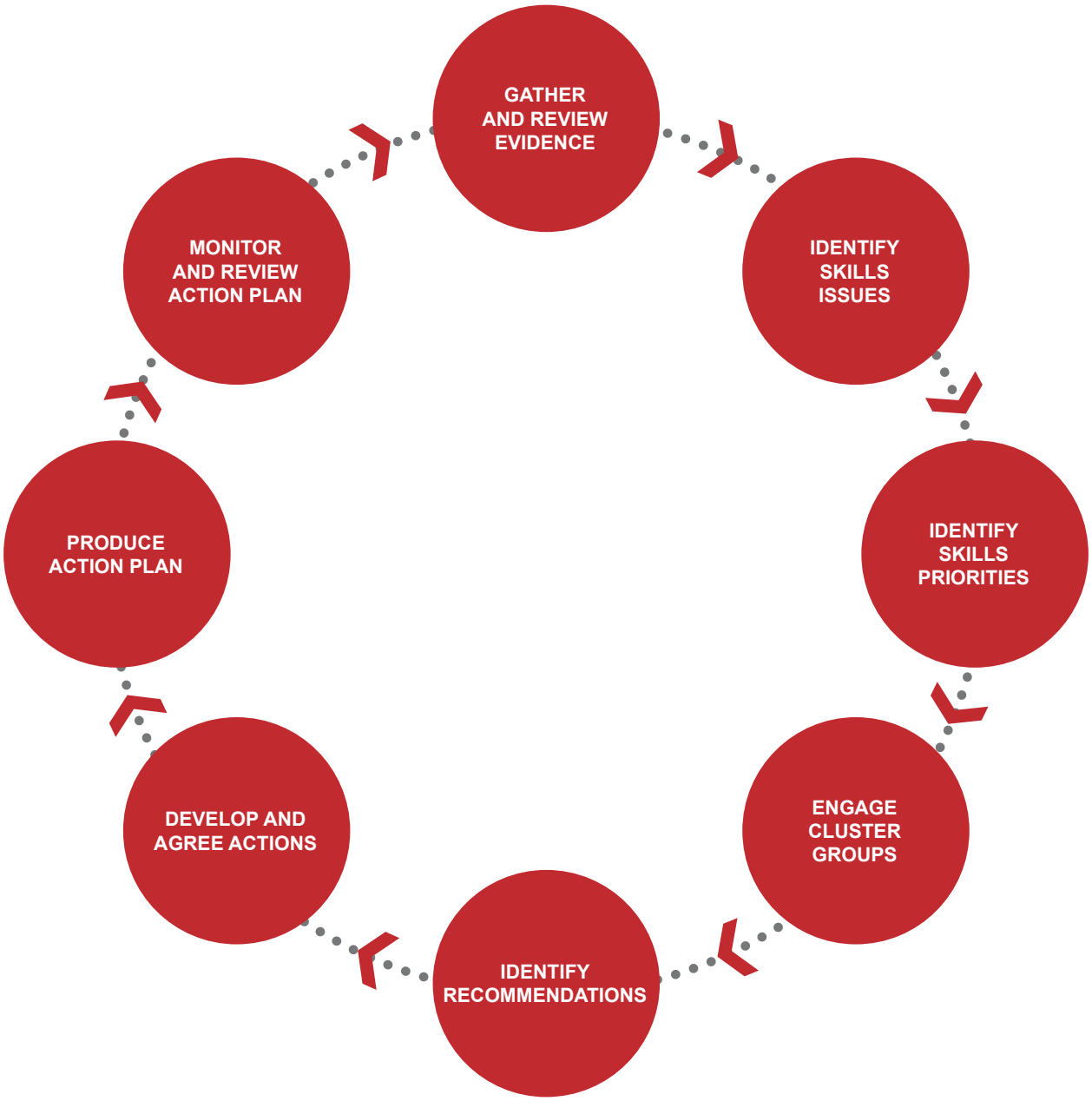
Small businesses are also harder to reach and, unlike large companies which may have their own specialist divisions to report on individual skills issue, management are fulfilling many roles within the businesses. Recruitment and skills issues can therefore cause significant disruption to a business.

The RSP has continued to engage with Federation of Small Businesses, South Wales Chamber of Commerce and CBI to ensure it better understand how training provision works for SMEs, with a focus on establishing whether current provision "meets the needs of SMEs and the self-employed, particularly in the context of local provision, quality and relevance."

How the plan is developed

Identifying and articulating the skills needs of employers across the SE Wales region is a fundamental principle of this plan. In this regard, the Cardiff Capital Region Skills Partnership has adopted a broad approach to its employer engagement activities and a range of techniques have been implemented to help ensure that the pertinent issues have been effectively captured (see diagram below):

[1] https://gov.wales/sites/default/files/statistics-and-research/2019-04/size-analysis-of-businesses-2017.pdf

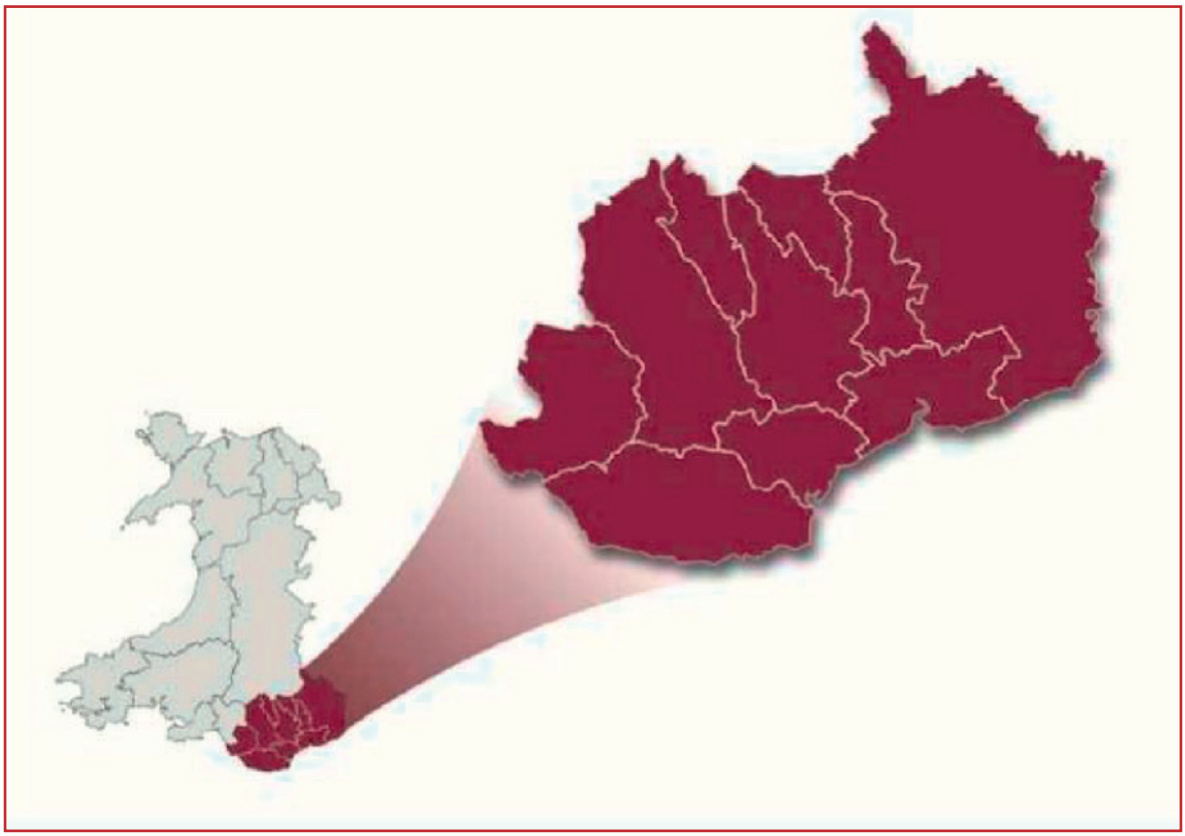


The diagram demonstrates the approach taken to develop the CCR Employment and Skills Plan.

However, the plan itself is not the sole purpose; for the outcomes and deliverables to be achieved a wide range of partners have a critical role in ensuring its effective implementation and success, both in terms of ongoing performance, commitment and resource.

The action plan can be found on page 45.

Policy context



The region has an estimated population of **1.5m**, *(Reference Infobase)* which is **48.8%** of the Wales population.

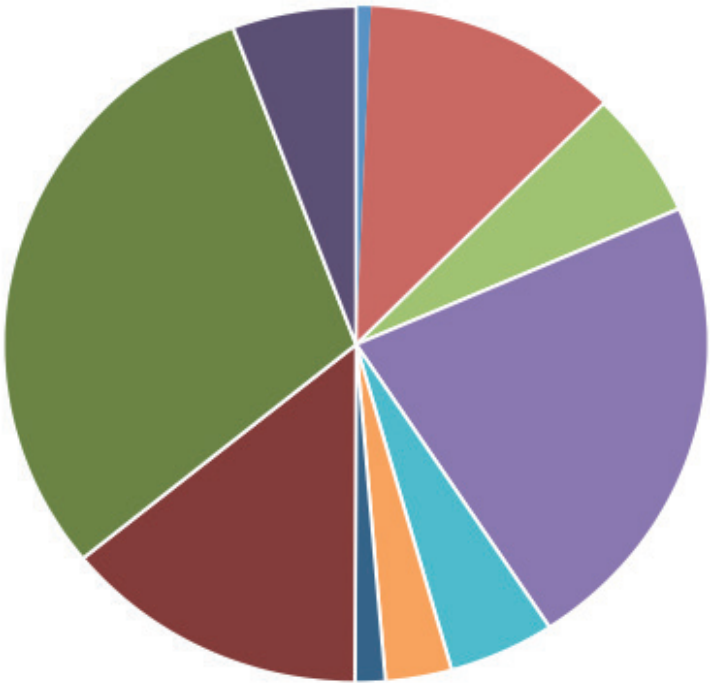
Of this population, around **964,000 people** are estimated to be of working age (**16-64** year of age). *(Reference Infobase)*

The region generates **51%** of the total gross value added (GVA) in Wales. While Cardiff has a GVA that exceeds the UK average, the other local authorities in our region are lagging with Blaenau Gwent, Caerphilly and the Vale of Glamorgan having the lowest GVA per head.

The biggest employer in our region in terms of number of people employed is *Public administration, defence, education and health* followed by *Wholesale, retail, transport, hotels and food*. There is significant variation between local economies within the region.
For example, some local authorities employ a larger proportion of the workforce in broad sectors, such as production, than others.[2]

[2] https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and- Work/Employment/Jobs/Whole-Workforce

Workplace employment by Welsh local areas and broad industry in the Cardiff Capital Region (2017)

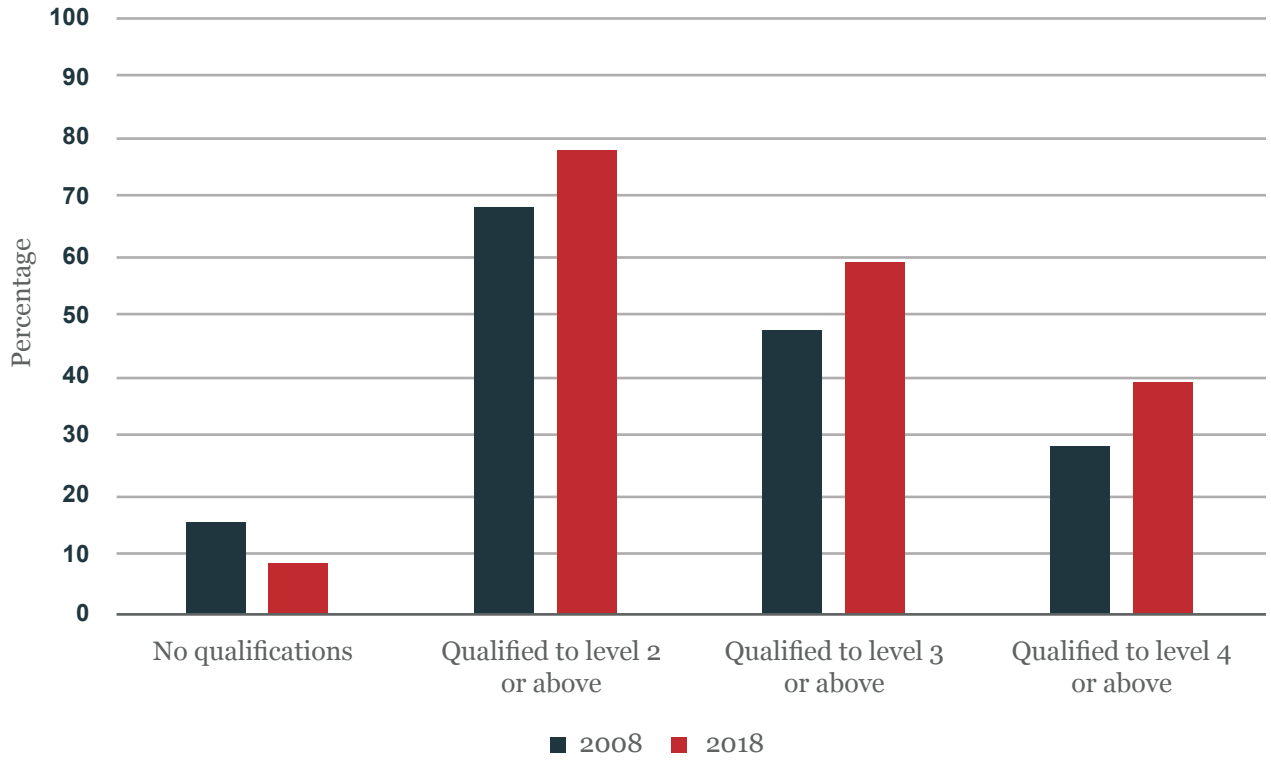


Source: StatsWales

Over the past decade, the qualifications level of the working age population in our region has increased with nearly **40%** of people now holding qualifications at Level 4 or above. The number of people with no qualifications has dropped significantly from **15.8%** to **8.9%**

- Percentage of the population with qualifications at level 4 ranges considerably in the Cardiff Capital Region, with highs of over **46%** in Cardiff, the Vale of Glamorgan and Monmouthshire and lows of less than **33%** in Caerphilly, Merthyr Tydfil, and Blaenau Gwent.
- Areas with low levels of Level 4 qualifications however had high levels of residents with Trade Apprenticeships.
- There have been declines in the number of people with no qualifications, with Newport seeing the largest percentage point decline of **56%** between 2008 and 2017.
- Merthyr Tydfil still has high levels of persons with no qualifications at **16.4%** compared to Monmouthshire **(5.3%)** in 2017.

Qualification levels for the Cardiff Capital Region, 2008 and 2018



Across the UK, skills shortages are becoming more prevalent (Open University Business Barometer 2019). The Business Barometer Survey of 2019 asked 950 senior business leaders at SMEs and large enterprises across the UK whether they were currently experiencing a skills shortage – with **63%** saying yes. In Wales, this was **67%** - a rise of 3 percentage points from 2018. In Wales, skills shortages are estimated to be costing the economy £155.2m per year. Given the regional economy accounts for **51%** of the total GVA in Wales, it is likely to be having a significant financial impact in our region.

Employability

There is a relatively low level of unemployment across the Cardiff Capital Region, between 2015 and 2018, all parts of the region saw declines in the unemployment rate, however this varies considerably across the authorities from a low of **2.9%** in Monmouthshire to a high of **7.0%** in Rhondda Cynon Taff.

The level of economic activity rate in all authorities in the Cardiff Capital Region apart from Bridgend has improved over the past three years; again we have seen the considerable variance across the region from a low of **1.3%** in Newport to a high of **6.0%** in Cardiff.

We recognise that employment opportunities vary greatly across the region and particularly affect our valleys communities.

Welsh Language

Our Business Skills Survey found just over a third of organisations said they wished to increase the use of Welsh in their business or organisation by hiring more Welsh staff.

The main barrier to improving Welsh language skills was the lack of applicants with the relevant skills with **31%** of responders listing it as an issue. Just **20%** said that those with Welsh language skills did not have other skills the organisation required.

Through our engagement with the sector groups it is evident that the desire for Welsh Language varies across the sectors; Creative and Human Foundational Economy both citing a requirement for Welsh language skills.

Gender Pay Gap

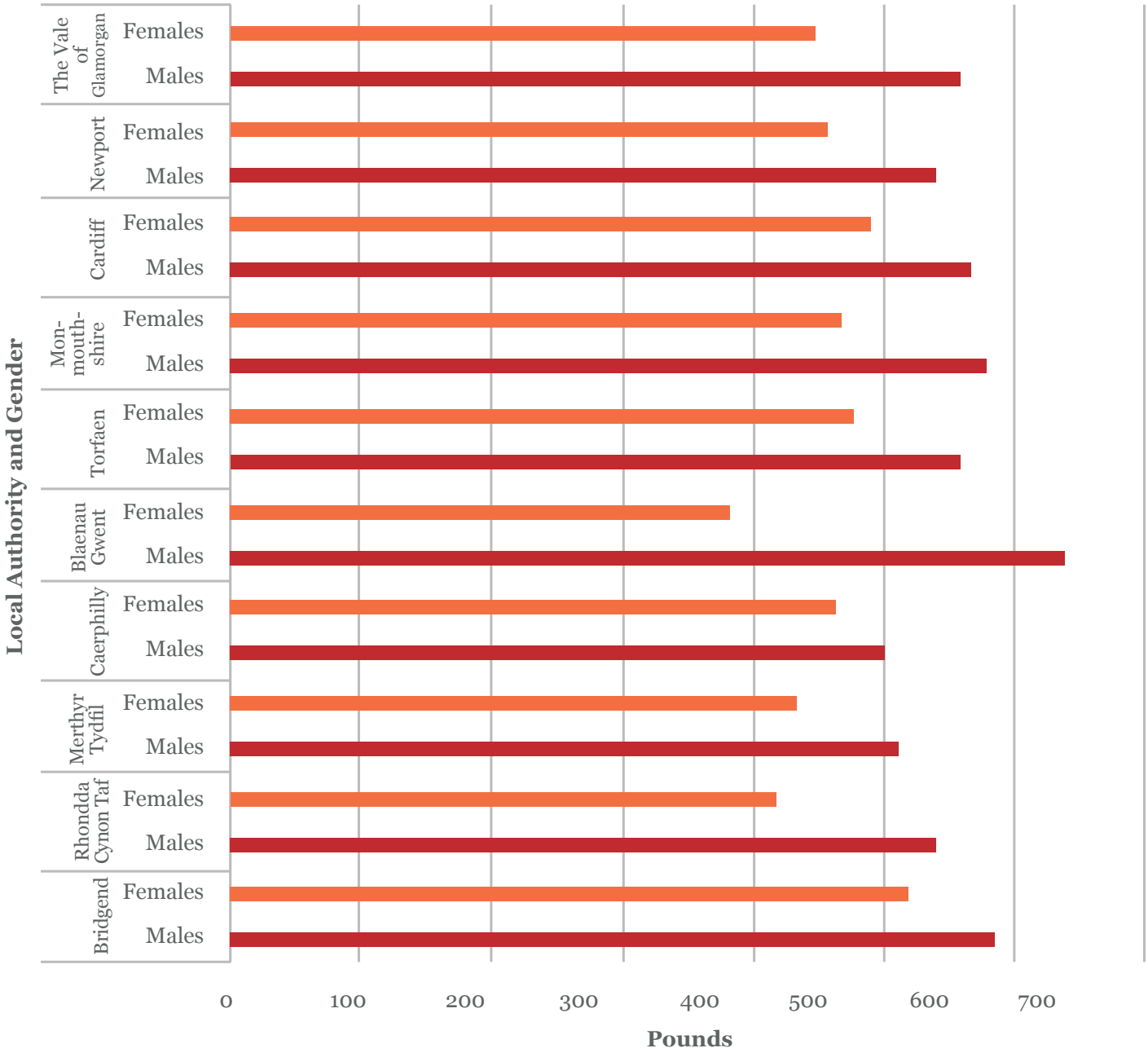
The gender pay gap continues to be an issue across Wales – although there has been movement towards equal pay between genders. Two decades ago, the gap in gross median weekly earnings between men and women was approximately **20%**. As of 2018, it is **11%**.[3]

Within our region, there are some stark differences between the weekly earnings of men and women, with Torfaen and Blaenau Gwent showing larger differences than other local authorities

It should also be noted that some of our high GVA priority sectors do have significant gender imbalances Digital Technology, Advanced Materials & Manufacturing, and Construction all have demonstrable gender imbalances which the sectors wish to address.

[3] https://statswales.gov.wales/Catalogue/Business-Economy-and-Labour-Market/People-and- Work/Earnings/genderpaydifferenceinwales-by-year

Average (median) gross weekly earnings (2018



Source: StatsWales

Wellbeing of Future Generations (Wales) Act 2015

Although we are not currently subject to the Well-being of Future Generations (Wales) Act 2015 (the Act), we consider that our role supports its purpose, and that the requirements for public bodies in Wales to think about the long-term impact of their decisions, to assess how sustainable they are, and to better with people, communities and each other are compatible with how we work.

Welsh Government statutory guidance clarifies that this means considering sustainable development as a central organising principle; in what we do; in how we do it; and in how we communicate the difference we are making. It is natural for us to work in this way, as employment and skills planning requires a long-term view. We also work collaboratively with a wide range of partners across Government, Business, education sector and training providers.

The CCRSP embraces the act and over the duration of the plan will align and contribute to the seven well-being goals underpinned by the five ways of working by:

A Prosperous Wales	Working with our sector groups we will ensure that Education and training provision meet the needs of employers both now and in the future
A Resilient Wales	Encouraging the exploitation of employment opportunities that may arise through climate change and mitigation
A Healthier Wales	Maximise positive connections between health, jobs, and prosperity and address barriers to work to help individuals to meet their full potential
A more equal Wales	Utilise effective approaches to careers information, advice and guidance to ensure inclusivity and promote equality of opportunity for everyone
A Wales of cohesive communities	Develop a skills analysis for both physical and digital infrastructure to better understand the skills, training and employment opportunities
A Wales of vibrant culture and thriving Welsh language	We will encourage the recognition of the Welsh Language as a skills amongst businesses, learners and education providers
A Globally responsible Wales	Identify and capitalize on the skills and training opportunities which will arise through the transition to a low carbon economy

The CCRSP believes it has the greatest potential impact on **'A prosperous Wales'.**

Our work contributes to the development of an agile and responsive skills system in the region to meet individual and business needs that will enable more people to move into higher skilled jobs and make more employees that are skilled available to support businesses thereby accelerating economic and inclusive growth in the region and improving prosperity.

Opportunities and Challenges

Throughout the Cardiff Capital Region there is a significant amount of investment planned which will create opportunities for job creation, economic growth and social prosperity.

Cardiff Capital Region – City Deal

The Cardiff Capital Region City Deal, a £1.28bn City Deal agreed between the UK and Welsh governments, continues to influence capital and infrastructure investment across the region.

CCR has a real opportunity to build a fit for future investment framework that promotes 'evergreen' returns in order to grow sustainability and resilience – so pivotal at this uncertain time. The new Investment and Intervention Framework embodies the opportunity to invest in accordance with priority sectors and places and to develop a complementary balance of local political and industrial leadership. Influence and identity is a key part of this and opportunities are identified to work with UK Research and Innovation through programmes such as Strength in Places – which focuses on development of Industrial scale clusters. Beyond this, there is potential to develop relationships through important global events such as MIPIM and UK-based networks such as Wales In London to strengthen and reinforce investor networks, international partnerships and institutional links. The priority is to build the future of a region and all of these investments, partnership and global opportunities will be key to achieving this.

South Wales Metro

A key part of the Cardiff Capital Region City Deal, this £734m investment will provide better integration across different modes of transport across the region. Additionally, there is an agreement in principle for a £180m re-development of Cardiff's transport hub including £40m to create a new central transport interchange.

Hinkley Point

The £18bn investment to construct a new nuclear power plant in Somerset is projected to create 26,000 jobs and apprenticeships. 64% of this investment is projected to be secured by UK businesses demonstrating that it will create significant opportunities across the wider supply chain.[4]

The Swansea Bay City Deal

Developments in neighbouring regions will also have an impact upon the Cardiff Capital Region. They are likely to offer employment opportunities to workers within the region, benefits to businesses through supply-chains, and other spin offs.

Other Infrastructure Projects

Research by the CITB utilising the Glenigan database and the National Infrastructure and Construction Pipeline has identified near a thousand projects in our region. Of these 36% were infrastructure projects, 27% private commercial, 23% new housing, 13% public non-housing and 2% private industrial.[5]

[4] https://www.gov.uk/government/speeches/hinkley-point-c

[5] Construction skills analysis for Wales: An analysis of the opportunities presented by the construction landscape in Wales (August 2018)

Brexit

Brexit continues to be a significant challenge from a policy and planning perspective. This uncertainty means that in terms of skills provision in the region, there is no tangible scenario for the RSP to plan towards. While some research and scenario planning has been carried out by others, this is largely speculative and broad meaning it cannot be used for effective local planning.

We have therefore chosen to engage with our priority sectors and stakeholders to better understand emerging trends relating to Brexit from their perspective. A common theme in our engagement has been the potential effects of Brexit on migration within the United Kingdom. Several sectors, including construction and hospitality, expressed concern that leaving the European Union would lead to a significant drop in European Economic Area migrants in areas such as London. This would generate labour and skills shortage which would then, in turn, be filled partly by people currently residing in Wales who could be offered significantly higher wages and new career prospects by migrating. Anecdotally, some of our sectors have reported that this is already starting to occur.

The Immigration White Paper sets out a series of proposed significant changes to immigration legislation the proposals could potentially have significant effects on those sectors that are highly reliant on a migrant workforce, especially those reliant on a lower skilled migrant workforce. It is therefore crucial that Welsh Government in partnership with the RSP work with sectors to understand and respond to emerging impacts of Brexit on migration of EEA nationals to the United Kingdom and Internal Migration within the United Kingdom.

Loss of European Social Fund investment

The region has received a large amount of European Social Fund (ESF) investment in recent decades. This investment, which is available to regions facing economic and social hardship.

UNITARY AUTHORITY	PARTICIPANTS ASSISTED	UNITARY AUTHORITY	PARTICIPANTS SUPPORTED INTO EMPLOYMENT	UNITARY AUTHORITY	PARTICIPANTS GAINING	UNITARY AUTHORITY	PARTICIPANTS IN EDUCATION / TRAINING
TOTAL	87,502	TOTAL	8,794	TOTAL	36,038	TOTAL	2,234

Information on employment and skills projects delivered within region can be found on the SE Wales RET website, http://www.sewales-ret.co.uk/ this includes project overviews, case studies and also quarterly newsletters that highlight project progress and links to wider strategic developments.

Working through the SE Wales RET, projects meet on a quarterly basis, together with WEFO and other key stakeholder such as Careers Wales, to discuss progress, best practice and challenges. These networks also support on-going collaboration and alignment.

The majority of ESF funded projects will now deliver until end'22/early'23 but it is vital that we understand the role these projects play in supporting employability and skills development across the region, bring together common messages from mid-term and final evaluations and disseminate best practice with regards to delivery models. We will be seeking to influence the development of future funding programmes whilst also exploring the potential to mainstream activity and on-going conversation.

The region/RSP will seek to maximise the impact from the current European funding programmes and that, working through the SE Wales RET, provide ongoing strategic direction, in order for projects to take account of a changing economic and policy landscape, exploring the potential for flex within their delivery plans to respond accordingly. Whilst the RSP considered the strategic fit of all projects during their development phase, this on-going engagement is key.

Technology changes and Future trends

The UK Government's 'The Future of Work Jobs and Skills in 2030' report highlighted a range of factors that would impact the future of jobs and skills.[6] Across the economy; they highlighted the following key scenarios:

We continue to be mindful of the growing impact of automation across the economy. However, we are also aware that much discussion to date is speculative, focuses disproportionately on job-losses and the replacement of workers by machines, and largely focused on (inter)national trends. We are keen to understand both the negative impacts of automation and the opportunities within our own region. Attention will be given to the Welsh Government's ongoing Review of Digital Innovation, Artificial Intelligence and Automation in Wales.[7]

Going forward, we will use this intelligence to engage with industry representatives to identify occupations, both existing and emerging, which will require new skills or qualifications.

We are seeing the further digitalisation of our economy and its impacts are having an ever-broader impact.

Digital 2030

As the economy digitalises, post-16 education is likely to change significantly too. The Welsh Government's Digital 2030[8] agenda recognises that a digitalised economy requires a digitalised education sector.

We will seek to explore the implications of this report with education stakeholders in the region.

An Ageing Population

Wales has an ageing population. Currently, 877,000 people or just under 30% of the population is aged 60. The number of people aged over 85 is expected to reach over a million by 2040. Older people play an important role in the Welsh economy with the value of the contribution made by older people estimated to be £2.19bn – up from £1bn in 2012.[9]

[6] Key factors highlight include: demographic change; growing diversity; income uncertainty; growing desire for a better work-life balance; changing work environments; converging technologies and cross disciplinary skills; digitalisation of production; ICT development and the age of big data; changing economic perspectives; the growing economic power of Asia; new business ecosystems; growing scarcity of natural resources and degradation of ecosystems; and decreasing scope for political action due to constrained public finances.

[7] https://gov.wales/about/cabinet/cabinetstatements/2018/innovation/?lang=en

[8] https://gov.wales/sites/default/files/publications/2019-06/digital-2030-a-strategic-framework-for-post-16- digital-learning-in-wales.pdf

[9] http://www.olderpeoplewales.com/Libraries/Uploads/Making_Wales_the_Best_Place_in_the_World_to_Grow_Older_-_Strategy_2019-22.sflb.ashx

This brings challenges which will impact upon the work of the RSP. Comprehensive research by Oxford University produced a Future of an Ageing Population[10] report for the UK which has several important insights. The key findings relating to skills were:

- The proportion of the working aged population n between 50 and stage pension age was projected to increase to 35% by 2050. However, the employment rate for age groups falls significantly at the ages of 50, 60 and 65. Job related training and career s advice will become significantly more important at mid-life. Opportunities for reskilling will need to be made available throughout people's careers. Additionally, workplaces will need to adapt in terms of design, workplace technology, and human resources policies.

- Barriers to late life learning will need to be better understood and broken down. These may include the cost of learning opportunities, the availability of providers, stigma, personal circumstances (such as care needs), and a lack of confidence.

- Housing stock will need to be adapted for an ageing population. This may create an increased specific demand within the construction sector or involve the use of new technologies. Additionally, the built environment will likely need to be adapted.

- There will be a significant rise in health and social care demand. Much has been stated about the need to 'rethink' health and social care and so there are likely to be changes to job roles. There is a plethora of factors here which will determinate future labour and skills demand including, but not limited to:

    - *changes to the structure of health and social care*
    - *the impact of medical and technological on the prevention and management of chronic conditions*
    - *the role of families and unpaid carers in providing social care*
    - *the use of 'smart' technology in helping people monitor their own health at home*

While many of these challenges fall outside the scope and timescale of our plan, we are beginning to see some of them present challenges in terms of the RSP – particularly within the Human Foundational Economy sector.

[10] https://www.ageing.ox.ac.uk/files/Future_of_Ageing_Report.pdf

Into the Future: Skills Demand in 2030

We believe it is useful to look beyond the 2019-2022 timescale of our work and consider longer term changes to labour market in our region. These provide us with further insights and context to help us set the groundwork now. Nesta published **The Future of Skills: Employment in 2030**[11] in September 2017 which highlighted occupations with the greatest probability of increased demand and the least in 2030.

The industries with the greatest possibility of increased demand in the UK were:

- Food preparation and Hospitality Trades
- Teaching and Educational Professionals
- Sports and Fitness Occupations
- Natural and Social Science Professionals
- Managers and Proprietors in Hospitality and Leisure Services
- Health and Social Services Managers and Directors
- Artistic, Literary and Media Occupations
- Public Services and Other Associate Professionals
- Other Elementary Service Occupations
- Therapy Professionals
- Engineering Professionals
- Media Professionals
- Welfare Professionals
- Electrical and Electronic Trades
- Health Professionals

Higher Education

The CCR employment and Skills board includes a nominated Higher Education representative, Dr Francis Cowe from University of South Wales. In this role Dr Francis Cowe links directly and meets at least termly with representatives from the other three Universities in the region and the board receives regular updates from the HE Sector

The Cardiff Capital region is home to four Universities; Cardiff University, Cardiff Metropolitan University, University of South Wales and The Open University and are attended by more than 75,000 students. These universities often have excellent links to industries within the region and many graduates chose to remain in Wales.

The Cardiff Capital Region Graduate Scheme has been developed with the University Of South Wales, Cardiff Metropolitan University, Cardiff University, the Open University and business representative groups to deliver support to the SME sector with a sector specific focus to address the increasing skills gaps and difficulties encountered in recruitment from the he Compound Semiconductors, Digital Technology, Data Science, Cyber and Creative Industries.

[11] https://www.nesta.org.uk/report/the-future-of-skills-employment-in- 2030/?gclid=EAIaIQobChMI697syPG54wIVhrTtCh13-wNIEAAYASAAEgIjJPD_BwE

All of the Universities in the region work with a wide range of schools, colleges, WBL providers and Adult Learning Providers both individually and where funding and resource permit as a collective. For example via First Campus, Universities have provided support to local schools and colleges in developing curricula, opportunities for learners and in supporting mapping and expertise to develop lower and higher level apprenticeships.

All four Universities have recently collaborated with all five FE colleges in submitting a joined up regional bid in relation to the Enhancing HE- FE Collaboration in Innovation and Engagement with a focus on engaging all FE colleges in three key regional strengths, Film and TV School Wales, Design at Cardiff Met, Compound Semiconductors at Cardiff University and making use of OU expertise in part time, blended and distance learning that can map across to these.

There is a healthy spirit of collaboration and critical friendship between HE and FE in the region with a large franchise provision provided by USW and Cardiff Met and an increasing interest from Cardiff and the OU as to how more proactive work can be undertaken where industry requires this. There are also a wider range of connections between the Universities in the region and a range of Work Based Learning Providers and Private Providers.

Universities educational partnerships reach beyond the region and stretch across the globe and the regional benefit of international engagement of all the higher education providers is valued locally and nationally.

Challenges

The existing focus on the development of higher-level skills to future-proof the workforce appears to focus on Level 4 and 5 with limited developments at Level 6, however our engagement highlights the need for 'higher level skills' at Levels 6 plus with employers expressing concerns about the current Welsh Government policy which limits degree apprenticeships to level 6 and restricts the pilot to a narrow subject area. The RSP appreciates that Welsh Government has been clear that no further degree apprenticeships will be developed within the existing three year pilot period and any further degree apprenticeships after that time will be based on employer demand and 'do-ability'.

However the UK Government Apprenticeship levy has influenced employer expectations and behaviour in Wales. All universities in the region report an appetite amongst employers for a wide-range of degree apprenticeship programmes including those at Master's level. These expectations are in some cases being driven by the broad and expanding degree apprenticeship offer in England and come from across a broad range of sectors and companies including those in engineering, construction, science, quantity surveying and leadership.

The RSP and Higher Education sector would welcome strategic engagement with Welsh Government around how it responds pro-actively to demand and where and how it should signpost companies who wish to express and quantify that demand along with a timeline and an indication of future subject areas for the delivery of degree apprenticeships would help in relation to employer's expectations of degree apprenticeship provision in Wales.

Key Sectors

We welcome the opportunity to provide Welsh Government with a three year Employment and Skills Plan 2019-22 outlining a strategic vision for employability and skills across the region which has been informed by the quality evidence available from each of the sectors.

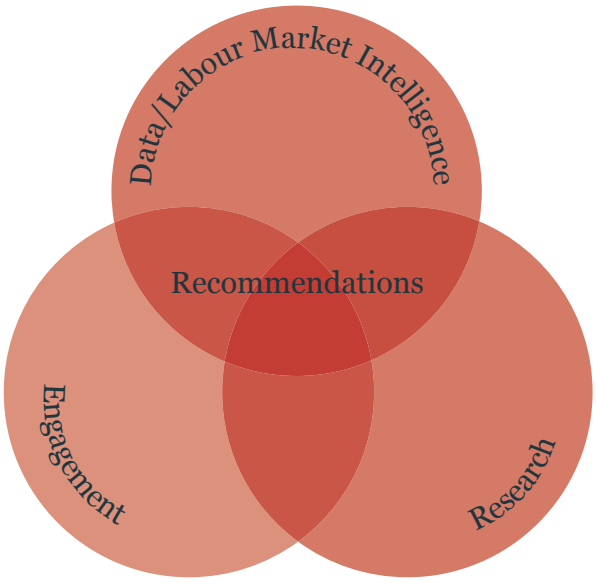
Our approach this year is empirical in nature. We stress that while Labour Market Intelligence serves as the bases of our work, it is but one part that guides our work and recommendations. Labour Market Intelligence can only *paint part of the picture* and has limitations. It must be supplemented with both quality engagement and further bespoke pieces of research. The RSPs approach is to *triangulate* Labour Market Intelligence, Engagement and Research to fully understand skills in the region. We have therefore chosen to synthesise that data and information in this section for our priority sectors.

One of our main challenges is striking a balance between a *proactive approach* and *reactive approach* to skills provision.

- A **proactive approach** seeks develop the skills in the region that employers, both those currently settled in the region and prospective, can utilise in the future. This approach may target specific sectors as part of a wider strategy to develop or attract an industry to the region, or it may target a specific future challenge within a sector – such as the emergence and use of AI or changes to workplace practices. Data used to back up this approach is limited but it is forward looking and more speculative. An example would be Working Futures data.

- A **reactive approach** looks at present day challenges facing sectors. It plans skills provision in response to specific skills gaps and shortages in sectors. Most Labour Market Intelligence data helps to portray the contemporary state of the economy and the short-term challenges and so naturally lends itself to a more reactive approach.

We do not believe either approach is inherently better than the other. We recognise that sectors have a mixture of challenges which need to be met in reactive and proactive ways. We have therefore chosen to provide short term and long-term recommendations for our priority sectors. Some of our longer-term recommendations are based around the need to develop further data and intelligence around specific emerging issues.



Following sectoral analysis of the regional economy based on GVA, the 2019-2023 employment and Skills plan is focussed on six key sectors which with some intervention we believe are able to make the greatest impact on boosting productivity, accelerating economic growth and improving social prosperity.

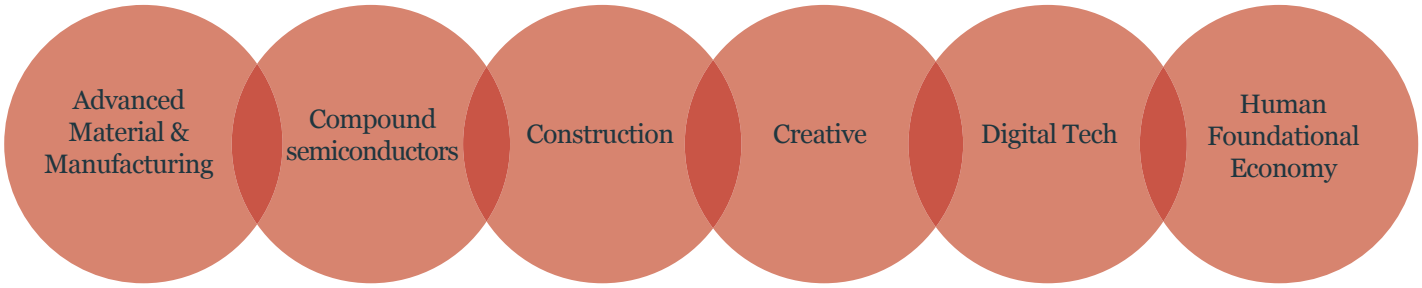
We also recognise that the RSP has a role in responding to contemporary challenges but also helping to drive further economic and social prosperity by planning for the future. We have a role in developing the skills ecosystem that underpins our high GVA priority sectors and the wider Cardiff Capital Region goals.

We have chosen several new and emerging industries as priority sectors. These industries can cross cut traditional sectors and are not immediately reflected in Standard Industrial Classification (SIC) and Standard Occupational Classification (SOC) codes which are typically used as the basis of labour market data[12].

Given these industries are not easily and readily classified, developing standardised data for these sectors, is likely to be an ongoing challenge.

It is likely that potential analysis of these sectors will require close engagement between business, government, education, and training providers, to undertake bespoke pieces of research and to assess the impact the findings have on the development of qualifications.

The key sectors are:



[12] We have carried out an initial exercise to develop profiles for these sectors using SIC codes and commercial LMI tools that allow agglomerations of four digit SIC codes. We based these profiles on research and what others had used. However, our results were mixed – some profiles were useful, others too broad for analysis, and some simply could not be built using commercial tools.

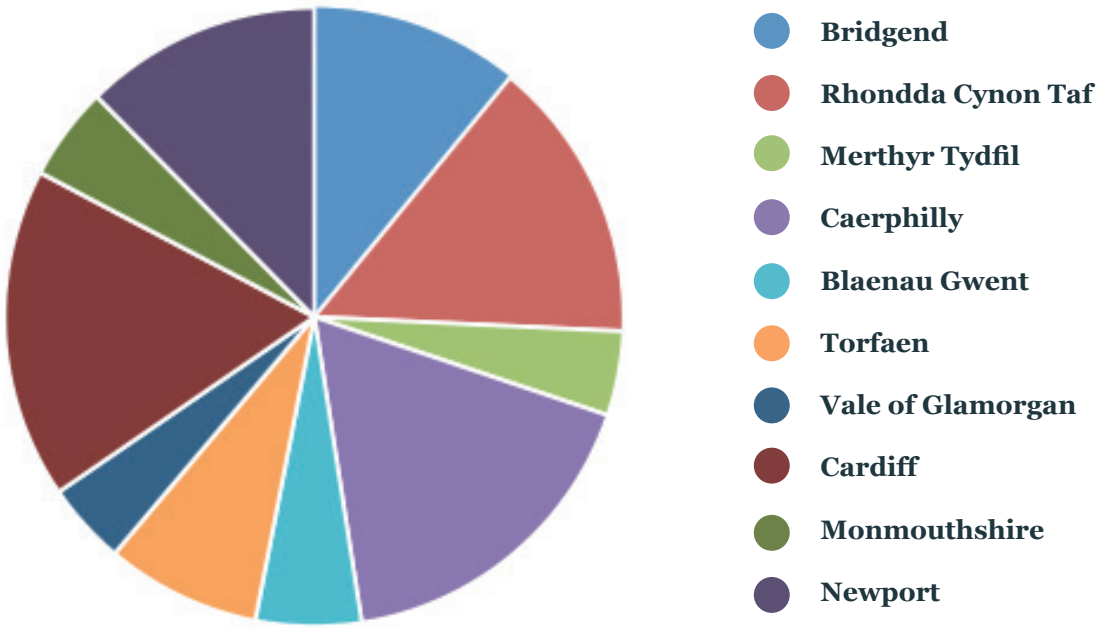
Advanced Material & Manufacturing

Advanced Material and Manufacturing (AMM) has a long tradition in our region and today several strong hi-tech employers have chosen to operate here. The sector utilises innovative new processes and technology to produce high value-added products – whether those be in aerospace, automotive, Pharma or a plethora of other sub-sectors. Micro to medium sized employers make up over 99% of the total number of employers in Wales.[13]

It should be noted that while AMM is an important sector, it contains several individually strategically important sectors – some of which are priorities to the RSP and the wider Cardiff Capital Region – namely Compound Semiconductors and Transport Engineering.

Advanced Materials & Manufacturing represents a subsection of the wider Production sector used as a data category in public data sources. While the sector shrunk from 84,900 in 2015 to 81,600 in 2016 it has remained stagnant in 2017.

People employed in Advanced Materials & Manufacturing across the region (2017)



Source: StatsWales

[13] SEMTA 2019

Skills Issues and Challenges

According to the most recent Employment & Skills Survey, Manufacturing had a reported skills gap of 21% in Wales. This is the highest reported figure for Wales by sector. This suggests that a relatively large proportion of the current workforce do not possess the skills to meet current needs. The sector's own research demonstrates this too.[14]

Our engagement with the sector has demonstrated that although the industry appears to be 'holding up' well in the current environment, it is facing some very real challenges - some of which have not yet fully made their impact known. The effect of stockpiling on demand has been raised anecdotally as possibly giving a false impression that the sector is relatively healthy.

Research by SEMTA has demonstrated that Mechanical Engineering is the most in demand skill amongst Welsh AMM employers. However, Project Management and Project Development are the second and third most in demand skills which may reflect how roles are becoming more multi-disciplinary. The sectors research demonstrates that following jobs are the most prevalent occupations in the region: Production managers and directors, Production Engineers, CAD/ CAM Engineers, Maintenance Engineers, and Process Operatives. The sector's own research and engagement also demonstrates that roles are becoming multifaceted with workers increasingly 'wearing many hats' combining their traditional roles with new responsibilities such as project management.

The sector has experienced a long-term problem with perceptions of the industry with stakeholders reporting that the sector is seen as a "dirty" sector in which people "get their hands dirty" as opposed to the technologically advanced, clean industry it is. This problem is felt to stem from various sources including misconceptions of parents/family members, poor careers advice, and poor links between schools and colleges at further education transition age groups. There are also known issues recruiting women into the sector which partly can be attributed to STEM subjects wrongfully being perceived as being for men.

Brexit will also have a major impact on this sector. Anecdotally, we have been informed that the effects of Brexit are already beginning to negatively impact exports and access to supply chains. However, we do not have data that is sufficiently current to confirm whether this is true. We have also been informed that activities such as stockpiling may be helping to paint a false picture of the health of the sector.

Short term recommendations

- **Raise the profile of sector based Apprenticeships ensuring frameworks are fit for purpose** and offer parity of esteem with the Apprenticeship Standards available in England.
- **Establish more effective approaches to careers information, advice and guidance** and develop a range of case studies to promote the sector as a viable career option and to address issues of sector perception.
- **Support the Qualifications Wales Sector Review of qualifications** and the qualifications system in Engineering, Advanced Manufacturing and Energy and await the recommendations to maximise opportunities to ensure that emerging qualifications meet industry needs.
- **Support FE colleges to retcuit and train assessors for apprenticeships at Level 4**

[14] Industry Wales 2019

Longer term recommendations

- **Remain aware of the impact of Brexit** and work to ensure the skills of displaced employees (potentially through plant closures) can be utilised in subsectors that face recruitment challenges.
- **Address issues related to gender imbalance** and continue to increase the numbers of females entering the labour market whilst recognising the sector is male dominated
- **Improve the content of STEM focussed teacher training** and work to introduce fit for purpose work experience placements in industry to drive quality

Recommendations for FE provision

- **No change to current level of provision**

Recommendations for Apprenticeship provision

- **Increase Apprenticeship provision at Levels 3 and 4**

Compound semiconductors

Compound semiconductors provide the underpinning technology behind most of today's high-tech products and services including smartphones, sensors, and fibre- optic communications. They function at speeds much faster than traditional silicon- based semiconductors and offer photonic properties that used in a wide range of sensor technologies and optical communications. They are a vital component of emerging technologies from 5G connectivity to industrial automation and driverless vehicles.

The Cardiff Capital region is home to IQE, Newport Wafer Fab, SPTS, "Microchip Technology Corporation (Microsemi), Swansea University, Cardiff University, and CSA Catapult. It should be noted that the supply chain that feeds this sector and affiliated industries extends a lot further. In total, over £500m is being invested in the Compound Semiconductor Cluster with Cardiff University, Welsh and UK Governments, and local industry all investing[15].

The sector is a priority for the wider Cardiff Capital Region.

The production of Compound Semiconductors is a highly specific sector. Data at this granularity cannot be obtained from public sources. Our previous attempts to use commercial LMI tools to obtain data for this sector have also proven to be unsuccessful. We are therefore reliant on qualitative engagement with the sector, desk-based research, and any specific pieces of research the sector has carried out itself.

[15] http://sites.cardiff.ac.uk/university-executive-board/2018/02/20/worlds-first-compound-semiconductor- cluster-in-south-wales/

According to the sector's own research, it currently employs around 1,500 people and it is projected to grow substantially over coming years. As the sector grows, it will attract new start-ups and significant inward investment in technologies dependent on compound semiconductors.

Skills Issues and Challenges

Through the work University of South Wales are doing with Cardiff University on the Compound Semiconductor cluster and via their apprenticeship consultation event with employers they became aware of a need for a top up qualification for those working in in the sector.

USW have with companies and the developers of the Engineering Framework worked to ensure that the new Welsh Framework reflects the needs of the CSC sector .They then worked to develop a L6 top up that built on the experience and current lower level upskilling by FE in the region.

The university are now due to launch a L6 top up Degree Apprenticeship for the compound Semiconductor cluster piloting this with Newportwafer fab and hope to have in place a full Degree Apprenticeship pathway for the sector the following year that will allow a mixture of both new recruits and advanced standing entry for those with relevant prior skills and qualifications. Business, HE and FE have worked together with Careers Wales to ensure there is greater awareness of the career and progression opportunities available to local people in this sector.

However there is currently no direct FE or Apprenticeship provision relating to the Compound Semiconductor sector.

A specific Skills Survey was carried out into the Compound Semiconductors sector and findings were released in July 2018 by the UK Electronics Skill Foundation, the RSP considers this to be the most definitive source for the sector's skills needs given its highly targeted approach and the expertise of those carrying it out.

The sector, in summary, has relatively large skills shortages. Both expansion and replacement demands will mean increasing labour demand. Development of fit for purpose qualifications, education and training can help unlock opportunities for supply chain companies in the region which will help develop a circular economy with the Region.

Short term recommendations

- **Develop sector specific accredited qualifications in partnership with key stakeholders** to help address skills shortages.
- **Explore strategic relationships between the sector and Advanced Materials and Manufacturing** (including pharmaceuticals, automotive and aviation) to support career change and/or development.
- Consider the **development of a specific and fit for purpose Apprenticeship Framework** (inc Degree level) for the Compound Semiconductors sector and explore the desire to develop a shared apprenticeship model

Longer term recommendations

- **Establish more effective approaches to careers information, advice and guidance** to promote the sector as a viable career option and to address issues of sector perception and gender imbalance
- **Address issues related to gender imbalance** and continue to increase the numbers of females entering the labour market.
- **Work in partnership to research skills gaps and shortages** and develop innovative collaborative approaches to address identified challenges

Recommendations for FE provision

- **New provision to be created**

Recommendations for Apprenticeship provision

- **New provision to be created**

Construction

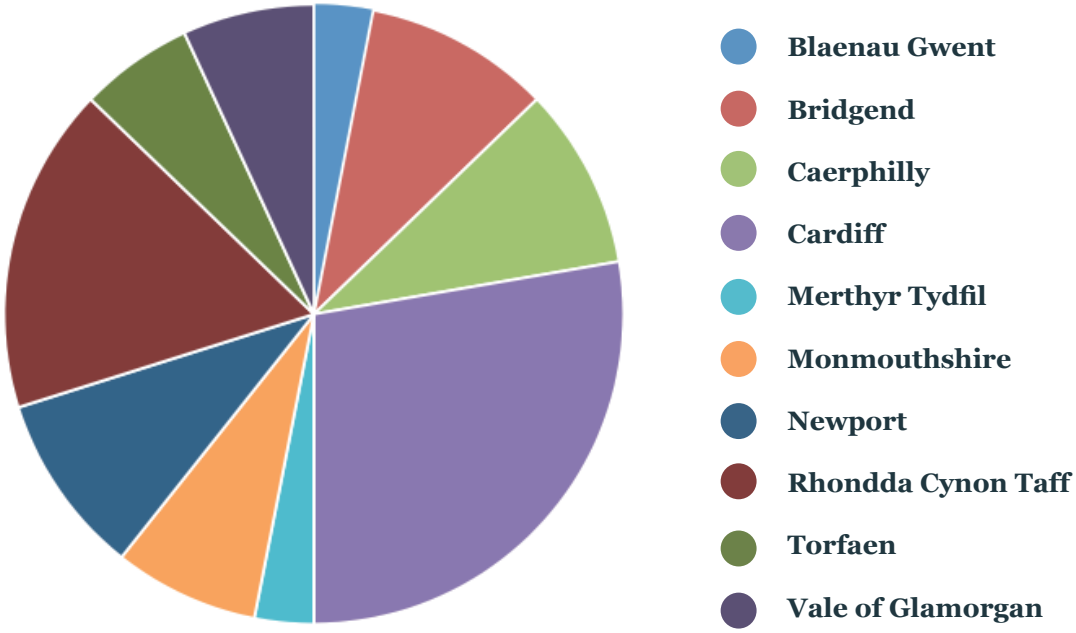
The construction industry plays a vital role in delivering a vibrant economy and a quality environment.

Roles in construction vary from traditional 'on-site' construction to more professional service-based roles such as planners, architects, and surveyors. The sector is also anticipating a further digitalisation of the workplace.

According to the most recent available data, the number of people working in Construction in our region has fallen from 44,700 in 2016 to 42,220 in 2017 – representing a fall of 5.5%.

This shrinkage is not spread evenly across the region – some areas have seen growth, such as Cardiff and Newport. However, there have been sizeable falls in Torfaen and Caerphilly.

People employed in Construction across the region (2017)



Source: StatsWales

Our engagement with the sector confirms that there is unlikely to have been a noticeable turn around in employment numbers since 2017.

The CITB have forecast growth in the sector between 2019-2023 with an additional 6,550 workers required over this period in Wales. An annual increase of 0.1% growth is predicted in terms of workforce numbers, representing an increase of 700 workers across Wales.[16]

The most recent research by CITB has found that approximately two thirds of the workforce is employed in skilled trades and operatives with another third employed in managerial, professional and office-based roles.[17]

Skills Issues and Challenges

According to the most Employment & Skills Survey in Wales, Construction has a reported skills gap of 12% which is smaller than several other sectors. This demonstrates that employees do typically have the skills to complete the tasks required of them.

Research by the CITB has found that the most in demand skilled trade and operative occupations in the region were Wood trades and interior fit out, Plumbing and heating/ventilation/and air conditions trades, and Bricklayers.

[16] https://www.citb.co.uk/documents/research/csn-reports-2019- 2023/csn%20report%20for%20uk%202019-2023.pdf

[17] Construction skills analysis for Wales: An analysis of the opportunities presented by the construction landscape in Wales (August 2018)

For managerial, professional and office-based staff roles, the most in demand occupations were *Non- construction professionals/technical/IT and other office-based staff; Other construction process managers; and Other construction professionals and technical staff* [18].

It is recognised that there is an increasing proportion of the construction workforce engaged in managerial and professional roles; some of these roles such as Design Manager, M&E Co-ordinator and Manager, BIM Co-ordinator and Manager are all roles that are still too new to have their own Standard Occupation Classifications (SOC) and as such these roles are included in forecasts under the broad heading of 'construction management other' which can paint an increasingly misleading picture of demand, additionally these roles do not have any National Occupational Standards associated with them and therefore no qualification pathways available.

Towards the end of the three year period this skills plan covers, the qualifications landscape for construction and built environment will change dramatically.

Following the Qualifications Wales' Sector Review 'Building the Future' (Feb 2018), Qualifications Wales has developed eight new qualifications to be introduced in 2021. They include new GCSE, AS and A levels in construction and the built environment, a foundation qualification in construction and the built environment, apprenticeships qualifications and progression qualifications.

The new qualifications address some of the major concerns of employers, FE and training providers and will better meet their current needs and future aspirations. The sector is hopeful that the new qualifications will also help increase the number and quality of learners progressing from Further Education into apprenticeships and construction employment. Ultimately, this transformation has the capability to transform the construction sector in Wales.

Our engagement with the sector has raised the relative transience of this sector in terms of skills demands. The need for different skills and types of jobs to be completed within construction varies depending on what projects are in the pipeline. We therefore believe that monitoring the pipeline of upcoming construction projects is essential. Our engagement with the sector has raised an anticipated programme of retrofit and offsite manufacture to address sustainability and decarbonisation requirements. This may also lead to new and alternative mixes of skills being required.

The sector has also raised the need for more learners to progress from fulltime learning into apprenticeships and more full-time learners to progress to a Level 3 qualification. However, this is a challenge given learners can often leave at Level 2 and find decently paid employment. During this engagement provision for occupations such as steel fixing, concrete and formwork were all discussed as a need in the region.

Construction, through the CITB[19], has raised the adoption, use and expected uptake of a variety of new technologies that could change the skills demand of the sector.

However, while some of the technologies have been adopted by contractors and training providers (e.g. Drones, AR/VR, and automation), there is no consensus across the industry on which technologies will become most widely used or by which date.

[18] Source: CITB18
[19] https://www.citb.co.uk/documents/research/unlocking_constructions_digital_future_full_report_1_oct2018.pdf

Many SME contractors struggle to realise the benefits of digital design and construction processes. This is in growing contrast to larger organisations and their clients who have the time and money to invest experiment and pool knowledge. The skills gap is widespread and borne from a lack of access to basic information and the opportunity to share insight into how digital processes can provide benefits at a functional, day to day level, at all points in the process, and at all staff levels from director to brick layer.

At SME level, most stakeholders in a typical construction project have a significant digital knowledge deficit. Digital processes are therefore partially or poorly implemented resulting in poor outcomes and little post-project appreciation of benefit. SMEs find themselves in an echo chamber which reinforces a well-worn industry cynicism when it comes to implementing new digital processes. This is limiting digital adoption and creating a two-speed system where SMEs are being left behind.

Short term recommendations

- **Maximise the impact and support stakeholders to ensure they are prepared for the introduction of new qualifications;** considering the potential for structural changes within the FE network and additional support for employers if they are to have a greater role to play in the planned apprenticeship assessment process.
- **Develop clear progression routes for construction related learners** which prioritise achievement at L3 and above (including Higher Apprenticeships and Degree Apprenticeships).
- **Explore the potential to develop a digital design and construction programme** to upskill the workforce and increase the competency of the supply chain to meet Welsh Government desire to maximise the benefit to the foundation economy.
- **Explore opportunities to develop new qualifications to support Offsite and Retrofit.**

Longer term recommendations

- **Support the development and delivery of training** to address sustainability and decarbonisation agendas.
- Remain aware of the impact of Brexit and introduce **measures to minimise the impact of outward migration of the labour market.**
- **Promote the establishment of a strategic pipeline of infrastructure projects to include skills impact assessments** at a Welsh Government level to ensure training requirements can be effectively met in order to maximise employment and skills opportunities.
- **Influence Standard Occupation Classifications to recognise new and emerging roles.**
- **Support the implementation of the 8 new qualifications from 2021.**

Recommendations for FE provision

- **Decrease Level 1 provision**
- **Increase provision at level 2 and level 3, increasing progression rates**

Recommendations for Apprenticeship provision

- Increase provision at Level 3, 4 and introduce pathways

Creative

The Creative Sector is one of our fastest growing sectors and has recently been recognised as a key priority sector for employment and skills across the Cardiff Capital Region, it has an emerging digital media cluster and a fast growing TV and film industry with the development of the largest drama studios in the UK.

The sector is highly digitalised and has some overlaps with the Digital Technology sector. Roles such as graphic design and marketing are also increasingly overlapping with web development, social media, and other more digital roles. New technologies are increasingly being used within the sector. For example, virtual reality and augmented reality technology may require an overlap of visual arts graduates, coders and software developers, and traditional ICT staff to maintain/use the equipment.

Fast-changing technologies, practices and markets within the creative sector means that the SIC codes do not accurately represent the breadth of the sector. We are keen to establish a standard industry profile for this emerging sector.

Short term recommendations

- Develop a cohesive skills strategy for the Creative Sector
- Ensure Apprenticeship frameworks are fit for purpose and meet the needs of the sector
- Develop pathways from Level 2 to Degree apprenticeships

Longer term recommendations

- Develop a standard industry profile for the sector and define scope
- Further research the skills needs of the sector

Recommendations for FE provision

- New provision to be created

Recommendations for Apprenticeship provision

- New provision to be created from Level 2 to degree apprenticeships

Digital & Enabling Technology

The Digital & Enabling Technology industry is a key sector for the Welsh economy and the Cardiff Capital City Region. Traditionally called ICT, a now much outdated title – the Digital and enabling technology sector develops, designs and implements technologies that are enabling and transforming industries across Wales and the region and revolutionising the way people live and work.

The footprint of the Welsh technology industry is significant. The sector directly employs in the region of 40,000 people and contributes circa £8.5bn to the Welsh Economy1. Additional to this, it has the highest levels of productivity amongst the sectors in Wales, with the second highest GVA per hour worked of any industry2.

The strengths within the digital and enabling technology sector a numerous. In 2015, a Tech Nation report rated South Wales fifth for both average company turnover and fastest growing cluster in the UK, with 2016 research from the ESTnet highlighting E-Commerce, data management and analytics, and health tech all highlighted as particular areas of strength.

Recent figures from the National of Office of Statistics (ONS) show that Wales' technology industry is flourishing, with the number of jobs in the sector growing by over 80% since 2010. The statistics also show that 400 more technology jobs have been created each month in Wales over the past five years.

However by its very nature, the digital and enabling technology industry evolves at such a speed that attempting to analyse the sector using traditional SIC and SOC codes yield imperfect results. The SIC and SOC classifications do not accurately capture the scope, nor in some cases even the definition of what technology businesses do. Likewise, SOC codes do not reflect the jobs which currently exist within the sector let alone those in new and emerging fields. As a result of these outdated classifications, measuring the impact of the sector and identifying its employment and skills requirements is very difficult and as such, a new approach is needed urgently to quantify and accurately represent this growing sector.

The Technology Industry in Wales includes among others Compound Semiconductors, AI, software, cyber security and data, technologies fundamental to the success and growth of other industries and sectors across Wales and the Cardiff Capital Region Industrial and Economic Plan These technologies have also facilitated the creation, development and success of other high value markets within the CCR, such as fintech, creative and meditech.

However, the true value of the sector extends significantly wider than its own direct influence on the Welsh and region's workforce and economy. It is through its ability as an enabler, transforming and powering other industries with core technologies which permeate every other sector within Wales.

Skills Issues and Challenges

One of the largest challenges facing the digital and enabling technology sector in the region is a critical shortage of skills. As a result, the technology industry is being held back by the lack of qualified people needed for this innovative, highly skilled sector.

The lack of digital and specialist skills is an issue that permeates the wider economy also. Outside of direct 'tech' businesses, other industries who are major consumers of technology find extreme difficulty in recruiting people with necessary technical skills.

Simply put, more needs to be done to attract people into careers in digital and enabling technology, across all levels from schools, through FE, HE adult learners, women returners and those in occupations who will be effected by the disruptive and transformative nature of new technologies on their roles and organisations.

Qualifications Wales 2018 Review of ICT Qualifications found that existing classification and content of courses were 'outdated' and that the terms IT and ICT carried 'negative connotation', potentially dissuading students from pursuing these courses.

The review outlined the vast number of qualifications available for students, while also noting that 'despite the high number of qualifications available, and the number of certificates awarded, does not guarantee that the qualifications are addressing the needs of the sector effectively.'

A common theme in the engagement with sectors and further education colleges has been the suitability and relevancy of IT courses. There is a sense that courses are too generic.

Their ability to offer pathways to high value-added emerging occupations, such as cyber security, is also in question.

Colleges have also reported difficulties in enrolling potential students to IT courses, with the attraction of potential careers being cited as an issue.

Gender Balance

Another major challenge in the digital and enabling technology sector is an employment and skills gender disparity. However, this is not unique to Wales as it is true of the sector across the UK.

A study of 2019 A Level results by the ESTnet found that in Wales, male students were nearly 400% more likely to take a technology A-level than women.

Welsh male students were 375% more likely to take Computing or ICT at A-Level than their female counterparts, and nearly twice as likely to study mathematics. Biology was the only STEM subject led by female students, with boys dominating Physics, Chemistry, ICT, Mathematics, Mathematics (Further) and Computing.

As such, it is vital that we are supporting women into the technology industry through education at a young age and where appropriate, reskilling.

Short term recommendations

- **Influence the work of Qualifications Wales** and work with key stakeholders to maximise opportunities to ensure that emerging qualifications and Apprenticeship Frameworks meet industry needs.
- Work in partnership with key stakeholders to develop sector specific accredited qualifications to help address skills shortages.
- Create pathways, reskilling opportunities, apprenticeships and shared apprenticeships to help meet the skill demands of the growing sector.
- Work with key stakeholders to address issues related to gender imbalance.
- Work with FE HE and training providers to develop modular training provision to increase skill levels.
- Increase provision of digital degree apprenticeships.

Longer term recommendations

- **Establish more effective approaches to careers information, advice and guidance** to address issues of sector perception and promote the sector as a viable career option.
- **Work to influence the definition of industry SIC/SOC codes** which are not conducive for the production of robust and reliable Government intelligence.
- **Use technology to create a more accurate definition of the industry.**
- **In partnership with key stakeholders develop a cohesive marketing strategy for working in technology, working with technology and living with technology and the opportunities it presents.**

Recommendations for FE provision

- **Develop suitable provision at Levels 2 & 3**

Recommendations for Apprenticeship provision

- **Develop apprenticeship provision at L2 plus**

Human Foundational Economy

Following significant employer engagement and feedback we have recently split the Human Foundational Economy into two distinct sector groups to ensure we can adequately reflect the wide ranging nature of this broad sector.

Education, Health, Social Care and Childcare

As of 2017, numbers employed in Public administration, defence, education and health, the best fitting category used in public data sources, sector have risen to 210,800 across the region. According to EMSI data, there were 158,534 jobs as of 2018 specifically in Education and Human health and social work activities. The most prevalent jobs were Care workers and home carers (12%); nurses (10%); primarily and nursey education teaching professionals (5%); teaching assistants (5%).

Due to the breadth of this sector, several sectors in the most recent Employer Skills Survey. Education had a reported skills gap of 18% for Wales which was among the highest. Health and social work reported a smaller skills gap of 14%. These both suggests that while not especially high, both sectors do have issues with the skills base of the current workforce. The current workforce is made up of 77% female workers and 23% male.

There are several unique challenges in parts of this sector. In the field of Social Care, new qualification requirements mean there is a significant skills gap.

Additionally, our engagement with the sector as demonstrated that the nature of social care sector is likely to change in coming years as it becomes more embedded with health care and we adjust to an ageing society. Further information is available in the Skills Challenges and Opportunities section of this report.

Short term recommendations

- **Develop capacity across the WBL sector to deliver new assessment and quality assurance requirements** for Apprenticeship Frameworks within health, social care and childcare and explore opportunities for the WBL sector to work in partnership with employers to deliver specialist provision
- **Raise the profile of Health and Social Care sector Apprenticeships** and improve the promotion of the sector as a career option with a particular focus on attracting young new entrants into the sector
- Continue to support access to all age Apprenticeship funding for the HFE cluster, particularly Level 2 Apprenticeships frameworks (and qualification components) and work with Health to shape the currency, alignment and funding of qualifications and frameworks
- **Develop new Apprenticeship programmes where there is evidenced demand**, for example, Fire Inspection and Engineering L4 and scope potential for other routes including Emergency Call Handling and Community Safety Frameworks
- **Promote teaching as an attractive career option** to bring about positive change and **support the increasing demand for Welsh language skills across the education workforce**.

Longer term recommendations

- **Research the portability / transferability of qualifications** and **develop innovative approaches to the funding of bite sized learning and CPD** across the health and social care workforce.
- **Establish more effective approaches to careers information, advice and guidance** to address issues of sector perception and promote the foundational economy as a viable career option.

Recommendations for FE provision

- **Increase L 2 & 3 Health & Social Care provision.**

Recommendations for Apprenticeship provision

- **Increase L2 to L5 Health & Social Care provision**
- **Increase provision at L3 Hair & beauty**
- **Develop new provision at L4 & L5 eg Fire Inspection and Engineering L4**
- **Maintain provision for Fire and Rescue Apprenticeships L3**

Hospitality, Retail and Tourism

According to EMSI data, the sector had 122,009 jobs as of 2018. The most prevalent jobs were Sales and retail assistants (21%); Kitchen and catering assistants (7%); Waiters and waitresses (5%); Bar staff and Managers and directors in retail and wholesale (5%).

The industry has a near 50/50 gender split.

Our engagement with the Hospitality sector has demonstrated there are several challenges around recruitment and skills training which need to be investigated further.

In particular, the cost and time required to train individuals can be a major challenge for a sector in which there can be high levels of staff turnover.

Additionally, this is a sector that is repeatedly raised as being at risk of negative impacts relating to Brexit.

Short term recommendations

- **Raise the profile of sector based Apprenticeships** and ensure that frameworks are fit for purpose and align to the needs of the foundational economy.
- Remain cognisant of the **forecast growth in Apprenticeships across the hairdressing and beauty sectors** and ensure the industry continues to be recognised as a key contributor to Wales' Foundational Economy.

Longer term recommendations

- **Establish more effective approaches to careers information, advice and guidance** to address issues of sector perception and promote the foundational economy as a viable career option.
- Undertake research and **gather labour market intelligence within the hospitality sector** which identifies skills gaps, shortages and specific challenges across the sector.

Recommendations for FE provision

- **No change required**

Recommendations for Apprenticeship provision

- **No change required**

Action Plan

CCR RSP AIMS	PARTNERS	ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
Strengthen the post-16 further education offer in priority sectors through increased specialisation to meet the demand from employers across the Capital Region	• Welsh Government • FE Colleges • Cluster groups	Ensure that training provision and facilities meet current and future needs of business and learners	Work with FE to review facilities and ensure there is provision in the region to meet employer needs and any new provision avoids duplication	Continue to work with FE to review facilities and ensure there is provision in the region to meet employer needs and any new provision avoids duplication
		Work with FE to identify best fit for recognised centres of excellence	Continue to use evidence base to inform FE to enable the sector to be responsive to employer needs	Continue to use evidence base to inform FE to enable the sector to be responsive to employer needs
		Identify and engage with major infrastructure projects to map skills needs and work with education sector to meet the needs	Using the intelligence to work with education sector to meet the needs of major projects	Continue to use intelligence to ensure major project needs are met
Improve planning of curriculum to ensure schools, colleges, training providers and others are delivering the right balance and mix of provision for learners and businesses	• Welsh Government • FE Colleges • Training providers • Colleges Wales • NTfW	Influence education & training provision through planning & funding template recommendations	Continue to use extensive engagement and evidence to influence provision ensuring it meets employer needs	Continue to use extensive engagement and evidence to influence provision ensuring it meets employer needs
		Support CPD of teachers and tutors to deliver industry relevant skills	Ongoing support of CPD programmes	Ongoing support of CPD programmes
Develop a more joined-up approach to skills delivery across the City Region to support people into work and to progress in work to reduce skills shortages in key sectors	• Welsh Government • Careers Wales • Cluster group • DWP • Local authorities	Raise awareness of career opportunities among those already in work to progress in key sectors by providing robust sector intelligence	Continue to raise awareness of career opportunities and support the development of appropriate upskilling programmes	Continue to raise awareness of career opportunities and support the development of appropriate upskilling programmes
		Work with partners to deliver regional employability programmes with a particular emphasis in the valleys communities	Ensure regional employability programmes address needs of employers and the region whilst removing barriers to employment	Ensure regional employability programmes address needs of employers and the region whilst removing barriers to employment

CCR RSP AIMS	PARTNERS	ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
Broaden the apprenticeship offer at levels 3, 4, higher and degree by responding to government policy changes	• Welsh Government • FE Colleges • Higher Education • Key cluster groups	Work with WAAB and continue to engage with key sectors to scope and extend apprenticeship provision to meet employer needs	Use evidence base to influence extension to higher and degree apprenticeships programmes	Continue to inform apprenticeship framework developments at all levels using a robust evidence base
		Continue to support Pilot degree apprenticeships and produce evidence of demand for extending		
Influence the work of Qualifications Wales and work with key stakeholders to maximise opportunities and ensure that emerging qualifications meet industry needs	• Welsh Government • Qualifications Wales • Cluster groups • Education	Support sector reviews through engagement with cluster groups	Annually ensure QW Sector review recommendations are referenced in future planning discussions with colleges and providers	Continue to respond as appropriate to sector reviews as they commence
		Work with colleges to ensure staff are trained and equipped to deliver new qualifications	Continue to respond to further reviews	
Establish more effective approaches to careers information, advice and guidance to address issues of sector perception and promote the key sectors as viable career options	• Careers Wales • Cluster groups	Support Careers Wales to promote greater parity of esteem between academic and vocational pathways, particularly ensuring young people and their parents are aware of apprenticeship pathways	Continue to support local and regional initiatives such as Cardiff Commitment, Education Business Exchange and Business Class to encourage and increase educational engagement activities between business, schools and colleges. Work with priority clusters and Careers Wales to inform “spotlight” and produce sector specific careers resources	Continue to support Careers Wales to promote greater parity of esteem between academic and vocational pathways, particularly ensuring young people and their parents are aware of apprenticeship pathways
		Continue to support local and regional initiatives such as Cardiff Commitment, Education Business Exchange and Business Class to encourage and increase educational engagement activities between business, schools and colleges	Continue to support local and regional initiatives such as Cardiff Commitment, Education Business Exchange and Business Class to encourage and increase educational engagement activities between business, schools and colleges	Continue to support local and regional initiatives such as Cardiff Commitment, Education Business Exchange and Business Class to encourage and increase educational engagement activities between business, schools and colleges

CCR RSP AIMS	PARTNERS	ACTIONS		
		YEAR 1	YEAR 2	YEAR 3
		Work with priority clusters and Careers Wales to inform “spotlight” and produce sector specific careers resources	Continue to work with priority clusters and Careers Wales to inform “spotlight” and produce sector specific careers resources	Continue to work with priority clusters and Careers Wales to inform “spotlight” and produce sector specific careers resources
RSP ACTION PLAN Annually monitor and report on action plan.				
STRENGTHEN RESEARCH & LMI Fundamental to the actions detailed above is the requirement for the Regional Skills Partnership to provide robust forecasts of employment trends, current and future skills requirements, it is particularly important to develop standard industry profiles for the new and emerging sectors such as Compound Semi-Conductors, Creative and Digital technology.				
BREXIT AND EUROPEAN FUNDING Monitor BREXIT developments and assess impact on service delivery currently supported by European Social Fund particularly regional employability programmes.				
DIGITAL We will explore implications of The Welsh Government’s Digital 2030 report with education stakeholders in the region.				
EMPLOYER ENGAGEMENT Strengthen employer engagement with new and emerging sector groups and continue to support the FLPS sector.				
FURTHER EDUCATION Continue to engage and input into the work of the Independent Commission on the College of the Future.				
HIGHER EDUCATION Monitor the developments of the PCET reforms				
SCHOOLS Continue to work with schools, government and business to encourage active participation on the introduction of the Curriculum for Wales 2022.				

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