



**Cardiff
Capital
Region**

MARCH 2021

Investment Prospectus Prosperity for our Place



Across Levelling-up and the Framework for Regional Investment in Wales we have an opportunity to renew the focus on things that bind our communities together. It's this kind of step change to balancing growth ambitions with improving the wellbeing of our least competitive places that will truly lead to narrowing the productivity gap between the regions and nations of the UK.



Kellie Beirne
Director, Cardiff Capital Region City Deal



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Forewords

‘Levelling-up’ is a welcome symbol of intent to tackle the geographic inequalities that exist in our country.

However, in the post-Covid world, it has to mean more than simply supporting growth in places that are ‘lagging behind’. This is an opportunity for exploring how we exploit the natural assets and resources of our places, how we unlock responses to societal challenges such as climate change, mental health, ageing and mobility and also how we ‘manage’ the resulting increase in growth and productivity. Achieving this will make demands on all of us but it is essential in order to both revive our sense of civic pride – and to imbue both confidence and resilience in the businesses and institutions that will play a vital role in helping reshape and reinvigorate our communities and sense of place.

This Investment Prospectus outlines our requirements for levelling-up the Cardiff Capital Region - with a particular focus on R&D, infrastructure investment, fiscal incentives and potential physical support in the form of re-locating government activities - and the results that we expect from those interventions - both for the region and for UK plc. But our ambitions do not end here. There is parallel work to do to level-up within the Cardiff Capital Region itself, given the widening inequality gap exacerbated by the pandemic.

We believe our experience in delivering new forms of regional public investment is starting to make a real impact and give us firm foundations to build upon. The Regional Investment in Wales framework allows us to build upon this, and position place

at the very heart of future decision making. We have governance structures that are endorsed by three layers of government and we have proved we can work effectively through our achievements to date delivering evergreen funds, challenge-led approaches and complex large-scale programmes through our City Deal.

As we mature and evolve into a fully-fledged model of regional economic governance, our agenda will by necessity become more demanding and ambitious. Accordingly, it is essential we focus our current efforts on; directing our areas of research excellence and sectoral strengths into industrial scale clusters in order to create economic strength of place; delivering our compelling plan for infrastructure investment to improve regional and national connectivity and mobility; and pioneering mission-driven innovation to build creative capacity and capability in our public services.

UK Government support in the form of the requirements outlined in this document would enable us to augment our existing programme of interventions, significantly level-up the region and support our ambition to become truly Connected, Competitive and Resilient.



Anthony Hunt
Chair, Cardiff Capital Region Cabinet

Making public investment work better for all parts of the UK, although timely and significant, is a huge task - and in the Cardiff Capital Region we want to help make it easier by setting out what it means to us.

The clamour for promised ‘extra investment’ is understandable amidst the continuing devastation of the Covid pandemic, but our approach has to be more nuanced and long-term than just seeking more investment today. Thinking hard about the tools, levers, freedoms and support is something the Regional Economic Growth Partnership has really challenged itself to do. Our clear view is that whilst the government must set the policy direction, the private sector also has a large part to play in levelling-up, not least as we will be a powerful voice in encouraging businesses and investors to locate to the region.

The issue of timing is also an important one, for in the same way our City Deal is a 20-year endeavour, levelling-up will not yield short-term economic impact. As our experience tells us, sustained productivity turnarounds do not happen overnight. Helping our businesses to perform better, addressing low-growth productivity issues across both the ‘foundational’ and tradeable economies - and closing the individual attainment gap - must be enduring priorities. There is no one fund or solution that can help achieve this; and whilst this Prospectus draws on the structural issues that need addressing (such as R&D investment, infrastructure spending and development of the nascent economies of the future), it sits alongside the systems-wide work already in train. These existing interventions focus on

improving the quality of work through our focus on innovation clusters as anchors for growth, initiating challenge-led funding, improved digital capability and building a ready workforce for the future.

We believe that well-directed policy measures, reducing silos and barriers to investment, taking strong industrial leadership - and harnessing the potential inherent within the transformational programmes outlined in this prospectus - presents an opportunity to introduce greater continuity and ambition into the heart of our region’s future. It is time to think with vision and act with ambition.



Frank Holmes
Chair, Cardiff Capital Region Economic Growth Partnership

Executive Summary

This document presents investment proposals to UK Government from the Cardiff Capital Region designed to augment our regional programme and build upon the catalytic deployment of the £1.3bn City Deal fund agreed in 2017. Economic recovery from the Covid-19 pandemic offers an opportunity to tackle industrial, social and environmental problems more comprehensively, firing up imaginations and encouraging communities, businesses and learning institutions to build back better.



We Have Set a Precedent

The original City Deal funding, comprising contributions from UK Government, Welsh Government and the 10 local authorities that make up the Cardiff Capital Region, was agreed prior to the establishment of an agreed set of specific investment projects, in order to provide a fund that could be judiciously deployed to implement targeted infrastructure and innovation intervention in the areas that best served our ambition - which can be summarised as the creation of a Connected, Competitive, Resilient region.

Similarly, we now ask the UK Government, as part of its levelling-up commitment to making strategic investment work for all parts of the UK, to contribute towards the next phase of interventions. This requires resources, fiscal incentives, support from UK Government agencies based in the region, and a focus on wider, transformational proposals. We believe this is essential to enable us to deliver the sector-specific and enabling capability work necessary to address the social and economic challenges faced by the region. In so doing we will make a significant and sustained contribution to the UK economy and simultaneously create an inclusive economy in which prosperity is shared and wealth and wellbeing are compatible goals.



Connected.



Competitive.



Resilient.



We Have a Robust Framework for Growth

The document sets out 6 key areas that represent our core proposals and 5 key enabling areas for exploration and intervention. This is supplemented by a series of wider proposals which we feel could be within reach subsequent to the deployment of the core and enabling initiatives. All these propositions and proposed interventions are complementary and intrinsically linked and show the level of economic policy coherence which now characterises the CCR. The core propositions are transformational programmes. They are based around our sectoral strengths and build the eco-systemic and catalytic effects needed for impact, added value and multiplier effects. The enabling programmes by contrast are foundational investments which will serve the whole of the region and in so doing provide the baseline from which key sectoral propositions can grow. This builds up to a series of wider proposals which we believe could be deployed at transformational scale subsequent to implementing the core and enabling proposals.

We've set out our investment requirements and estimated results across these programmes. It is anticipated these funds would be deployed over a 5-year period:

IMMEDIATE REQUIREMENT

£1.05bn



£630m via a R&D Funding Settlement for the Region

Consistent with the R&D Roadmap and emergent R&D Place Strategy for developing our industries of the future into clusters that can compete on a world stage.



£100m via the National Skills Fund

For a capital investment to fund the provision of strategic assets, facilities and expertise for investment into future skills academies with an initial focus on capability to educate, equip and train 10,000 data scientist and cyber specialists over the next 5 years.



£320m of Levelling-up Fund Investment

For propositions in Digital and Strategic sites and premises to provide the foundational capability to enable businesses and communities to prosper and grow.



A suite of fiscal incentives

To be agreed with Treasury and relevant government departments to support our ambitions and help drive up competitiveness and productivity and increase R&D spend in the region. It is proposed that the CCR works closely with UK Government to model the impact of measures such as the application of Tax Increment Finance to support large infrastructure projects, pooling of National Non-Domestic Rates to allow strategic and targeted reinvestment, and the introduction of Innovation Tax Credits and Professional Development Tax Credits for SMEs to encourage productivity and R&D gains. This will enable the region to become more self-reliant and motivated to build wealth that can be re-invested in creating future resilience.



Support is required on a range of infrastructure and energy programmes to enable us to take significant steps forward toward the net zero agenda. We also have an urgent need to address historic under-funding on regional rail transport to better connect our region and make borders more permeable.

These by their nature are more substantive investments but consideration is requested.

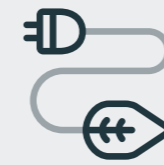
LONGER TERM REQUIREMENTS

£3.2bn



£2bn contribution from Department for Transport

Toward the cost of progressing the strategic regional rail priorities, an enabling set of propositions that build upon the early stages of the South Wales Metro. The vision is to develop a multi-modal strategic public transport network for the Cardiff Capital Region capable of providing a high-quality, reliable, efficient and affordable transport services to support sustainable economic development and social regeneration. The initial priorities are set out within our Strategic Rail Priorities document and are outlined later within this prospectus.



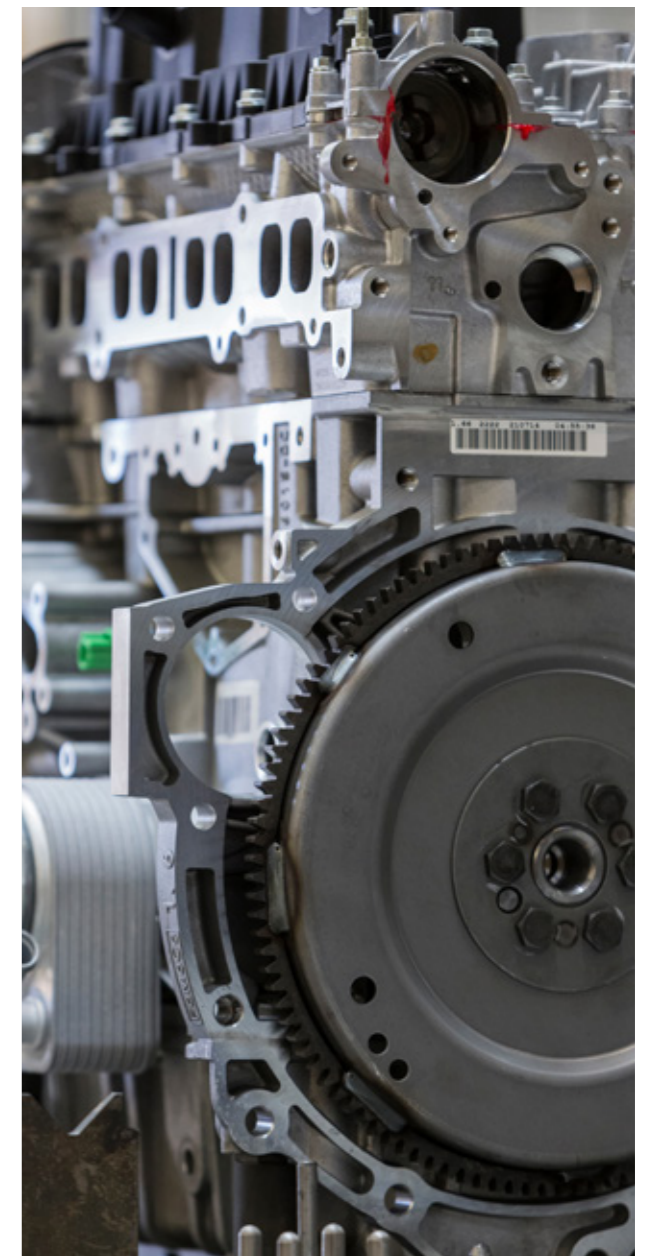
£1.2bn contribution from the revised Industrial Strategy and ISCF

Toward a £8bn CCR energy delivery programme in the form of largely repayable stimulus funds to incentivise: clean energy domestic and industrial retrofits, hydrogen solution trials, the roll out of a fit for purpose charging infrastructure for ULEV vehicles, shifting energy consumption to renewable sources. Our immediate priorities within this programme are the commercial/industrial retrofits and the hydrogen trials for which a £30m kick-start fund is required. A further stimulus fund of up to £500m would be used to help scale and commercialise outcomes.



A commitment to joint working and discussions

On our wider proposals across both UK Government departments and also with non-departmental bodies based in the region, such as the Office for National Statistics, Intellectual Property Office and Companies House. These proposals would include a data campus, a digital accelerator, opportunities for harnessing the power of the Severn tidal range, designating of innovation districts and the creation of a hydrogen hub.



Estimated Results

For the immediate commitment sought of £1.05bn we estimate that this will facilitate:

33,500

Jobs

£3.75bn

Private Leverage

£2.5bn

GVA

These are estimates and will be subject to refinement as the individual projects are further defined.

For the longer term programmes on Energy, which is seeking a contribution of £1.2bn in the form of stimulus funds to incentivise transitional initiatives, and Strategic Rail Priorities which is seeking a £2bn contribution toward infrastructure

development, further work is required to translate the initiatives into individual investment cases that will enable us to quantify the impact on jobs, leverage and GVA. Accordingly, at this stage of the process we are simply asking for a future commitment to allow time to work up the detail of the individual programmes of work.



YOU CAN TRUST US TO

Deliver

We have already created the conditions necessary for success. We have effective partnerships with shared political and business leadership in place and a delivery infrastructure with robust investment frameworks and solid governance and assurance processes. We have ambition, we have a robust strategy to capitalise upon our regions distinctive strengths and we have evidence of successful delivery through the work undertaken to date by the City Deal Regional teams. And despite the challenges Covid-19 has presented, we have momentum. It is critical we now harness the potential and move forward with pace. For that we need your support to ensure we continue to deliver for the people, the communities and the businesses that make up the Cardiff Capital Region.

YOU CAN TRUST US TO

Innovate

Our City Deal Wider Investment Fund works on an 'evergreen' basis and we take every opportunity to seek optimum ROI, co-investment and private leverage. We also have the resolve and intent to creatively establish the means to fund our programmes as opposed to just relying on traditional sources of funding support.

We have employed challenge and mission driven approaches to experimenting with new ideas, ensuring we solve intractable problems through new thinking and ingenuity at both economic and societal levels.

YOU CAN TRUST US TO

Build Back Better

Our approach is about being clear about how we will do business – but not in a business as usual way. For economic recovery from Covid-19 to be durable and resilient, a return to 'same old' and environmentally destructive investment patterns must be avoided. We can be trusted to ensure recovery work triggers the investment and behavioural changes that will reduce the likelihood of future shocks, increasing our resilience to them when and if they do occur. We have the opportunity to optimise investment in R&D intensity and infrastructure development, all alongside factoring in resilience to climate change, future mobility systems and security in UK-based supply chains.

Cardiff Capital Region



3 Major Ports

4 International Airports
(in proximity)

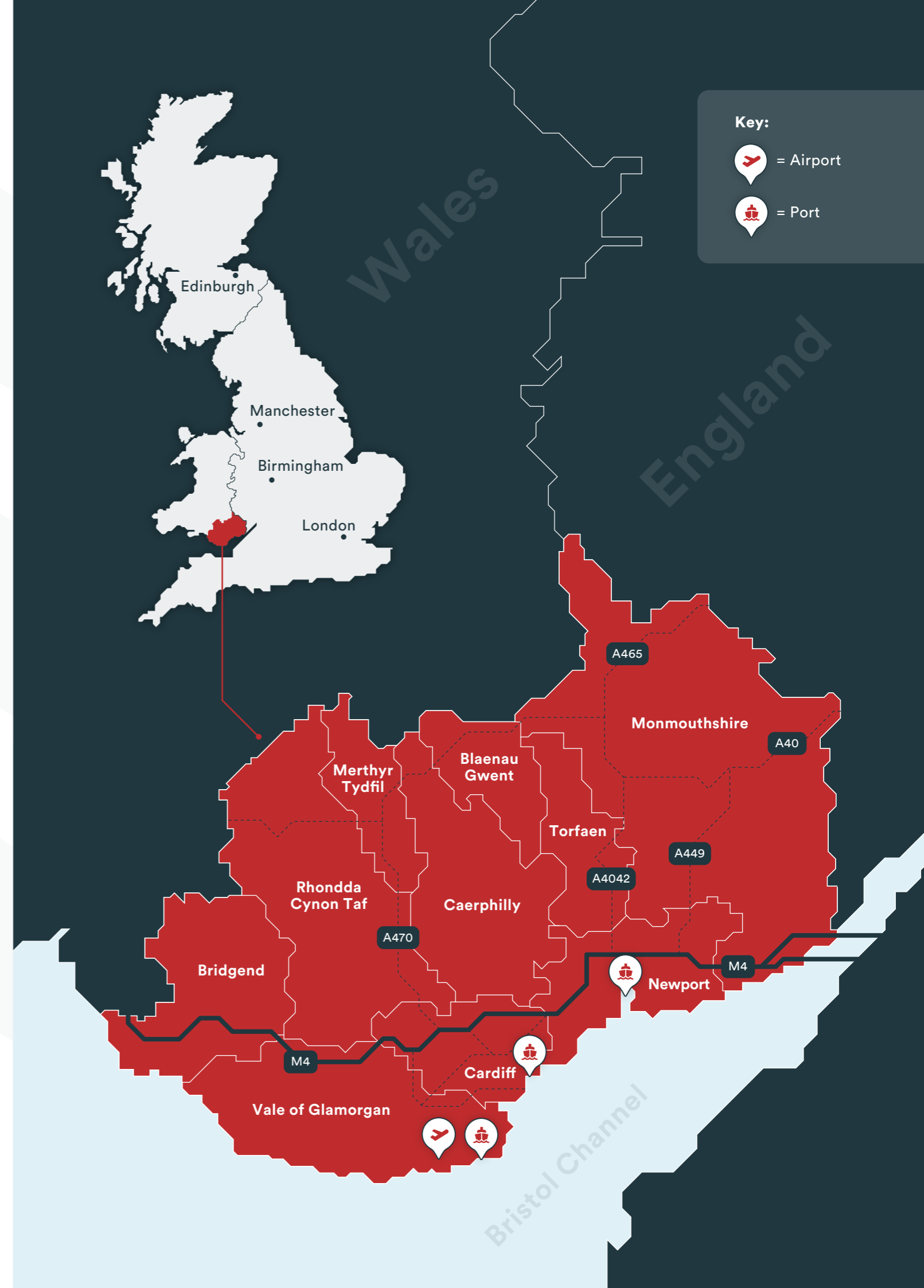
Home to the world's **2nd highest** tidal range

50,000 Enterprises

4 Universities
5 FE Colleges

BUT

- 24% below the living wage
- 2 of the 10 LAs at the bottom of the Competitiveness Index
- Below average investment in R&D - only 1% of Welsh GVA
- Generates 80% of the UK average GVA per capita



An Economic Overview of the Cardiff Capital Region

The Cardiff Capital Region (CCR) embraces a uniquely diverse population, economy and geography. Home to 10 local authorities and 1.5 million people across South East Wales - with environments that vary from the cities of Cardiff and Newport, historic market towns and rural communities, to the post-industrial Valleys heartland and a 30-mile coastal belt - the region has enjoyed significant regeneration and investment over recent decades, creating new business parks, quality housing developments and imaginative recreational initiatives; with landmark projects including the Cardiff Bay regeneration, major road infrastructure works and the successful reintroduction of passenger rail services to Ebbw Vale.

The effects of this investment are clearly visible in an economy that **accounts for approximately 50% of the Welsh economy**. Drawing on a proud industrial heritage, the area has a number of anchor manufacturing businesses in Aerospace, Automotive and Defence, as well as an expanding diversification of the business base exemplified by the emerging world-class clusters in sunrise industries such as Compound Semiconductors, Creative Industries, Cyber and Life Sciences. With three universities, a well-skilled population including a regional average of 40% plus of the population possessing NVQ4 or above level qualifications, a vibrant capital city renowned for excellent cultural and sporting facilities - and an enviable combination of coastline, forests and parks - the region regularly reports high levels of wellbeing and quality of life.

However, despite these strengths and the undoubted success of investments made over the last 25 years, significant parts of the region continue to be defined as some of the most economically deprived areas in Europe - remaining eligible for the maximum level of financial support from European Funds. This leaves much of the region particularly vulnerable

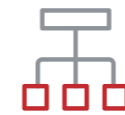


to the loss of EU funds which, coupled with Covid-19 has heightened awareness of the region's vulnerabilities in terms of over-dependence upon particular economic activities and markets. On a per capita basis, the region lags behind the UK average, **generating only 80% of the UK average GVA per head**. This broad picture also masks considerable geographical variation across the region. There are significant and long-established economic and social disparities between the prosperous coastal zone around Cardiff and the Vale of Glamorgan, and the more disadvantaged areas of the South Wales Valleys. This juxtaposition of need and opportunity is a particular feature of the Cardiff Capital Region; together with the mutual interdependence between the capital city and its wider regional hinterland. Whilst Cardiff built its wealth on exporting from the coalfields of the South Wales Valleys, the fortunes of the Valleys communities are now critically linked to the jobs, skills and housing markets of Cardiff and Newport.

Key Challenges and Opportunities

Given this context, the region's key challenges and opportunities can be broadly grouped under three headings:

- **Connectivity**
- **Competitiveness**
- **Resilience**



Connectivity

There is a need to improve Physical and Digital connectivity both within and beyond the region for both people and businesses.

INCREASED COMMUTING

Levels of commuting to work continue to increase across the region. Indeed, unlike most other city regions in the UK, the CCR has a significant mix of urban and rural communities with over 75% of the population residing outside of Cardiff. There is heavy dependence on the car, with public transport connections lacking appropriate capacity and efficiency in key place. Current modal share is 80:10:10 car, active travel, public transport. This may be unsustainable and suggests the need for a more stratified approach.

DISTRIBUTION OF JOB CREATION

Employment growth is heavily concentrated in Cardiff. Whilst this is strong evidence of accumulation, to complement this, there needs to be a focus on good jobs closer to 'home'. There is a need therefore to develop high-value supply chains and ensure better quality jobs to drive productivity and the sense of belonging people attach to their place.

THE VALLEYS & RURAL DISCONNECT

The Valleys and some parts of rural CCR are less accessible than the major cities and coastal belt. Communities originally attracted to work in the now largely closed iron ore and coal industries are now comparatively isolated and difficult to sustain. In rural areas this is exacerbated by poor infrastructure and access to services placing a premium on the need for better transport links which will open up economic opportunity.

QUALITY, VARIETY AND AFFORDABILITY OF HOUSING

As a consequence, the projected rate of house prices, development opportunities and household growth are highly variable across the region.

Over the next 20 years the number of households in the Cardiff Capital Region is projected to increase by around 13%. By far the greatest increase is projected for the cities of Cardiff (31%) and Newport (16%). The opportunity to invest in affordable and innovative 'smart homes'; in flexible tenure homes and 'lifetime' mobility for both societal and economic benefit, is clear.

VARIABLE DIGITAL CONNECTIVITY

Digital connectivity is also variable across the region. The average UK broadband speed has nearly doubled in the past two years from 28.9 Mbit/s to 46.2 Mbit/s. Most authorities in the Cardiff Capital Region only reach just over half that average speed with some rural and valleys areas reporting feeling 'left behind' as a result.



Competitiveness

LACK OF CRITICAL MASS

The CCR has a relatively small economy and with a population of around 1.5 million, lacks the critical mass, evident in many of the UK's more prosperous city-regions and conurbations. We need to maximise the opportunities we have to gain further scale working closely with Welsh Government and playing a full part in initiatives such as the Western Gateway.

BELOW-AVERAGE GVA

Whilst GVA has grown and unemployment fallen in recent years, labour productivity in the region (measured by GVA per job filled or hour worked) stands at 85% of the UK average and lags behind the majority of city-regions across the UK. The issue is that productivity growth in last five years is mainly employment-led. Work on Clusters and innovation-led growth will be key to changing this.

VARIANCE IN EMPLOYMENT & PAY

Unemployment rates and wage levels vary considerably across the region. Unemployment is typically lowest in rural Monmouthshire and

highest in Blaenau Gwent and Merthyr. Average gross wages in the region are lower than the UK average, with 24% of employees in the region being paid below the living wage. 2 of the 10 local authority areas score particularly lowly on the UK Competitiveness Index.

SKILL LEVELS

Varying skills levels are the main determinant of productivity differentials, with a fundamental need to address these deficiencies across the skills spectrum, particularly for those people with the lowest levels of skill. The percentage of population with qualifications at Level 4 varies 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. Parts of the region still have relatively high levels of people without any qualifications.

INVESTMENT IN R&D

Innovation is a further key determinant of productivity. The CCR contains a highly regarded science base through its Universities, collaboratively providing a strong foundation for developing new technologies and applications. Despite this, investment in R&D has remained comparatively low in the region, with Innovate UK expenditure in Wales measured at less than a third of the average UK per head figure - and government expenditure on R&D in Wales standing at just 1% of Welsh GVA. In the CCR, average investment is well below 1% with only Cardiff showing a figure of 1.1% placing real weight on the importance of CCR efforts to mobilise public investment in R&D.

SECTOR & CLUSTER STRENGTH

A number of strong and emergent clusters offer opportunities to develop value-chain growth. CCR has global credentials in manufacturing advanced compound semiconductors – a key component for the international smartphone, med-tech, automotive and 5G industries. In addition, it has comparative advantage in the growing field of Insuretech, as recognised through the Welsh Regional Entrepreneurship Accelerator Programme

work in conjunction with MIT. In life sciences, the region has clear strengths in medical diagnostics and devices - whilst in the creative industries there is a proven strength in stage and screen. Our cyber capability is a further asset, closely tied in with inter-regional work across the Western Gateway geography.



Resilience

ECONOMIC MIX & DIVERSITY

The increasing turbulence in the wider economic world has brought a sharp focus on CCR's resilience - with the 2008 economic crisis, secession from the European Union, climate change and the Covid-19 pandemic all highlighting the importance of understanding the CCR's capacities to adapt to longer-term processes of transformation and change. The CCR is characteristically less complex and economically diverse than many city regions, given its heavy dependence on particular sectors (see above) and a relatively high ratio of rural areas. The relatively high dependence on public service is a key opportunity in this.

THE LESSONS FROM PAST SHOCKS

The suppression of the Covid-19 virus has had a significant impact on the local economy given the dependency on external investment, tourism, hospitality, retailing and significant numbers of micro-businesses - coupled with lower overall levels of prosperity and household income. The lessons from previous crises indicate economic resilience demands agility, innovation and long-termism in policy responses.

THE FOUNDATIONAL ECONOMY

There is a strong dependence on employment in the foundational economy across the city-region as a whole with some 35% of jobs in the region in education, healthcare and hospitality and retail. These sectors of the non-tradeable economy act as critical pillars for job creation and



stability, and for the employment of non-migrating graduates. As such, it provides considerable resilience to the regional economy because its activities are distributed according to population and demand. It is also heavily community and place-based and provides a powerful enabler of collective consumption, and local wealth creation. Judicious support for key local 'anchors' can help keep money circulating locally and create better employment conditions, so helping spread local prosperity and drive productivity. Covid-19 has amply demonstrated the significant capacity the public sector has to support the resilience of local communities when shocks hit - and there is significant potential to harness this in support of the longer-term process of rebuilding and renewal.

SECTOR-SPECIFIC DEPENDENCE

The CCR's heavy dependence on certain sectors creates a number of vulnerabilities. The projected job losses as a result of the Ford Bridgend closure and the recent announcements on the cessation of steel-making at the Orb works in Newport have highlighted the fragility of the region's traditional dependence on manufacturing.

DEMOGRAPHIC CHANGE

Like the rest of the UK, the region has an ageing population, with 20% of the population aged 65 years or older. This is projected to increase to 25% by 2036 but will vary considerably across different communities - creating increased demand for care provision and related services, with potential impact on the workforce available to other sectors. The region is also characterised by a emigration of

those aged between 22 and 45, making efforts at retaining the large numbers of graduates through the region's three universities a key imperative.

CLIMATE CHANGE

Progressive carbon-reduction targets provide new opportunities for innovation and economic activity, but will also challenge many firms. The region's high quality natural environment provides a wealth of resources and opportunities for tourism, health and recreation, as does the region's breadth of cultural and historical heritage. Storm Dennis has very recently highlighted the vulnerabilities of many of the CCR's towns and businesses to flooding, and has reaffirmed the growing importance of appropriate and effective warnings in advance of unprecedented weather events.

COMMUNITY

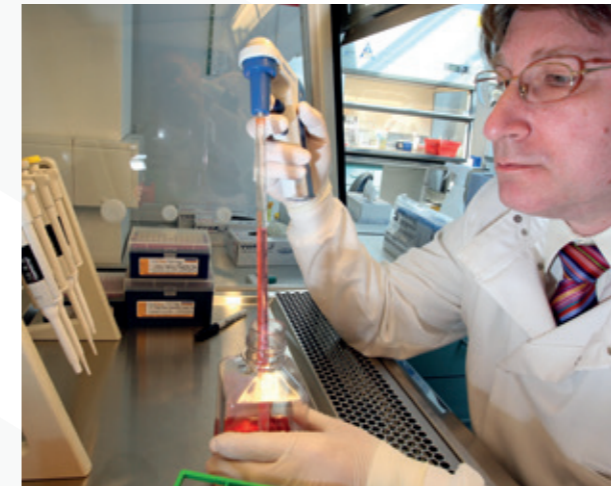
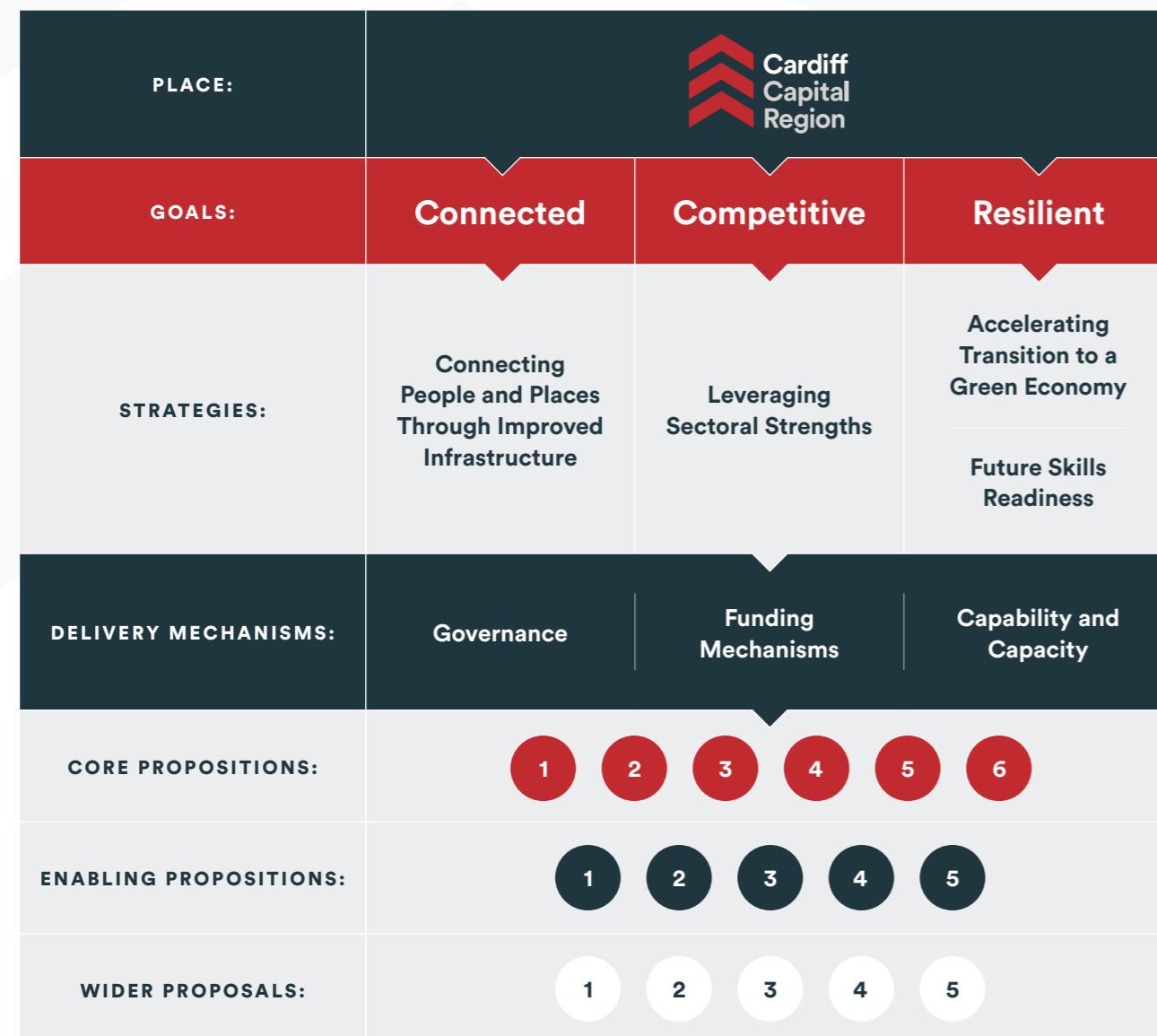
The region has considerable strength in its social fabric and community spirit. This provides scope to be optimistic regarding the region's capacity to forge a strong and distinctive identity, and to cope with the various challenges that lie ahead.



Strategic Ambition

Diagram 1 below depicts the CCR ambition and the associated strategies, delivery mechanisms and interrelated investment propositions required to address the challenges outlined in the economic overview. It is these propositions that will enable the CCR to deliver on its ambitions to be Connected, Competitive and Resilient and become a place that is truly economically self-reliant offering equality of opportunity to all.

Diagram 1



Our Goal

A **competitive, connected and resilient region** where prosperity is shared and wealth and wellbeing are compatible goals.

Creating and nurturing an inclusive economy where everyone can play a part is at the heart of the value-set underpinning our strategy and approach. Our aim is to make a real and enduring difference to all communities by;

- Creating general prosperity – where no place gets left behind
- Fostering innovation in business, public services and local and foundational economies
- Ensuring that economic ambition is matched with progressive social policies.

“The ambition is to bring the sort of continuity investment that will bring key industry clusters to life, ensure companies can fulfil their potential for innovation, and produce economically significant hubs with multiplier effects into local and regional supply chains.”

Our Strategy

Our Strategy for realising our ambition revolves around leveraging regional strengths in priority industry sectors to create clusters where the CCR can compete effectively on a national and international scale.

Diagram 2



Our Delivery Mechanisms

We have the right credentials. Our City Deal set up and experience provides us with the know-how and capability to execute at pace.

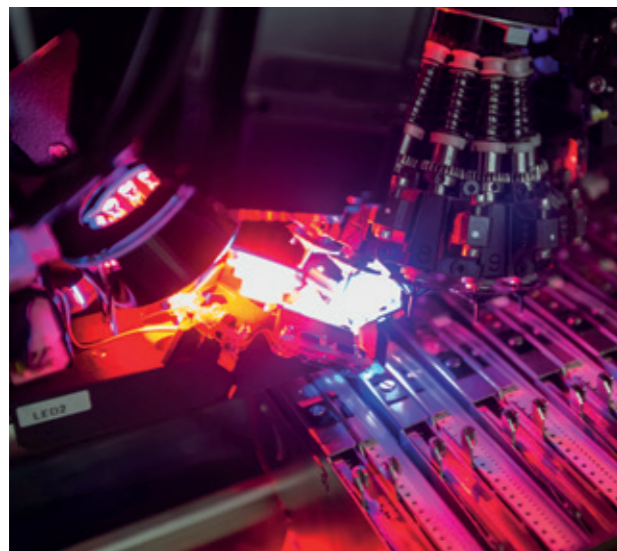
Diagram 3



In addition we have:

- Data, evidence and insight capacity on our markets, priority sectors and industrial sectors.
- A unique capability built with partners, economists and data scientists.
- A Regional Economic Growth Plan – adapted for Covid-19 that focuses on recovery, re-building and re-emergence and a framework for resilient growth.
- A Regional Investment and Intervention Framework – robust and legally reviewed process for assessing investment propositions attached to an expert public-private Investment Panel which advises Regional Cabinet. This supports innovation, infrastructure and challenge investment and operates on a ROI basis, ensuring a focus on hand-ups, not hand-outs.
- A rich and coherent partnership infrastructure, which in addition to investment and economic policy panels, comprises a Regional Economic Growth Partnership, a Business Council and a Regional Transport Authority.
- A Cardiff Capital Region Skills Board that has representatives from Industry, HE, FE, Work Based Learning, Trade Unions and Local Government.
- A growing culture of HE/ FE / Industry collaboration that builds for the region and sector as a whole and not for a particular institution or company unless regional benefit can be demonstrated.
- An emerging strategy and plan for embracing the opportunities afforded by the advent of Corporate Joint Committees.

“ We have 4 years’ experience of effective regional public investment and economic governance - as evidenced by the recent evaluation report by SQW. We have a robust functional model capable of scale-up for delivering locally and regionally, local democratic legitimacy, and we have an emergent strategy for the evolution and delivery of capability and capacity to evolve from a City Deal into a full city region. We are confident in our ability to deliver. ”





Proposition Detail

Our Propositions

Diagram 4 lists our two categories of Proposition - Core and Enabling - each reliant on the other for ensuring optimal impact. The Core propositions are transformational proposals, built around priority sectors and are more targeted and focused. The Enabling propositions are foundational investments which serve the whole region. Together, these propositions will ensure no place gets left behind and that through supply chains, infrastructure links, human connections and innovation no place misses out.

Diagram 4





CORE 1

Powering a World First Compound Semiconductors Centre of Excellence

CCR is home to CSconnected – the world’s first Compound Semiconductor cluster. Over the last 5 years successive investments through research councils, UKG, Innovate UK, WG and HEIs and businesses have all helped invest c£750M in growing the sector.

In 2017, CCR invested £38M with IQE co-investing £375M in the Newport CS-mega Foundry at Imperial Park which is home to IQE Plc – an AIM listed manufacturer of next generation compound semiconductors. The Foundry, also home to the £50M CSA Catapult, produces wafer chips that are exported the world over and are embedded in all major developing technologies from smart-phones to wearable technology and from advanced energy systems to next generative automotive.

With a £44M additional investment, £25M of which was awarded by the UKG UKRI Strength in Places Fund, CSconnected will build upon foundational investments by:

- **Developing the front door for inward investment and FDI.**
- **Reinforcing the trade body status of CSconnected.**
- **Creating the skills and talent supply and continued localisation of supply chains.**
- **Delivery of an open innovation ‘Collaborative Research and Development Programme’.**

Proposition

Our power electronics proposition seeks to build upon this foundational capability by creating:

- **A skills academy for the UK sector through the continued development of the physical cluster at Imperial Park Newport.**
- **A full skills and talent development programme ranging from entry-level apprenticeships through to postdoctoral development.**
- **A comprehensive learning, development and training programme for companies within the supply chain with the goal of achieving a 80% usage rate of regional networks.**
- **An international Research and Development partnership with South East Asian and North American Universities and Industrial partners.**
- **An open access lab facility that will enable co-innovation and development and commercialisation of programmes and products developed through the CRD programme.**

Requirements

£100m

To advance the creation of a skills academy, talent development programmes, global R&D partnerships and open access lab facilities.

CCR Fiscal Incentives

Via R&D tax credits.

Access to BEIS Analysts & Policy Support Functions

For insight and global market intelligence.

Support from DIT

For a targeted programme of international inward investment.





CORE 2

Building a World Leading Med-Tech Cluster Fully Integrated with NHS Wales

The Cardiff Capital Region is home to mature medical devices and diagnostic companies, cutting-edge genomic research at Cardiff University and a vibrant cohort of young Med-tech companies.

The region is also already home to the other ingredients required to transform CCR into the home of next generation diagnostics including:

- **The Life Sciences Hub – funded by Welsh Government to break down the barriers to innovation in the NHS**
- **A devolved NHS – flexible enough to adopt innovation to transform the health and wellbeing of the region**
- **The Compound Semiconductor Cluster – the future of electronics; faster, lighter, cheaper, with additional functionality**

Our aim is to bring these strands together into a thriving, R&D-led Med-tech cluster, creating an ecosystem where businesses can work in tandem

with cutting-edge research, draw on the potential that compound semiconductors present, and deliver innovation directly into the NHS, benefitting the health and wellbeing of the region whilst also driving economic growth. At the centre of the vision is a Med-tech ecosystem, built on the Cardiff Edge site at Junction 32 of the M4. The aim is to create a connected, competitive and resilient site which goes far beyond a typical science park. In doing so, we will create a magnet for inward investment, and a skills pool to compete with Oxford, Cambridge and the North West.

The site itself is ideally located, with excellent rail infrastructure thanks to the Metro project, and its location on the M4 provides an easy commute from any part of the Capital Region. The CCR City Deal is proposing to invest in this site as a Joint Venture.

Proposition

Creation of:

- **Cutting-edge facilities (including cleanrooms and laboratories) with flexibility to cater for Medical Devices and Diagnostics companies, of all sizes and maturities**
- **A RTO specialising in product design, prototyping of medical devices and implants**
- **An open access facility for clinical development and training, providing facilities and expertise to test novel devices for regulatory approval, provide expert advice on regulatory pathways and to train**

surgeons in their use. Such a facility will be unique in the UK

- **A University Health Data Academy, training the next generation of data scientists on live business data challenges and using public health data-sets**

These facilities and centres will be tailored to addressing challenges for scaling businesses in the sector. In so doing we aim to create a strong draw for inward investment and relocation of talent.

Requirements

£200m

To create the conditions necessary for the CCR to become the devices and diagnostics capital of the UK.

Activation of a med-tech mission

For a challenge fund linked to upcoming ISCF calls

Unlocking of IPO patents

For advance and repurpose orphan IP

Support from DTI

For targeted inward investment and mobilisation of med-tech partnerships formed via the Global Welsh Diaspora

Placement of a Med-tech discovery programme

Via ARPA-satellite presence





CORE 3

Creating a Digital National Accelerator

Wales has the fastest growing digital economy outside of London, and the growth of the financial and professional sector in Wales has led to a thriving Fintech industry.

In the CCR, financial services companies such as FTSE 100 Company Admiral is among the region's largest employers. In addition, the CCR is a data rich region which has significant data resources. We have a world class Data Centre in the region and over 70% of UKG data is held in entities such as IPO, ONS, and Companies' House, all of which are domiciled in the CCR. With key developments such as the National Software Academy, Wales Centre for Digital Public Services and INFUSE – there is now real potential for us to harness the power of our data assets and become a stand out location for data-rich services that support both the public sector and thriving sectors like Fintech and Insuretech.

The Welsh fintech scene is now one of the most active in the UK thanks to its innovative talent pool and growing investment opportunities. Wales' thriving tech ecosystem with its growing supply chain combined with entrepreneurial universities provides a firm foundation for fintech to thrive. There is a vibrant community in Wales' technology

scene, which allows start-ups, investors and larger companies to meet and share ideas through accelerators and incubators as well as networking events and flexible workspaces.

Furthermore, Wales is home to the first financial technology undergraduate degree. With the changing economic and technological climate in Wales, financial services and the technologies that run them will continue evolving to meet newer and faster-changing demands. The agility required in the financial markets of the future will require new innovations in technology and systems

Finally, the "Kalifa Review of UK Fintech", published on February 26 2021, now provides a clear strategy and delivery plan to ensure the UK can capitalise upon the opportunities fintech presents. Within this report, Wales - and in particular Cardiff and SE wales- is noted as one of the top 10 clusters in the UK with potential for significant growth, and developing real areas of excellence.

Proposition

- Creation of digital accelerator capability to exploit data at scale for the development of insight, foresight and intelligent techniques.
- Development of skills programmes, providing “skills ladders” for data science, software engineering and AI, from secondary school interventions through to FE, HE and apprenticeships, enabling flexible upskilling, reskilling, entrepreneurial skills and CPD in Academies aligned to business.
- Knowledge exchange and greater capacity building for co-creating data/AI solutions - business acceleration activity, from start-ups to large companies, through agile projects with industry having access to rapid data analysis, modelling and AI expertise
- Application of a Venture to Scale up fund - an equity based fund to support new start-ups/ entrepreneurs in the phase from launching the initial venture, through to the point where it is substantive enough to become eligible for scale-up funding.
- Creation of a centralised Fintech hub -To offer shared support services, skilling and flexible working environments to de-risk new companies and entrepreneurs, as well as providing a “soft landing” space for on-boarding new companies.

Requirements

£100m

To be injected into the development of DNA

Fiscal levers

Development of fiscal levers linked to data development and region's data credentials targeted at start-ups.

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 INNOVATIVE FUTURE SERVICES



CORE 4

Developing a Cyber Innovation Hub

Wales has a thriving cybersecurity sector which is growing an international reputation based on externally validated evidence – an internationally recognised mix of cybersecurity-focused big business, a critical mass of small enterprise and GCHQ-recognised academic excellence – promoted by Welsh Government strategy.

Thales and Airbus have laid significant roots in cybersecurity innovation and are heavily engaged with public sector activities. Thales’ National Digital Exploitation Centre in Ebbw Vale and Airbus’ CyberLab in Newport represent £28m of investment in cybersecurity innovation in partnership with Welsh Government, Cardiff University and University of South Wales.

We have two Universities - Cardiff and USW that are recognised by the National Cyber Security Centre (part of GCHQ) as Academic Centres of Excellence in either research or teaching. Their work underpins ground-breaking research that has seeded spinouts and SME’s and been translated into larger businesses. This creates a strong, sustainable supply chain in Wales, recognised and valued by its businesses. Having these ingredients makes us a nationally excellent cybersecurity ecosystem.

The Cyber Innovation Hub will provide the catalyst to significantly increase the number of cyber security businesses in the region and in so doing, attract further private investment and enhance our cybersecurity skills and talent pool.

The Hub will bring together market-driven cybersecurity challenges (via partners including Airbus, Thales, BT), the GCHQ-recognised research and skills excellence at Cardiff University and USW, and the Alacrity Foundation’s experience of cultivating successful start-ups.

With innovations being tested against real, controlled cybersecurity attacks on a world-class “digital twin” infrastructure; and a unique set of cybersecurity reskilling courses - the CCR cybersecurity cluster will become a focal point for Cybersecurity businesses and investment both locally and internationally.

Proposition

The Hub will seek to:

- Develop an MSc qualification in Cyber/Ethical Hacking in partnership with Cardiff University, USW and backed by PWC.
- Create a physical space for FDI, demonstration and open innovation through the Cyber Demonstrator
- Establish and deliver a Cyber Challenge Fund with business, industrial, government and academic partners
- Reinforce partnerships across Cyber South Wales and the West, most centrally with Western Gateway partners and collaborators

Requirements

£50m

To develop an open innovation space for R&D and a problem-solving ‘living lab’ capability

£25m

For a cyber specific challenge fund

Relocation

Consider relocating MoD policy development staff to the region to support a challenge based test bed approach to cyber problem solving that will have global application and relevance.

Core

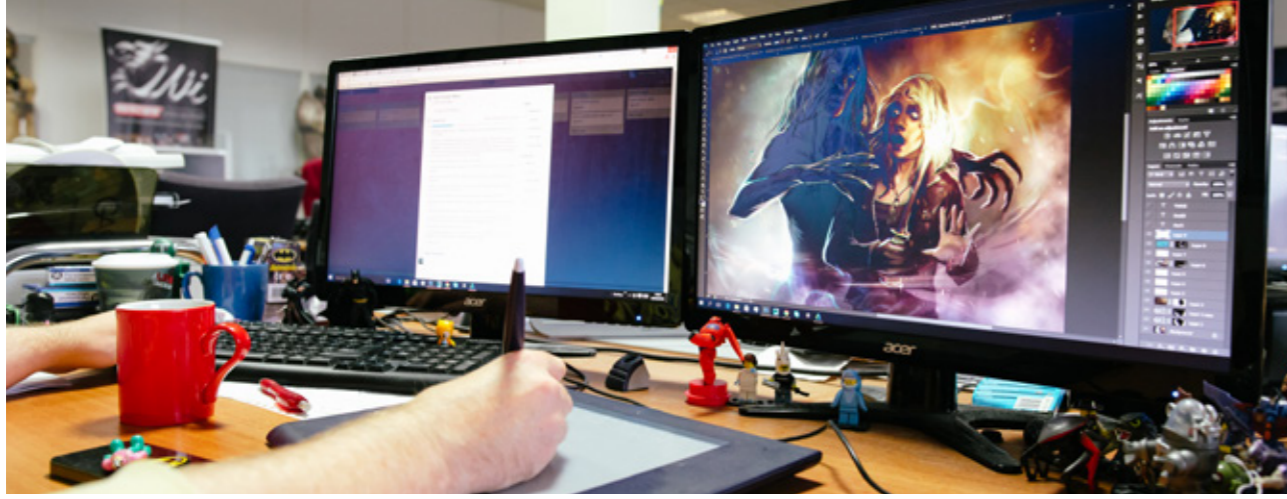
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AIRBUS

THALES





CORE 5

Consolidating & Expanding a Creative Capital Region

Our creative and media industries are thriving and have become one of the fastest growing sectors within the CCR.

With more than 1300 media firms, 600 of which are in Film and TV, contributing approx. £360 million GVA – the sector has become a growth engine for the CCR economy. Characterised by a high proportion of sole traders and freelancers, those working in media comprise 7% (and rising) of the region’s workforce and represents one of highest sectoral employment concentrations in the UK. Since 2016, 34% of all new jobs in the UK’s media sector have been located in the CCR.

South East Wales has become the place where creative companies and talent flourish – a recognised centre for TV and film production, home to BAFTA, Emmy and RTS award-winning businesses that are pushing the creative envelope domestically and globally, with fast developing international trade links and pioneering workforce training initiatives.

The CCR creative ecosystem is now in place to grow this success even further, with industry-leading names such as Bad Wolf, Bang Productions, Dragon Studios, Screen Alliance Wales, Gorilla Post-Production and Mad Dog Casting very much part of the fabric of our creativescape and are all fully supported by our universities. It’s no coincidence that major studios

and big hitters in the creative industry are choosing Wales over other worldwide locations. Not only is our Region is blessed with incredible natural assets, the lure is in fact economic and largely due to a long-term strategy by the Welsh Government, led by its Creative Industries Sector Panel.

Since its inception in 2010 the Creative Industries Sector Panel has played a pivotal role in attracting over £100m of investment into Wales. The panel’s support helped bring Pinewood Studio Wales and Wolf Studios Wales to Cardiff – and Bay Studios to Swansea – facilities which between them have already hosted Amazon Prime’s Paris-set drama series The Collection, Da Vinci’s Demons and the Netflix feature film, Apostle. The world’s film-makers are flocking here to exploit the stunning locations, state-of-the-art facilities and rich seam of local expertise. At the same time, Welsh talent is creating its own home-grown drama, and exporting it to the world.

Cardiff Central Square houses the BBC’s new broadcast headquarters – the first major broadcasting site in Europe to use IP broadcast technology at scale. The building is designed to be a hub for the industry, including a range of partners from the independent television and digital sectors.

Proposition

- Enhance R&D capability through living lab style development and a range of systematic programmes that will work at creating, retaining and broadening forms of IP exploration and ownership.
- Create a skills and development strategy that fosters innovation and creates supply networks that integrate the freelancer community.
- Explore new international markets

Requirements

£25m

To develop an innovation and R&D facility

£100m

For production facilities working in partnership with Dragon Studios, BadWolf and Great Point Media

5G Creative

Consideration of a specific programme aimed at providing enhanced 5G connectivity to optimise capabilities of the growing stage and screen sector.

GORILLA



SCREEN ALLIANCE WALES®





CORE 6

Accelerating Transition to Hydrogen and a Commercial Property Energy Refit Programme

Creating the conditions for a transition to a carbon neutral economy in the CCR, using low carbon energy are considered a key enabler of economic regeneration and fundamental to improving the health and wellbeing of our communities.

In the same way that the region has areas of commercial and industrial strength that are capable of competing at a UK and international level we also have all the ingredients to develop similar growth and opportunity in the energy and environment sector.

The region has a large number of significant manufacturers who use high volumes of process gas, including Celsa, Rockwool, Dow Corning, Tarmac and Tata in Newport. It is also home to a thriving commercial and finance sector with large units of office accommodation rife for retrofit.

Capability within the region can harness industrial fuel switching as a catalyst to deploy and distribute

hydrogen into wider energy demand sectors – delivering accelerated, optimised and lowest cost decarbonisation alongside renewable electricity and economic energy efficiency. Wales & West Utilities are committed to transitioning large parts of their network to hydrogen, with recent regulatory price control determinations meaning they can start laying the first hydrogen pipes within the next 5 years.

The South Wales Industrial Cluster through its Deployment and Cluster Plan Projects led by Costain and CR Plus respectively are developing proposals to produce Blue and Green Hydrogen at scale in various location across South Wales. This work will inform and help deliver the hydrogen transition across the CCR.

Proposition

- Introduction of a “Green Deal” energy efficiency retrofit programme integrating renewable energy sources into commercial properties using the business rates mechanisms for recovery of the transition funding.
- Derivation of a series of trial solutions for transitioning to alternative fuel sources, including heating buildings with hydrogen heat pumps and hybrid technologies.
- Growing demand for hydrogen will support further expansion of the customer base and supply chain into target areas such as domestic heating, transport fuels and flexible power generation.

Requirements

£30m

For kick start funding in order to be investment ready, with engineering and business requirements on an anchor site. This would enable the optimum industrial combinations and stakeholder buy in.

£500m

For a capital pot (£375k of which repayable over 15 years) to incentivise business customer take up.

Derogations

On arrangements for charging and collecting Business Rates to finance a revolving fund for retrofit.





ENABLING 1

Harnessing the Power of Digital Technology - Fibre to the Premise and 5G Enablement

The provision of high class digital services is a stimulant for innovation and the creation of new business streams, leading in turn to economic growth, social inclusion and cohesion. Accordingly it is a critical enabler for the achievement of the CCR strategic ambition and growth plans.

To date the region has suffered from a lack of commercial investment in digital infrastructure that consequently has resulted in an underlying gap in delivery capability compared with other regions of the UK. This has been brought into sharp focus throughout the Covid-19 pandemic.

It is now imperative we address the gap and future-proof fixed fibre and mobile networks in order to provide a transformative foundation for both businesses and citizens across the region. Failure to do so will result in:

- **A loss in local productivity, employment and reduction in GVA**

- **An inability to attract inward investment by highly skilled digital intensive industries**
- **An adverse impact on the delivery of local services, notably education, health and transport**
- **Environmental challenges**
- **A widening gap in access to digital services across the region leading to further isolated communities**
- **A loss of competitive advantage for the cities and development zones of the region.**

Proposition

With initiatives such as Superfast Cymru, Local Full Fibre Network, Rural Gigabit Programme and the South Wales Trunk Road Fibre Concession, together with agreed investment from the CCR Investment Framework into Full Fibre and 5G coverage, our ambition is to;

- **Deliver a world class, high-quality, full fibre and wireless digital services across the region.**
- **Provide a connectivity platform for our communities and key business sectors that enables them to compete on the global stage.**
- **New business start-ups being able to capitalise on Digital Infrastructure to operate new digitally dependent business models at lower cost and more flexibly than established businesses**

This will facilitate:

- **Existing businesses being able to exploit Digital Infrastructure, including the use of 5G technology in machine learning and AI & VR applications, to innovate new business models, generate productivity and create new markets.**
- **Communities being more self-sustaining through remote access to better digital services and by allowing rural SMEs to work and conduct business through digital platforms**
- **Advancements in smart cities/homes infrastructure offering reductions in energy use, congestion and fuel costs stemming from smart management, smart energy and smart travel systems.**

Requirements

£120m

To facilitate the roll-out of FTTP across our key industrial sites and towns across the region

£50m

To maximise the impact of 5G applications in our key clusters and support the roll out of 5G capability



ENABLING 2

Provision of Accessible, Affordable Domestic Housing Sites and Employment Premises

The region requires significant core investment into strategic sites and premises that can support foundational growth, local supply chains and sector-specific developments. In addition, support is needed for unlocking unviable sites for domestic housing development and for diversifying the quality, variety, and sustainability of local housing.

Across the UK, development funding availability remains highly limited for both debt and equity, in some sub-markets it is virtually non-existent. Traditional lenders have constrained risk appetites, offering lower leverage and often only being willing to lend when a scheme is fully pre-let. This is exacerbated by the current Covid-19 pandemic. Without developing speculative schemes, such as those that might support clusters, and creating good quality employment space for inward occupation of enterprises, the region will be at a disadvantage to other competing regions that are able to provide this occupational pipeline.

This is equally relevant for prime city-centre office space (which historically has been pre-let prior to development; this is seen less frequently in the current day) as it is for small SME industrial and manufacturing type space, where the occupiers seldom are able to plan ahead in time to commit to pre-let space. The accelerating trend in remote working, catalysed by the Covid-19 pandemic, is expected to make pre-letting even less common for at least the short-term but with likely consequences in the medium term.

Proposition

Provision of additional early stage development finance through enhancing the CCR Sites and Premises funds. Despite the lack of development debt available, there is still strong appetite from funders for completed development schemes with evidence of letting potential.

The proposed Fund provides the ability for innovative, flexible and structured finance solutions at various access points in the capital stack whilst bringing together the public and private sector to create the right environment to accelerate the delivery of projects. This will ensure that the Cardiff Capital Region is well positioned to maximise opportunities that arise in the economic recovery.

The Fund is designed to align with CCR objectives only funding projects where the strategic criteria are met. The Fund will target sectors where investment is needed and alignment to the strategic goals for CCR allowing for:

- **Regeneration & Infrastructure: Creating grade A or equivalent space, reusing Brownfield land, regeneration, and recycling capital**

- **Innovation: The Fund will target projects used to in support of innovation as well as business growth and regeneration.**
- **Skills and Employment: To promote and measure jobs creation from funding**
- **Connecting the Region: The Fund will be purposed to serve the CCR strategic approach and Funding connections within the region should also be considered**
- **Covid-19: Providing funding to kick start developments, which will attract inward investment which may have slowed due the pandemic as well as well as accelerating post covid-19 economic recovery.**

Requirements

£100m

To scale up the CCR Premises Fund to facilitate investment in cluster initiatives such as the creation of a Fintech hub.

£50m

To scale up the Housing Viability Fund over the next 5 years.



ENABLING 3

Aligning Skills Provision with Future Industry Sector Needs

To compete effectively in today's global economy confidence in a highly skilled, adaptable and dependable workforce is essential. Supply of local skills is one of the key considerations for any business deciding where to locate its operations and is of huge importance to how our region performs.

The CCR has a strong ecosystem of skills, knowledge, and research and industry collaboration. Home to Cardiff University, University of South Wales, Cardiff Metropolitan University and The Open University in Wales, together they account for around 75,000 students. This is alongside five Further Education Colleges - : Cardiff and Vale College, Coleg Gwent, Bridgend College, Coleg Y Cymoedd and the College Merthyr Tydfil supporting the learning and upskilling of an additional 60,000 learners.

There is a strong culture of collaboration between HE, FE and Industry in the region. The Universities and their industrial partners make a strong contribution to the economic and social resilience of the region and are key to future growth strategies. With a strong track record of developing collaborative solutions, including the notable recent success with the Strength in Places award to the CSconnected, we are keen to explore all opportunities for similar initiatives and to encourage further strategic collaboration and HE/FE connections with industry for activity that is aligned with the regions current and future sector needs. In so doing we will create lasting clusters and networks within the region.

Proposition

- Development of “skills academies” to support our priority sectors and ensure we have both the quantum and quality of skills required to enable the achievement of the respective sector’s growth objectives.
- Initial funding focus to be on the development of capability to enable the provision of 10,000 data scientists and cyber specialists over the next 5 years. This will complement our regional data assets by cementing our position as a centre of excellence for data science and cyber skills talent development.
- Consider proposals for setting up a National Software Institute.
- The intention is to promote progression into new areas of learning in new and emerging technologies and access to specialist kit/ resources and expertise on a regional basis. This will ensure that learners in all settings can engage with the reality of what jobs in the new and emerging sectors look like at all levels.

Requirements

£100m

For the establishment of skills academies for our priority sectors.

Initial funding focus to be on the development of capability to enable the provision of 10,000 data scientists and cyber specialists over the next 5 years. This will cement our position as a UK centre of excellence for data science and cybersecurity skills and talent development.





ENABLING 4

Future-proofing Our Rail Infrastructure

Our vision is to develop a strategic public transport network for the Cardiff Capital Region capable of providing a high-quality, reliable, efficient and affordable transport services to support sustainable economic development and social regeneration.

This will include a high quality, integrated grid of public transport services (bus and rail) that presents a single joined up network to the passenger. Wales has the benefit of being small and compact and with its strategic location and desirable natural environment could be one of the most highly connected and accessible economies in the world.

However, over a prolonged period of time Wales has suffered from chronic underinvestment in its rail infrastructure.

The situation, which has resulted in a usage rate of 10% compared to private vehicles at 80% , now demands a forward thinking rail and integrated transport vision that incorporates proposals that radically change our mobility ecosystem. The opportunities for so doing are immense and will as a minimum:

- **Enable the region to function as a single coherent economic entity by linking communities with all major commercial, social and, health and leisure attractions.**
- **Facilitate sustainable economic growth by ensuring all major new development sites across the region are linked by metro services at the outset to embed sustainable travel choices.**
- **Facilitate more efficient labour markets.**
- **Offer significant environmental and wellbeing benefits e.g. reductions in carbon emissions, traffic congestion, RTA's.**

Accordingly, we are now working to bring forward ambitious plans for the development and expansion of our public transport. The proposition outlined is focussed on our strategic rail priorities.

Proposition

The key rail components of the vision include:

- **A major upgrade of the South Wales Main Line to form the backbone of the region's public transport network through new stations and a mix of intercity express and local commuter services. Specifically there is a need for more services from Bristol Temple Meads through Newport and Cardiff to Swansea and West Wales.**
- **Measures to address bottlenecks on the rail network to allow more services to Ebbw Valley, Marches Line, Maesteg Branch, The Vale of Glamorgan (VoG) line and the City and Coryton lines in Cardiff.**
- **Enhancements to the core valley lines through re-use of freight and the introduction of further new stations.**
- **Development of the Cardiff Crossrail, Circle and NW Corridor to deliver high quality and frequent public transport (PT) services across much of urban Cardiff, Cardiff Bay and extended into RCT to Talbot Green and Pontyclun.**
- **Radically enhanced core valley links. By integrating through high quality interchanges N+S rail services and E+W links we can make**

more journeys between the valleys viable and affordable.

- **Longer term there is the potential to re-connect Caerphilly and Newport with rail services using tram-train, the on-street tramway capability of which can be applied in Newport to help avoid conflicts with the congested SWML and support regeneration in Newport**
- **Schemes across Wales and the UK that could help the CCR economy include:**
 - Western Rail Access to Heathrow,
 - Enhancement to HS2 Phase 2 and the rail lines south west from Birmingham to allow more services to/from Cardiff to use HS2 to serve places like Manchester, Leeds, Sheffield, Newcastle and onto Edinburgh and Glasgow;
 - Integrated Metro development in Swansea Bay and Bristol
 - Improved N-S services in Wales.

This programme also presents the opportunity to augment these benefits through a range of station focused development and regeneration interventions to maximise the benefits of the investment in our public transport network.

Requirements

£2bn

Capital investment contribution to progress the schemes outlined in the Passenger Rail Vision document (included with this document).

Fiscal Levers

Introduction of fiscal levers and incentives such as tax increment financing.

Green Energy

5a: Accelerating a shift to ULEV Vehicles

We have a significant opportunity to leverage the work being undertaken within the region in both power electronics and vehicle manufacture to lead the way in the adoption and take up of ULEVS and take a significant step forward toward our mutual zero carbon agenda, if we can expedite the roll out of a suitable EV charging infrastructure as well as refuelling stations for green gas like biomethane and hydrogen. Despite the prevalence of and preference for private vehicles, CCR has seen a slow uptake to date of electric vehicles. A similar picture exists for charger installations. CCR currently hosts 173 public charging devices, including 31 rapid public chargers.

Poor access to charge points is believed to be a significant part of the slow transition to EV along with concerns over range and restricted choice.

Work is already underway at the CCR CSA Catapult, which has created a state-of-the-art innovation centre within the compound semiconductor campus at Imperial Park, in South Wales which is accelerating the UK towards its Net Zero goal. Working with over 60 partners on projects worth in excess of £70m, this work will directly impact our ability to use more renewable energy and further electrify vehicles.

5b: Domestic Energy Retrofit

The region has a high level of fuel poverty and below average levels of energy performance in its EPC bandings. To put that in context:

- **154,000 homes need to be improved from EPC band G, F and moved to E to D, C and B;**
- **112,000 homes currently heated by fossil fuels to move to low carbon heating;**

Lack of incentives, funding, knowledge, and availability of skilled contractors are barriers to investment. However, the economics of retrofit

needs to be considered in the context of the whole energy system, to avoid over-retrofitting buildings at a higher annual cost than consuming more low carbon energy. This is where optimisation of retrofit can be undertaken with decarbonisation of both grids and installation of intelligent and flexible heating, such as hybrid heating systems demonstrated through the pioneering Freedom Project undertaken by the local electricity and gas networks in Bridgend.

5c: Renewable Electricity Generation

The ambition is that the region will generate the equivalent of ~50% of its total energy consumption in 2035 from regional renewable sources. Analysis indicates that it is possible to install 1.6GW of renewable electricity in the CCR region (which includes 532MW of wind and 820MW of solar.

Additional opportunities also exist with approximately 70MW of wind projects identified on the public sector estate, with favourable grid and planning prospects.

Proposition 5a:

- **Expedite the roll out of EV charging stations across the region so that we have the necessary infrastructure to capitalise upon the work being undertaken in both power electronics and vehicle manufacture.**
- **Engagement with bus and freight operators will be key to encouraging ULEV uptake. Our aim will be to increase operators' knowledge and awareness of different technologies and support them with access to funding. However, take up is likely to remain low until the necessary charging and refueling infrastructure is in place.**

Proposition 5b:

In order to increase take up of measures we propose the following:

- **Undertaking a full review of potential funding mechanisms. Consideration of grant funding where no suitable payback measures are viable.**
- **Commissioning a wraparound survey and specification offer to enable properties to be rapidly assessed and projects developed at scale and pace.**
- **Implementation of a trusted contractor scheme to deliver the works.**

Proposition 5c:

- **Galvanise the construction of renewable proposals and de-risk the local ownership requirement through injecting a public sector stake into the mix. A stimulus injection of funds equivalent to a 20% equity stake into the 1.6gw pipeline would heighten investor confidence and expedite activity.**

Requirements

£700m

In the form of repayable stimulus funds to incentive transitions – split £400M, £200M, £100M - domestic refits / renewables and ULEV.

Derogations

A derogation or ability to flex the Council Tax system in order to establish repayment mechanisms.

Wider Proposals

The primary purpose of this document is to set out a compelling vision for a series of core and enabling propositions that will enable us to further develop our sectors and harness the full economic potential of the region.

However, there is an even bigger opportunity to be at the forefront of new economic frontiers and to pioneer some of the higher-risk and higher-reward opportunities that we believe are of transformation-scale and could drive further world-class benefits for Wales and UK. Whilst these are currently not as well developed as the enabling and core propositions, they are emergent ideas we believe could have real currency but would require a joined-up approach across all levels of government to deliver.

Newport Data City

A large amount of UK Government data is held in the CCR through Government bodies such as ONS, IPO and Companies House. These non-departmental government bodies are located on the outskirts of cities. Working in collaboration and in tandem with core propositions such as the Digital National Accelerator, there is an opportunity to re-locate such entities into Newport City Centre, alongside USW and the Alacrity Foundation HQ. The focus on data accumulation, data analysis, data science and knowledge transfer would be a powerful combination especially when combined with a strong research base, emphasis on challenge and mission driven thinking, the commercialisation expertise of Alacrity and proposals for the National Software Institute.



Strategic Development of Severnside

Severnside is integral to the Western Gateway economic geography and home to the second highest tidal range in the world. There is a significant opportunity to develop this in line with the Green Industrial Revolution 10 Point Plan. The concept of a Severn Barrage, comprising offshore wind and tidal power generation has immense potential to develop significant economic impact across the Western Gateway Partnership. There is the potential for all of this to be reinforced through the designation of Newport as a Free Port in partnership with Associated British Ports.

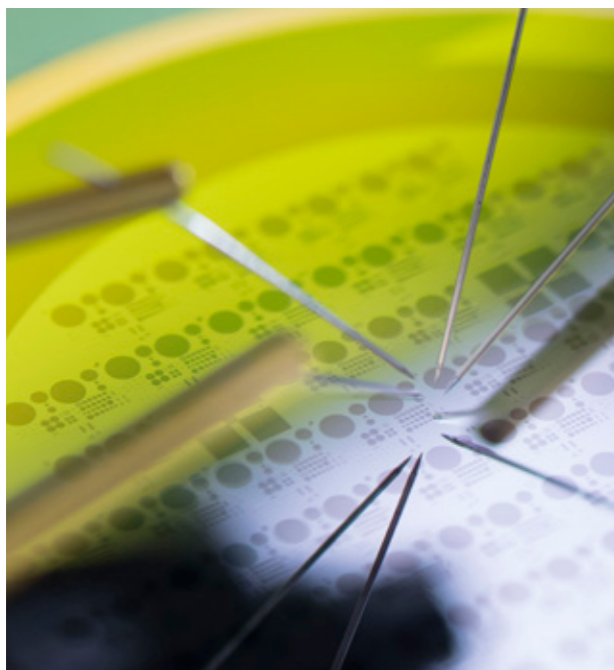


Hydrogen Hubs

Locations like Bridgend and parts of the Valleys with strong industrial legacy and renewable energy credentials have the opportunity to spear-head development of hydrogen hubs to deliver affordable net-zero transport for the city region. The use of hydrogen as a clean fuel for transport is attracting serious attention in the region with companies like Riversimple actively testing capacity in locations such as Monmouthshire and the South Wales Industrial Cluster exploring the ways in which hydrogen can be produced and distributed beyond industrial facilities to power fleets, heat homes and generate electricity.

Gigaplant for LEV Innovation

St Athan in the Vale of Glamorgan is a former MOD-owned strategic site which analysis shows is one of only a handful of sites capable of housing one of the Gigaplants needed in the UK to secure lithium-ion battery production and storage for the electric vehicle industry. Building upon work done to date with the Farady Institute and market intelligence on the future automotive market in the UK – St Athan offers a significant and "shovel ready" facility for a suitable industrial partner. The region is already home to Oxis, Yuasa batteries, CAPSE and others looking to locate here and leverage on the growing ecosystem of skills, research and industry footprint. Major partnerships working within the region include TATA, SERC, CAPSE and Ricardo and Flexis, a collaborative £24m research programme between Cardiff University, Swansea University, University of South Wales and large number of industrial partners.



Business and Innovation Districts

The 2014 Enterprise Research Centre analysis of the innovation geography of the UK demonstrated a strong "Arc of Innovation" along the M4 corridor, taking in Gloucester and Oxfordshire, but that it stopped east of the Severn Bridge. Given the work now underway on key sectors, recognition of the linkages between strong research and economic strength of place and the benefits of a clusters framework, there is a real opportunity to create levers and incentives for a SW-based M4 Innovation Corridor. This could provide connectivity into the Western Gateway around areas of shared economic strength and the basis for more formal collaboration across research entities and industrial groupings.



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