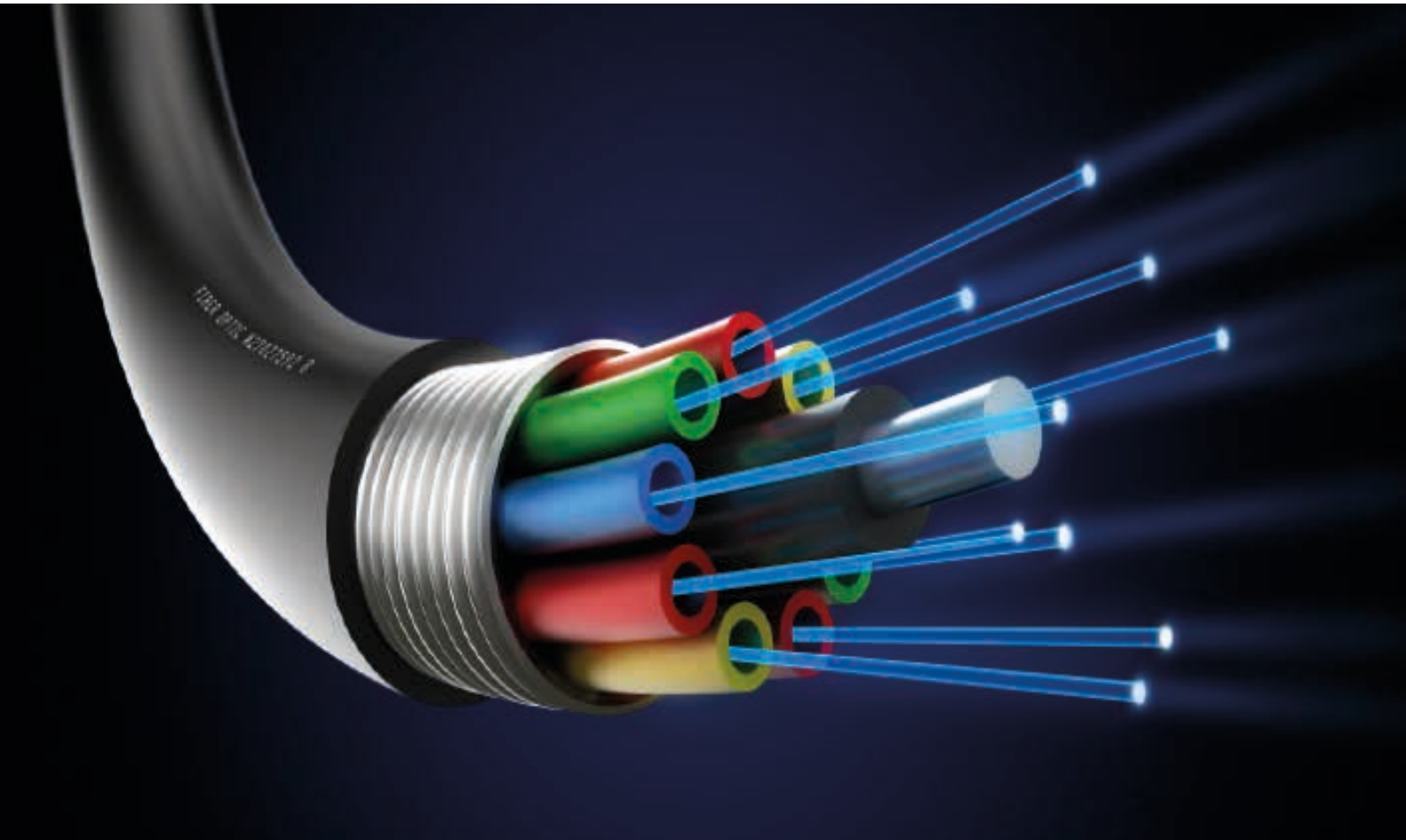




Swansea Bay City Region: **A City Deal 2016-2035**



THE INTERNET COAST

Contents

Foreword from Sir Terry Matthews KBE, Chair, Swansea Bay City Region	3
1 The Swansea Bay Offer (Executive Summary)	4
2 Why we need a City Deal and the Swansea Bay vision to 2035	5-6
3 What we want to do	7
4 Economic Context and the Opportunity for Swansea Bay	8-13
4.1 The Internet of Energy (Future Energy Systems)	
4.2 The Internet of Health and Wellbeing	
4.3 The Internet of Economic Acceleration: Swansea - City of Innovation	
5 Applied Skills – A cross-cutting theme	14
6 Swansea – The Regional Capital and Regional Transport	15-16
6.1 Swansea – The Regional Capital	
6.2 Regional Transport	
7 Governance Model	17-19
7.1 Swansea Bay City Deal Management Board	
7.2 Swansea Bay City Deal Delivery Vehicle	
8 Initial Economic Appraisal	20
9 Financial Analysis	21
10 Conclusion	22
Swansea Bay City Region Board	23



DINAS-RANBARTH
Bae Abertawe
Swansea Bay
CITY REGION

THE INTERNET COAST

Foreword from the Chair

Rt Hon George Osborne MP
Chancellor of the Exchequer and
First Secretary of State
HM Treasury, 1 Horse Guards Road,
London
SW1A 2HQ

Rt Hon Greg Clark MP
Secretary of State for Communities
and Local Government
2 Marsham Street,
London
SW1P 4DF

23 February 2016

Dear Chancellor and Secretary of State,

It gives me great pleasure to submit a City Deal proposal on behalf of the Swansea Bay City Region.

This distinctive and integrated proposition addresses some of the most pressing universal themes and global challenges of our time - energy, health and the transformational economic power of digital networks. We present a vision that has the requisite scale to attract international investor interest. One that remains citizen-focussed and grounded in the geography and assets of Swansea Bay. Our aim is to accelerate growth in our region; for the benefit of Wales and the United Kingdom generally.

The proposal is based upon the development of three integrated strands: the internet of energy, the internet of health and wellbeing and the internet of economic acceleration. In essence we aim to innovate, test, trial and commercialise internet based solutions that will transform the future of these sectors in much the same way as the internet has transformed communications and telephony. I should add that this is an area of technology in which I have a great deal of experience.

The City Region Board is looking forward to developing the proposals further with the UK Government and other partners. We aim to assemble a funding package in excess of £500m over 20 years from public sources, with significant private sector match funding, to deliver a vision that supports both the objectives of the UK and Welsh Governments on economic growth, social inclusion and sustainability whilst respecting the competencies of each and adding value to both. The prosperity gap between Swansea Bay and the rest of Wales, and the UK, remains stubbornly and unacceptably high. Real transformation will not be achieved by simply doing more of the same.

It would be fair to say that for the regional public sector partners, arriving at this consensus and commitment has involved a collective leap of faith. That has immense value. For the private sector partners who want to share this journey with us it is not so much a leap of faith as a leap of logic.

I am copying this proposal to the First Minister of Wales, the Secretaries of State for Wales, Business and Innovation, Energy and Climate Change, as well as the Minister for Trade and Investment.

Yours sincerely,

Sir Terry Matthews KBE Chair, Swansea Bay City Region

1 The Swansea Bay Offer (Executive Summary)

Swansea Bay has:

- ❖ A region-wide “can do” attitude towards investors and significant assets in the direct control of public bodies which offer long-term opportunities and value;
- ❖ Good basic infrastructure including the M4 and the prospect of electrification of the rail line to London (but improvements are needed). We are also a main gateway from Ireland to the European Union;
- ❖ Strong and fast growing universities with rapidly increasing capacity for research, development and innovation;
- ❖ An improving skills base in our labour market; and
- ❖ An incomparable quality of life offer and dynamic international growth profile.

Using technology, we want to develop:

- ❖ The **Internet of Energy:** To create a smart and efficient “Future Energy System” that will integrate the region’s multi-billion asset base in renewable and conventional energy production and the testing and commercialising of integrated Future Energy Systems;
- ❖ The **Internet of Health and Wellbeing:** To advance health and wellbeing by

delivering a network of health science “Medi-parks”, Wellness Centres and other assets. Building on a new digital architecture we will transform the delivery of health and social care in the region and contribute to the advancement of genomic medicine in analytics and diagnostics in the UK via network based solutions; and

- ❖ The **Internet of Economic Acceleration:** To provide UK plc with the resilience of a new Swansea Bay international internet gateway between London and North America by developing infrastructure in partnership with the private sector that will simultaneously establish Swansea and its hinterland as a ‘City of Innovation’.

In doing so, alongside related developments in advanced engineering, we aim to create high technology jobs both through start-ups and by attracting inward investment in high growth areas and become a circa £15bn economy by 2035 with productivity levels at 90% of the UK level.

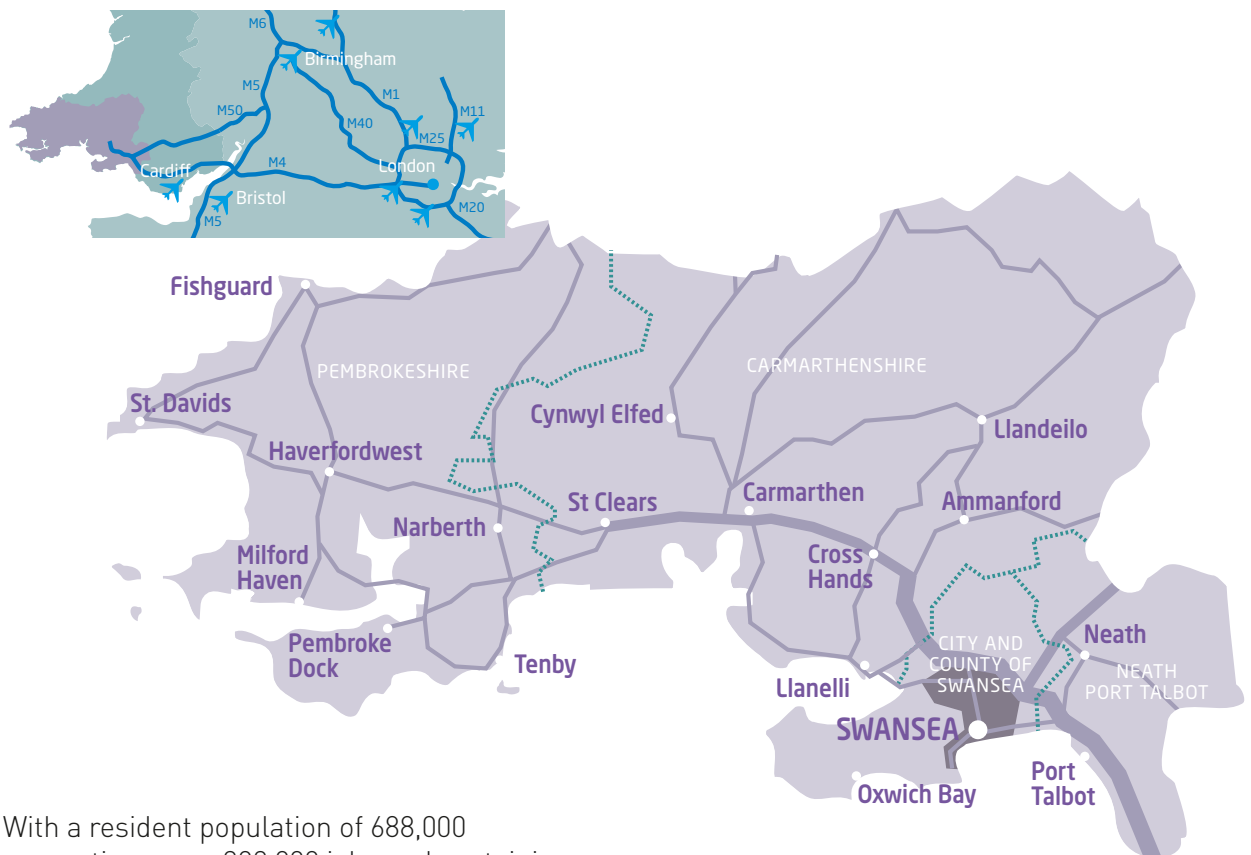
To do this, we aim to establish integrated infrastructure and investment funds in excess of £500m over 20 years to invest in interventions to accelerate growth.



2 Why we need a City Deal and the Swansea Bay vision to 2035

The City Deal provides clarity of purpose, consistency of approach and absolute focus on collective action over the next two decades. We aim to tackle the structural challenges holding back our economy and reduce the gap between our performance and the rest of the UK in terms of wealth creation to the benefit of both.

Figure 1 Situating Swansea Bay City Region and its internal and external context



With a resident population of 688,000 supporting some 302,000 jobs and containing around 22,000 businesses, Swansea Bay is a major driver of the Welsh economy. It contains a core of strong home grown small to medium sized businesses and globally significant firms, leading UK universities and major tourism assets. The region has benefited from significant investment recently including the Swansea University's new £450m Science and Innovation Bay Campus that opened in September 2015. This is a transformational project for Wales as well as the region.

However, we are underperforming economically and failing to reach our full potential. Overall productivity (GVA) growth in the City Region has been consistently below that of the UK and Wales over the past two decades and we must respond quickly to this productivity imperative. It is the key factor underpinning our sub-optimal economic performance and remedying the position is the unambiguous number one priority of the City Deal proposal.



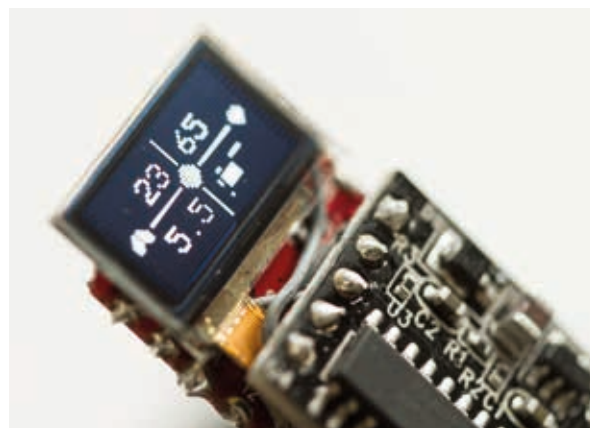
GVA per employee in the Region was £34,300 in 2015 (at 2011 prices), 74% of the UK average. The sectoral mix of our economy as a whole is geared towards lower value sectors compared to the UK. Also, the nature of the jobs within these sectors is generally of a lower value than elsewhere (see below). Looking forward, the productivity gap between the City Region and the rest of the UK is forecast to remain if targeted and collective action is not taken through a City Deal.

It therefore follows that:

- ❖ We have too few businesses and are not growing our business base quickly enough;
- ❖ There are not enough people with high level qualifications and too many with none at all;
- ❖ Economic inactivity remains too high across the region;
- ❖ Our physical infrastructure is not keeping pace with the needs of growing businesses or our communities. Broadband capacity and digital connectivity is improving, but not quickly enough. Much of our commercial and retail property is low quality and attracts low rents;

- ❖ The city centre of our regional capital is under performing and needs to deliver a commercial, residential and leisure offer to match the ambitions of the innovation proposals; and
- ❖ The rural and visitor economy region wide also needs to deliver a step change in performance if the region as an integrated whole is to achieve its long term aims.

To achieve this, we must shift towards higher value and higher growth sectors and higher growth occupations. The solution lies in the exploitation and integration of 21st century internet-based technologies in three key sectors outlined above and explored in greater detail below.



3 What we want to do

To get to 90% of UK productivity levels by 2035, we want to work with the UK and Welsh Governments, (respecting the competencies of both) regional partners and the private sector to:

- ❖ Establish an Infrastructure Fund to develop and connect internet based technologies in our three key strands, in partnership with the private sector, to the benefit of the UK, Welsh and regional economies;
- ❖ Establish an Investment Fund to promote regional competitiveness building upon the infrastructure expenditure (above) through fiscal and non fiscal interventions;
- ❖ Leverage funding to invest in our skills base, building upon comprehensive existing partnerships between businesses and the higher and further education sector;
- ❖ Establish Swansea as vibrant regional capital – a process already underway – integrated with its economic hinterland and Travel to Work Area to a much greater extent;
- ❖ Use enhanced digital networks as a catalyst for driving improved performance and competitiveness in the rural and visitor economy;
- ❖ Align other expenditure in key areas, such as transport connectivity, to complement and reinforce the City Deal; and
- ❖ Establish Swansea Bay as a low carbon economy and international centre for renewable energy production and conservation.



4 Economic Context and the opportunity for Swansea Bay

4.1 The Internet of Energy (Future Energy Systems)

If confirmed, the Swansea Bay Tidal Lagoon will be a global event with significant downstream benefits in the supply chain (not least for the steel industry), in research and development and manufacturing. It would also produce immediate demand for major on-shore infrastructure to support the construction programme. The energy generated is projected to provide power for more than 150,000 homes.

More widely, Swansea Bay also has a unique offering in terms of the potential to join up renewable and conventional forms of energy generation assets with in excess of 60 projects already up and running underpinned by significant commercial and research infrastructure.

These assets include:

- ❖ Marine Energy: South Pembrokeshire Demonstration Zone plus advanced projects including Wave Hub (Swansea) and Delta Stream (Pembroke);
- ❖ Wind Power Generation (Region-wide);
- ❖ Solar Power Systems (e.g. Rhos y Gilwern, Saron/Ammanford and Baglan);
- ❖ Fresh Water Micro Generation systems;
- ❖ Over £1.5bn of biomass projects in Port Talbot and Milford Haven;
- ❖ Pembroke Power Station (2000MW – enough electricity for 1 million homes); and
- ❖ The LNG plants (South Hook and Dragon) meeting circa 20-25% of the UK's needs and the tank farms - collectively the biggest in Europe - plus the refining capacity at Valero.



However, energy generation is only one side of the coin. There is also a growing energy storage and conservation sector in Swansea Bay. For example, a joint venture between Tata and other major investors and Swansea University, the Sustainable Product Engineering Centre for Innovative Functional Industrial Coatings (SPECIFIC). The project focuses on the generation of power from solar powered photovoltaic cells using digital technologies to reduce the amount of energy used and aligned with local storage technology solutions.

Broadly, Wales consumes twice as much electrical energy (15 TW-h) as it produces (7 TW-h). In addition to increased generation capacity from renewable sources, it is proposed to focus on reducing conversion wastage and inefficient usage, particularly in the public sector.

Some potential solutions are not complex, but require up-front investment to secure swift payback in financial and environmental terms. For example a comprehensive programme of LED lighting installation would produce immediate benefits as street lighting and public buildings account for some 4 TW-h of consumption (all Wales figures) with the potential to realise massive, recurring savings. There are also proven LED based societal benefits in terms of improved health, education and productivity outcomes.

Over the next five years, the internet will also become increasingly aligned and integrated with the latest LED lighting technology and this City Deal proposal aims to join up the various developments to produce clear, measurable benefit to the UK, Welsh and regional economies and contribute towards COP 21 targets for the reduction of CO₂ emissions. Innovate UK estimates the global market in “Future Energy Systems” integration to be worth £1.5 trillion by 2050.

Accordingly, and with City Deal support, we will:

- ✦ **Digitally connect the energy assets of Swansea Bay to create a digitally integrated “Future Energy System” – this involves addressing infrastructure deficits by introducing fibre, sensor networks, local grids and storage capacity;**
- ✦ **Offer the region to the “Energy Industry” as a test bed for the demonstration, integration and commercialisation of “Future Energy Systems”;**
- ✦ **Provide access to the test bed for renewable energy providers to pilot solutions to combat climate change;**
- ✦ **Create high technology jobs both through start-up technology companies and by attracting inward investment;**
- ✦ **Create Open Business Spaces (Community Incubators) and establish an Alacrity Foundation presence in the region to create new high technology companies and jobs in support of the City Deal thematic agenda with a focus on energy, health and wellbeing and data analytics; and**
- ✦ **Investment Fund interventions to incentivise businesses, both corporate and SMEs to use the “Future Energy Systems” Test Bed for applied research and to develop new products, services and supply chain systems.**

This is how we both differentiate ourselves and make our wider contribution.



4.2 The Internet of Health and Wellbeing

The City Deal proposes to act a catalyst for an existing regional partnership (ARCH: A Regional Collaboration for Health) which brings together two University Health Boards; Abertawe Bro Morgannwg (ABMU) and Hywel Dda with Swansea University and other partners in an area of South West and central Wales (geographically larger again than the Swansea Bay City Region). This is also underpinned by a wider partnership between Hywel Dda Local Health Board and the Universities of Trinity St David and Aberystwyth.

ARCH targets the creation of over 1,200 jobs by 2030 and it aims to attract more than £650m of investment, harnessing research capability, connectivity and skills development. The synergy with other strands of this City Deal proposal is significant. In particular, ARCH will maximise the beneficial impact that life science and health sectors play in business growth, opportunity for R&D investment and GVA gain across one of the largest single UK health organisational areas; with a population of over 1 million citizens served by 30,000 employees and an annual turnover of over £2bn.

This would be aligned with life science enterprises and wider initiatives, such as Swansea University's Computational Foundry, a £40m research and innovation facility.

ARCH is seeking to establish a long-term collaboration and strategic partnership with NantHealth, part of NantWorks, a world-leading healthcare group. This collaboration will enable the Swansea Bay City region to develop a networked comprehensive, whole genome and proteomic molecular diagnostic testing and analysis system, the results of which would allow Health Boards working in partnership with their citizens, to create genome-informed personalised treatment plans and research environments. This complements and could contribute significantly to making the UK a world leader in Genomic Medicine: an ambition set out by the Prime Minister in December 2012 by allowing the people of Wales to play their part in the 100,000 Genomes Project.

On a population basis, the transfer, storage and analysis of these data requires an enhanced digital infrastructure to maximise opportunities and benefits. Put simply, being able to move big data volumes is fundamental to the health outcomes we aim to achieve.

In the future therefore, ARCH aims to deliver a £35m network of 'Health Science and Wellness Campuses and "Medi-parks" of critical scale to integrate industry and clinical research excellence building upon the work of the Institute of Life Science at Swansea over the past decade. This has already attracted over £40m worth of inward investment, created 800 new jobs and spun out 30 new companies. One significant new initiative is a proposed Wellness Centre, located in Llanelli, Carmarthenshire. Current discussions indicate a strategic development of over £80m for the creation of enterprise and employment space for wellbeing and R&D commercialisation.

But to be clear, the City Deal is NOT about building new hospitals. It is about driving innovation in a large and critically important part of the economy.

This is why we want to build on a highly connected region to address current digital exclusion and deliver the digital technologies in health and social care to support citizens to care for themselves and help us meet rising demand, provide more rapid diagnosis and specialist advice, and integrate clinical networks to enable informed patient choice in real time. This is in line with recent Welsh Government strategy (Informed Health and Care – December 2015) which stated:

"A 'digital first' philosophy will be adopted when designing and delivering new service and workforce models" and "By automating routine processes staff will improve their productivity, delays will reduce, duplication and waste will be avoided and lower operating costs will result".

University of Wales Trinity Saint David (UWTSD) is playing its part and has established a partnership with the NHS Wales Informatics Service (NWIS) to address the knowledge transfer and development needs for the management and visualisation of big data that will contribute to the work of ARCH.

Accordingly, and with City Deal support, we will:

- ❖ **Develop and deploy technical platforms and informatics to be able to store, process and exploit the big data generated through whole genome sequencing; which can now be carried out in matters of minutes rather than years;**
- ❖ **Create and use an enhanced digital infrastructure as a key component to solving existing health and social care system fragmentation from which learning can be translated across Wales and the UK;**
- ❖ **Create and use digital connectivity to create a global platform that will accelerate drug and wider treatment developments to drive down development costs: a major pressure on national finances as new drug technologies are released and chronic diseases become more prevalent;**
- ❖ **Create and deliver a powerful and valuable dataset to support the discovery of new therapies, products and diagnostics; and**
- ❖ **Establish a large global Clinical Trial Programme attracting significant inward investment and talent acquisition.**

This is how we both differentiate ourselves and make our wider contribution.



4.3 The Internet of Economic Acceleration: Swansea - City of Innovation

The UK is well placed to take advantage of the growing digital economy; but recent analysis suggests that the pace of change in the UK is not as fast as that in other countries.

This can be remedied by focused investment in key cities and regions across the UK.

Here, there is a salutary lesson from the previous failure to capitalise from a regional perspective on the LNG pipeline investment that forms a critical part of the energy infrastructure in the UK.

We need to invest further and faster in digital infrastructure. As an economic parallel to Wales, the New Zealand investment in ultrafast broadband is estimated to produce a multiplier effect of 10 over a 20 year period.

Swansea Bay must respond to a new once in a generation opportunity to collaborate with a consortium of global partners to maximise these benefits, starting with the proposed installation of a new transatlantic cable from North America into Oxwich Bay. With the appropriate supportive and complementary interventions this is a real 'game changer' for our region.

As a clear statement of regional intent we have already attracted BT in partnership with Alcatel Lucent to establish a G.fast Broadband Enterprise Test Bed for the UK in Swansea.

The City Deal proposal will accelerate the delivery of both UK and Welsh Government strategies, combining economic and social goals. Swansea Bay can position itself as an international internet gateway developing and delivering new digital applications

and services that offer an alternative to London at circa 50% lower cost and increasing the regional NPV by over £1bn as an open innovation partnership with global organisations. Swansea Bay already has a strong track record of producing graduate start-ups in the digital and creative technologies sector.

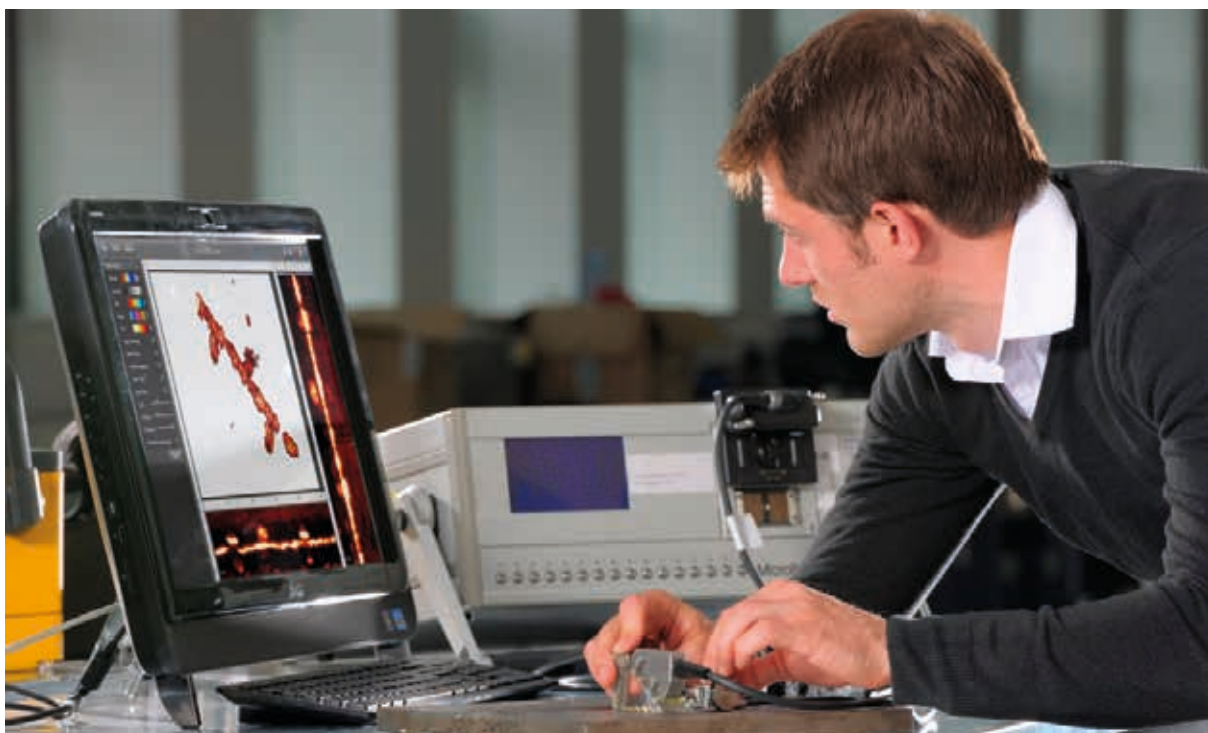
In the digital, network based economy, the vital competitive advantage of being positioned between major global centres such as London and New York on a 'digital super highway' is known as "latency". We aim to fully exploit our latency opportunity.

Accordingly, and with City Deal support, we will:

- ❖ **Extend this next generation connectivity from North America throughout the key towns and cities in the region and along the M4 east towards Cardiff and London through the provision of communication capacity (from the west of Cardiff) to the whole of Swansea Bay along the M4/A40 corridor and elsewhere;**
- ❖ **Integrate with a commercially-led Severnside network which will stretch from North Cornwall to West Wales, via Bristol and Cardiff;**

- ❖ **Establish a new "Cloud Data Centre" Enterprise Zone in Swansea Bay as a magnet for further investment, in addition to the proposed Enterprise Zone for Port Talbot advocated by the Welsh Government;**
- ❖ **Accelerate and enhance the impact of the relocation of S4C's national HQ to Carmarthen (Yr Egin project) and for our creative industries more widely;**
- ❖ **Provide targeted investment in other sectors where the Swansea Bay 'latency advantage' provides rapid growth potential. Specifically we will develop proposals for a Tech Hub led commercial district to encourage graduate retention and provide space for new companies to grow and expand leading to long term economic benefits for the Region; and**
- ❖ **Work with partners in public and private sectors to create a 5G Test Bed.**

This is how we both differentiate ourselves and make our wider contribution.



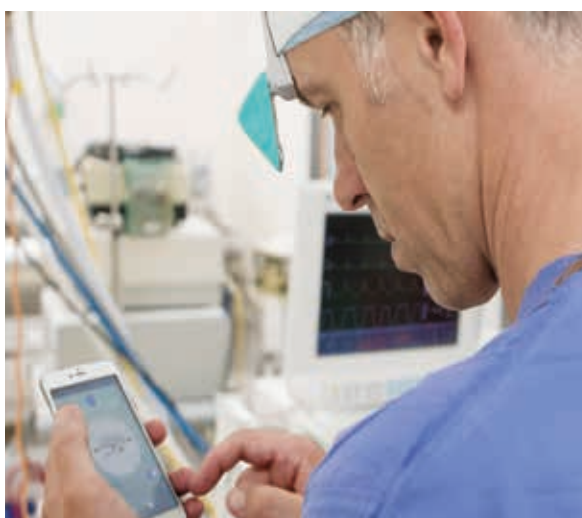
5 Applied Skills – A cross-cutting theme

The availability of skilled labour is another important factor in strengthening the Swansea Bay City Region’s innovation ecology. There is a strong skills dimension to this agenda. Recent analysis by our Welsh Government funded Regional Learning Partnership reveals that the three industrial sectors expecting the highest level of growth in new jobs and labour demand in the short to medium term are health, construction (including energy) and food and beverages.

These sectors are forecast to generate the largest increases in Gross Value Added (GVA) within Swansea Bay with a steady increase in the demand for Level 3 (A Level and apprenticeship standard) and Level 6 and 7 (graduate and postgraduate standard) capabilities. Conversely, there is forecast to be a steady decline over the same period in the demand for workers in low skill occupations and those with poor literacy, numeracy and digital skills. Accordingly, the planned investment in the development of digital health, commerce and energy industries in the Swansea Bay City Region through the City Deal will require new education and training courses and associated qualifications.

To be fully effective it will be important that these courses are developed through partnership and active engagement by representatives from major employers, local universities and colleges and relevant professional bodies to develop a suite of qualifications from Level 8 (Doctorate) to Level 2 (Trainee), accredited by an academic institution or vocational qualification provider and recognised by employers.

The FE colleges and universities are engaged in a range of workforce development projects working closely with industry to determine their skills requirements and developing programmes to be delivered directly in the workplace. These activities and the City Deal will build upon the work of the Wales Institute of Work based Learning.



The education and skills needed to develop, produce and install these new technologies are considerable; but the region is well placed to respond to the skills challenges posed by developments within the digital, health and energy sectors identified in this City Deal proposal.

As part of this intervention we will establish a Swansea Bay Alacrity Foundation that is aligned with and focused on the City Deal agenda.

6 Swansea – The Regional Capital and Regional Transport

6.1 Swansea – The Regional Capital

As the regional capital, Swansea will adopt an asset management approach to develop elements of its built infrastructure in a way that supports and enhances its designated focus as the City of Innovation.

In this context, Swansea Council is transforming the City Centre as an enhancement to the inward investment offer.

Based on proposals put forward by developers for two key city centres sites, thousands of new jobs and investment worth hundreds of millions of pounds could be on the way.

Rivington Land and Acme have been appointed to manage the regeneration of the former St. David's shopping centre.

Their winning ideas include:

- ❖ A 3,500 seat arena capable of hosting major international performers, exhibitions and conferences;
- ❖ A new tall residential building to rival Meridian Tower;
- ❖ A new retail street and circuit featuring iconic brands;
- ❖ A restaurant and café quarter;
- ❖ A state-of-the-art cinema;
- ❖ A new public square; and
- ❖ Improved links between the city centre and waterfront.



Trebor Developments have also been appointed to lead the regeneration of the Civic Centre site and will now work with the council to develop the site master plan.

These developments will be strengthened further by the University of Wales Trinity St. David's plans for a £450m university community within the same vicinity. The new waterfront innovation quarter, being developed in partnership with Welsh Government, will be based on industry links, service links, new community residential opportunities and supporting retail and leisure. It will provide a test bed for the technological ambitions of the City Deal and is committed to collaboration and sustainability.

This, together with Swansea University's Bay Campus, reflects the findings of the City Growth Commission which recognises the impact of universities on metro economics.

6.2. Regional Transport

Self-evidently a vibrant region requires an integrated public transport network and there is a clear, urgent and well evidenced need to introduce smart interconnected arrangements for Swansea Bay. Whether in the devolved context and in our discussions with the UK and Welsh Government this is included as a substantive City Deal (as specifically and narrowly defined) or as a parallel and integrated priority.

Unlike other comparable cities, Swansea and its hinterland has low population density with widely spread employment locations. This promotes congestion on the M4 and other major routes at peak times in particular.

We therefore need to work with the Welsh Government to bring about a significant modal shift in transport. There are a number of potential interlocking strategies to underpin this including:

- ❖ Better land use planning to integrate new employment sites, universities, schools, hospitals, and leisure destinations, with transport routes - particularly bus services, which offer the principal solution. If supported by the introduction of bus priority schemes, active travel measures and integrated ticketing;
- ❖ The development of local transport hubs, to improve cross-region routes. Areas such as Gorseinon, Pontardulais, Carmarthen, Neath, Llanelli, Ammanford and Port Talbot are pivotal here linking further west to the whole region and its rural hinterland; and
- ❖ A more integrated bus/rail interchange at Swansea High Street station.



7 Governance Model

The basic expectation is that there will be democratic accountability for City Deals. In Wales this does not yet extend to directly Elected Mayors for example, so an alternative model has been designed based upon existing collaborative models (and legislation) and local authority powers for economic, environmental and social wellbeing.

It is also vital that the City Deal is anchored in our communities and, over the 20 year timeframe of the City Deal, there is engagement with the businesses, people and organisations who will benefit. This is the guiding principle underpinning our governance.

The proposed good governance model is based upon two powers available to local authorities in Wales. First, the powers that allow for the promotion of Economic, Social and Environmental Wellbeing¹. This definition includes all of the key themes of this City Deal proposal including the provision of high quality jobs, support for small businesses, efficient and effective transport links, skills development, the provision of infrastructure and new information and communication technologies. Second, local authorities have the powers to establish a Joint Committee of two or more local authorities² to deliver this agenda within the City Region framework.

The governance model will need to be adapted should the Welsh Government's proposals for the reorganisation of local government proceed in 2020 or thereafter.

Against this background, a City Deal Management Board (the joint committee) will be formed, consisting of the four local authority leaders or their nominees plus three co-opted members from the Swansea Bay City Region Board, with appropriate officer support and advice. The Management Board would oversee the management of the City Deal infrastructure and investment vehicles/funds (which could have their own decision making

processes and accountability depending upon the purpose, composition and functions of the funds e.g. some vehicles may require more limited geographical coverage and others could involve other partners).

7.1. Swansea Bay City Deal Management Board

The Management Board will be the principal vehicle for managing the City Deal. It will be responsible for reporting developments to the City Region Board and the Management Board could, potentially, become the recipient for future funding (currently discharged by one of the local authorities in the absence of a corporate entity).

The Management Board will consist of the following:

- ✦ Leaders of the four Swansea Bay City Region local authorities;
- ✦ The Chair of the City Region Board (or his nominee);
- ✦ A second City Region Board Member;
- ✦ The Chair of ARCH programme (or his nominee); and
- ✦ Others as required.

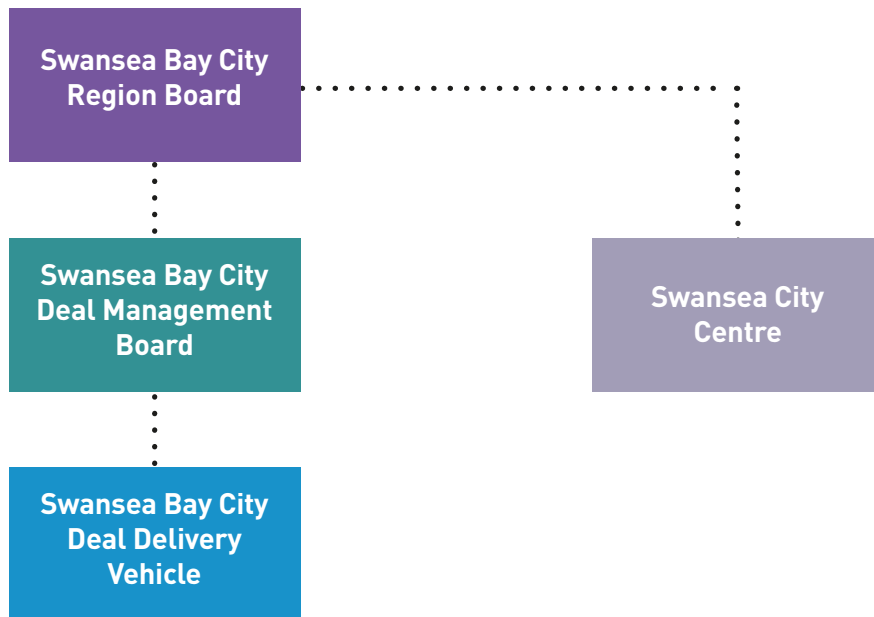
Other members may be co-opted as observers depending upon the circumstances prevailing at the time.

¹ The Local Government Act 2000 and Welsh Government Statutory Guidance 2013

² The Local Government Act 1972 and the Local Government (Wales) Measure 2009

For illustrative purposes, the model is represented at Figure 2 below:

Figure 2 Governance Model



7.2 Swansea Bay City Deal Delivery Vehicle

This will be a Special Purpose Vehicle (SPV) with responsibility for the delivery of the specific interventions to be funded in the three key areas identified in this City Deal proposal through the proposed Infrastructure and Investment Funds.

The core leadership team will report to the Management Board with operational capacity and delivery capability, combining commercial, technical and engineering skills from the private sector with public sector support. The precise structure and composition of the team is for further discussion; but it is not intended to be a development agency or corporation. It must have direct accountability to the Management Board and democratic oversight to provide – or facilitate the provision by others – the following services:

- ❖ Planning, costing, programming and delivery of digital infrastructure and architecture;

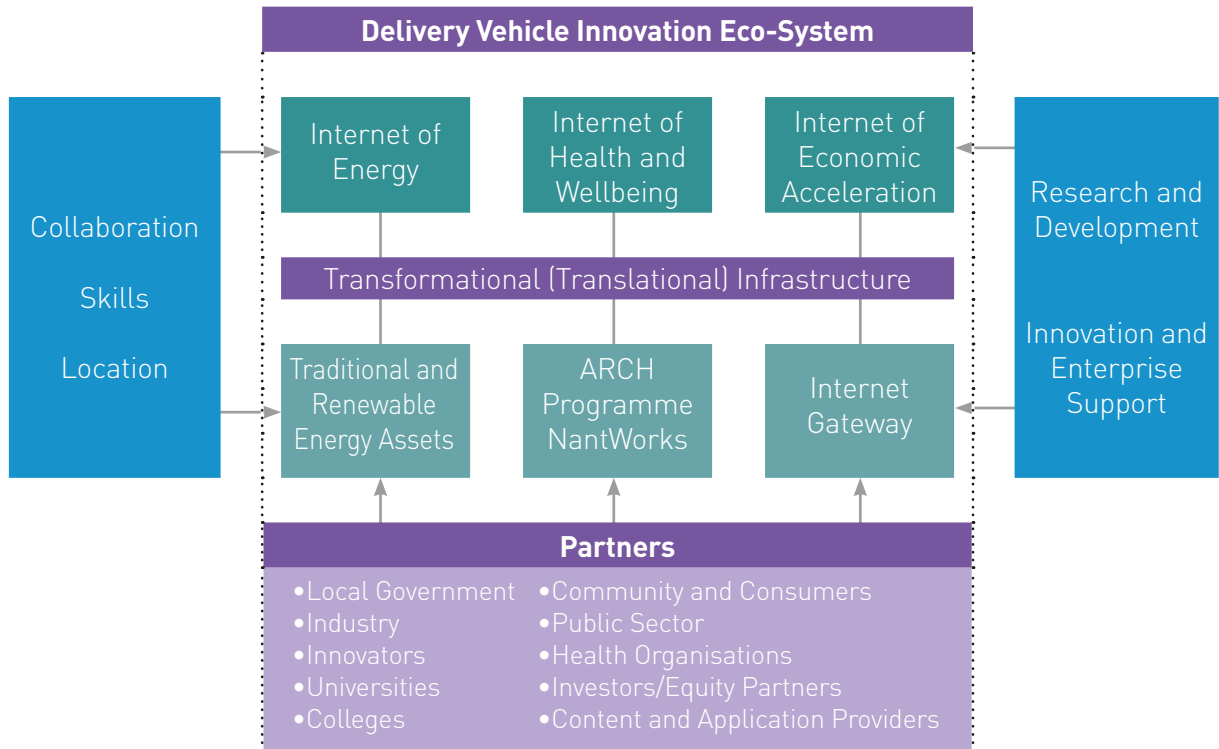
- ❖ Technology demonstrator creation and test bed management;
- ❖ Systems integration and interoperability;
- ❖ Commercialisation and supply chain development;
- ❖ Economic and financial modelling;
- ❖ Product/Business case development;
- ❖ Partnership development and inward investment;
- ❖ Data analytics; and
- ❖ Brokering services.

Working with:

- ❖ Consumers and communities;
- ❖ Content and application providers;
- ❖ Technology companies, energy companies, health organisations, manufacturers and service providers; and
- ❖ Universities, Colleges, investors and possible equity partners and the public sector.

The arrangement is captured in the diagram of Figure 3 below:

Figure 3 The Swansea Bay City Deal “Eco-System”



Purpose - to enable partners to:

- ❖ Join together and exploit regional assets;
- ❖ Exploit Test Beds;
- ❖ Share costs of applied research, development and innovation;
- ❖ Access skills and equipment;
- ❖ Exploit knowledge across the three strands to:
 - ❖ Create new economies, supply chain systems and associated economic models;
 - ❖ Enable existing companies to grow and new companies to be created;
- ❖ Deliver and Invest to Save in Projects e.g. LED Lighting Systems, SMART GRIDs and District Heating Systems; and
- ❖ Re-balance and re-position a more resilient regional economy over the 20 year time period of the City Deal.

The two funds (details and interventions to be determined) will be used to invest in digital infrastructure and energy infrastructure assets. This in turn will enable the creation of open access technical infrastructure plus experimental environments. Through targeted investment we will incentivise business to locate and to innovate in the Swansea Bay City Region and support the objectives of the City Deal.

Accordingly, and with City Deal Support, we will:

- ❖ **Invest in the people and resources required in order to establish and operate a City Deal Delivery Vehicle.**

8 Initial Economic Appraisal

This section provides an independent quantitative assessment of the economic potential of the Swansea City Deal investments and qualitative analysis of the Bid documentation as of January 2016. It is effectively the executive summary of a full appraisal which is available on request.

The analysis includes a quantitative assessment of the economic potential of City Deal capital spending and a related private investment based on the development paths of regions including Ontario and Stockholm following similar investments.

It is estimated that the City Deal investment could lever in total around **£3.3bn** of output and £1.3bn of gross value added for Wales, whilst supporting around **39,000 gross jobs** in the region throughout the investment period.

Around 80%-85% of these jobs, 31-33,000 accrue to the City Region. If these figures were realised, they would reflect a public investment of around **£19,000 per gross job**.

Evidence from elsewhere suggests that digital connectivity is a location driver for most firms (new and inward investing) but that it is high tech and non-local firms that derive most value.

Local productivity improvements arising from ICT and broadband require the existence of a skilled and educated workforce. Further benefits are derived from an engaged set of local businesses that can respond to new opportunities. In fact, these features are key elements of regional development more generally.

Health inequalities are a significant drag on regional and national productivity, and the health industry is entering a period of significant technological disruption. Meanwhile there is significant opportunity in the renewal of energy systems globally, with \$2tr required annually in both generation and demand to address challenges.

Smaller and peripheral places can 'punch above their weight' by developing a thoughtful and complementary development plan across their region and urban centres.

The Bid documentation is well developed and addresses key regional weaknesses and opportunities, whilst relying upon a suite of existing and planned key infrastructures and interventions. The active involvement of key stakeholders from across (and outside) the region and from public, private and third sectors, is notable.

The identification of digital connectivity, energy and health provide a distinct and diverse offer that not only builds on local enduring competencies but also provides a strong point of difference from other, more generic City Deals.

The focus on these three sectors offers the potential, at least, for a truly decentralised and innovative model of city region development that will benefit citizens across South West Wales. We see significant potential for the City Deal and regeneration strategy to inform wider UK government development policy, particularly in relation to the productive application of technological innovation; in rural development; and in managing multi-level economic governance.

9 Financial Analysis

The Region's local authorities are exploring the scope for making a commitment of £100m to this City Deal over a 20 year period; but have a reasonable expectation that other private and public partners (including national governments) will also make a significant contribution. The Councils recognise the need to play their part; but must also balance the City Deal with other funding priorities in respect of core services going forward.



Moreover, the local authorities believe that, over an extended period, there is considerable scope for “bending” and flexing future programmes to support the City Deal, both in terms of revenue and capital programmes. It is also quite possible that non-cash value can be injected into the City Deal and the overall funding equation will therefore be drawn from a number of sources and potentially takes a number of different forms.

Clearly, these matters are for further discussion/negotiation; but this approach demonstrates the seriousness with which the local authorities in the Swansea Bay

City Region are approaching this bid.

Over our twenty year timescale, other contributions may include:

- ✦ The Higher and Further Education sectors;
- ✦ The European Union (beyond existing structural funds programmes);
- ✦ The private sector, particularly where there is commercial benefit accruing to them from City Deal interventions; and
- ✦ Grant, loan, Invest to Save or equity investments.

10 Conclusion

The Swansea Bay City Region has a strong, dedicated and talented leadership group with common goals and aspirations. A group able to drive an improved overall economic performance. The time is right for a City Deal to underpin a step-up change to help the region regain importance for UK industry. We can punch above our weight for both Wales and the UK.

This City Deal is therefore about the **“Next Generation Industries”** for Swansea Bay including:

- ❖ The UK and Europe’s first “Future Energy System” by applying the internet to the energy industry, integrating the region’s multi-billion energy assets and placing the UK at the centre of a £1.5 trillion new industry;
- ❖ Cloud-oriented and virtualised applications and solutions are growing rapidly worldwide (the basis for our Enterprise Zone proposal) - big scale, low cost hardware, centralised and reliable services - mainly mobile device centric;
- ❖ Data Centres which need reliable power and the best cooling arrangements possible with reliable and redundant broadband connecting networks and low cost land. We have the lot and are already making progress with the BT Broadband Test Bed in Swansea producing better than forecast results. There is already international investor interest in these developments;
- ❖ The new Swansea Bay international internet gateway providing UK plc with much greater resilience in its connectivity to/from North America and London;
- ❖ Reliable power based around renewable energy and including possible tidal lagoons in Swansea Bay and the Severn Estuary allied to natural gas power generation at Milford Haven;
- ❖ A new electrified rail network from London to Swansea that potentially represents one possible route for a core UK communications network - through the centre of the main cities west of London; and
- ❖ The new Swansea University Bay Campus and its Computational Foundry. This is the largest educational investment in Europe in recent years and will be linked to an Alacrity Foundation technology companies start-up programme and University of Wales Trinity St. David.



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