

Developing the Innovation Ecosystem in Somerset West & Taunton

Framework for Action

Summary Report

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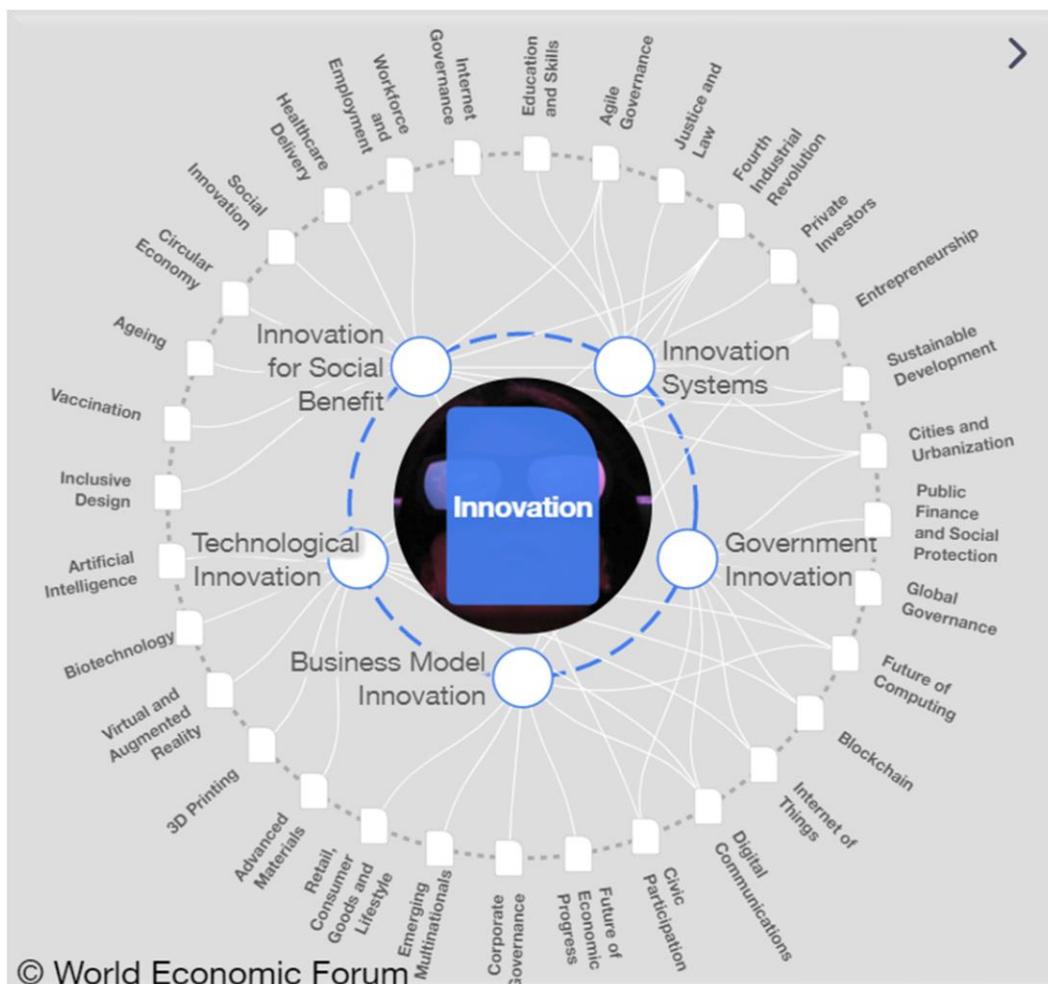
Defining Innovation

Innovation concerns a wide range of players, processes and impacts (see diagram below), but essentially is about people and organisations *investing in R&D and implementing new or significantly improved products and services, processes, marketing methods, or organizational methods for customer, community and natural environment benefit.*

Why is it important?

Innovation is at the heart of a successful economic growth and job creation strategy. It can transform productivity and efficiency. It can also address many of the world's longstanding and emerging challenges, such as climate change, improved healthcare outcomes, enhancing education and social inclusiveness.

Innovative people and organisations are high skilled and knowledge intensive, have high levels of productivity and higher levels of pay. Areas where these type of people and organisations are located tend to be more economically resilient and secure higher levels of job multiplier effects than other parts of the economy. This is especially the case when there is strong clustering and network interactions, as these tend to re-enforce the additional innovation opportunities and economic development.



Acknowledgements

In undertaking this study the EiBC wish to thank the many contributors who helped inform this report – Somerset West and Taunton Council who commissioned the report and the many businesses and business organisations, the Heart of the South West (HotSW) Local Enterprise Partnership (LEP), NHS partners, Sedgemoor District Council, Somerset County Council, Bridgwater and Taunton College, the University of Exeter, voluntary sector and government organisations that gave their time and shared their thinking with us.

Whilst all the consultees have assisted with this study, any views and conclusions expressed in this report are entirely those of EiBC.

Many thanks

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Oxford and Edinburgh

Overview and Summary

Purpose and Critical Time for Innovation Led Action

This summary highlights some of the key findings and recommendations of a report commissioned by Somerset West and Taunton District Council (SWT) so that it can better support innovation and knowledge based organisations and deliver economic development for its community and meet the objective of making the District Carbon Neutral by 2030.

The report provides the Council with a *Framework for Action* with 22 recommendations for how it and its partners can *enhance and transform the SWT innovation ecosystem* and enable the Council to be more proactive around innovation and economic development, better shape its post Covid Recovery Plan, set resource priorities and pursue a range of opportunities to secure co-investment from the private sector and government and deliver on these actions.

The Innovation Challenge and a Framework for Action

Innovation is widely acknowledged to be a key driver of improved productivity and economic growth.¹ It secures high quality, sustainable jobs and the benefits of this have been secured most successfully in 'the golden triangle'. With central government committing record levels of investment in R&D (£22bn by 2023) and to pursuing 'levelling up' actions this represents a crucial time for the Council to better position itself for innovation led investments and developments and adopt the recommendations proposed. Crucially, the opportunity also helps shape wider public sector actions and investments and co-investment by the private sector.

In this report EiBC has provided a *Framework for Action* to address these opportunities and informed by conditions found in other successful innovation ecosystems. Specifically, we provide an independent assessment of the area's innovation assets (ie knowledge based organisations), the current business innovation support systems and the research and skills assets, the physical infrastructure (ie innovation centres and suitable business space) and leadership arrangements to support innovation.

We have also reviewed those weaknesses already known to SWT. For example, the general low levels of R&D expenditure in companies relative to turnover, a relatively low level of Higher Education (HE) participation, a large county area without a university, a comparatively older population, a lower proportion of knowledge-based workers and a lower GDP/per capita, with some areas with high multiple deprivation. Also the low levels of inward investment and the recognition that there needs to be improved perceptions about SWT as an excellent place for innovation and knowledge based organisations to be attracted to and grow in the area. Many of these weaknesses have been recognised in SWT's own Economic Development Strategy and by HotSW's Local Industrial and Productivity Strategies.

Approach to the Assignment

EiBC's work programme involved the following:

- **Background research:** building a clear understanding of SWT's innovation assets through background research;
- **Consultations:** conducting consultations with SWT Council members and senior officers, partner local authorities, the HotSW and holding in excess of 30 consultations with

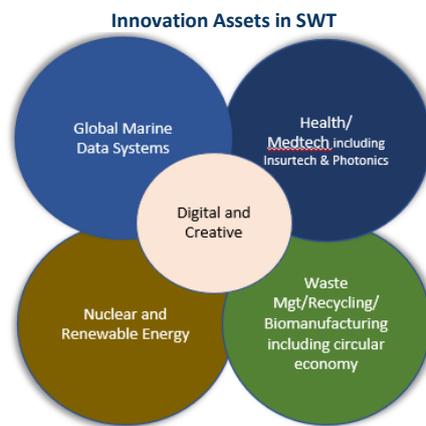
¹ For example, UK Industrial Strategy (2019), UK Innovation Road Map (2020), HotSW Local Industrial and Productivity Strategies (2019)

CEOs/directors in knowledge based organisations in the area, in addition to Bridgwater and Taunton College (BTC), the University of Exeter and with developers

- **Benchmarking:** Drawing on UK/international research and experience in innovation systems, science parks and innovation centres
- **Action Focussed Report:** Bring together our evidence, analysis and conclusions and framing our recommendations around 4 Action Themes and 22 specific recommended actions.

Innovation Assets

The key *business based innovation assets* in the SWT area are in four distinct clusters (global marine data systems; healthcare, medtech, including insurtech and photonics; nuclear/renewable energy; waste management/recycling and biomanufacturing including the circular economy). Additionally we define a cross cutting theme consistently emphasised by central government, HoTSW and the private sector – the digital and creative theme.



A high level summary of the clusters is presented below:

- **Global Marine Data Systems:** the HQ of the UK Hydrographic Office, with its 800 research intensive staff provides data to 90% of all global shipping, data inputs for autonomous shipping and undertakes a wide range of marine environmental projects across the world. Government has recognised it to be one of the key organisations that can exploit the forecast £3.2 trillion ‘blue economy’ by 2030. At present, however, this major asset is the most undeveloped in terms of it creating a local cluster of partner businesses. A pilot accelerator programme has been launched this year and is designed to stimulate new business ventures and the UK Government’s Geospatial Commission should also provide further new opportunities for SWT. In EiBC’s view, very strong local action at SWT and HotSW levels will be required to unlock a small part of the huge potential associated with the UKHO’s presence and the ‘blue economy’ and our *Framework for Action* identifies recommendations to address this challenge around sustaining and upscaling accelerator and business partnership programmes, developing international partnerships for inward investment and exploring how university research and industry partnerships can be co-located in Taunton.
- **Healthcare, medtech, health insurance and photonics** represent major innovation assets within the SWT area and where there are significant opportunities for growth. The cluster has a workforce in excess of 10,000 with more than half of this total located in Taunton. The cluster comprises the recently merged Somerset NHS Foundation Trust, employing nurses, doctors, researchers, scientists, therapists and its support staff and having around 350 active research projects running at any one time. The latter has ‘export type services’ in that the Trust supports other UK trusts, notably in cancer and diagnostics. The Trust is also investing £450m to a major building programme (Musgrove 2030). The Musgrove Hospital site is highly constrained and there are opportunities to relocate some non-acute services off-site as a part

of the Musgrove 2030 investment programme. This in turn could create opportunities to redesign services and co-locate with other knowledge based organisations. One such co-location with the private sector has already been committed – this also delivering a new 30,000 square foot Health Innovation Centre at Blackwater in the Zenith Building. Importantly, the cluster also includes several medium sized private companies operating in health, medtech, ehealth, health insurance, health care photonics – with these businesses employing in excess of 1,000 jobs, this excluding the SW regional HQ of NHS England (with St Austell). Significantly, most of the private companies are the UK/European HQs of international businesses and all are located in Taunton. In the round and given the size of this cluster, together with its forecast growth, stability and impact on community wellbeing and ageing – and because government’s *R&D Road Map 2020* commits it to ‘unlock improvements in health, wellbeing and prosperity’ and to level up², it is EiBC’s view is that this cluster needs to be given a much higher priority and a target for growth. Part of achieving this higher priority is to establish a *Taunton Innovation District* (see later), which is part of a proposed HotSW Regional Technopole³.

- The **construction and decommissioning of nuclear power stations** at Hinkley are well understood drivers of economic development and there are already a wide range of actions and groups operating in this domain. Actions are organised at the regional and national level (eg, EDF, CGN, the NDA with many companies involved in designing, contracting an decommissioning nuclear power), as well as enabling groups such as Nuclear South West, the South West Energy Hub, the HotSW and the Energy Working Group. BTC also hosts the National College for Nuclear. Bridgwater also hosts the Somerset Energy Innovation Centre with its Phases 1,2 & 3, SWMAS and the Hinkley Supply Chain Team. However, whilst all of these have positive economic impacts, most of the knowledge based employment associated with nuclear design, testing, design construction and commissioning is focussed elsewhere. In large part, this is also the case with the development of renewable technologies in the South West. Moreover, a significant part of the current economic benefits will begin to tail off with the completion of the construction and commissioning work associated with Hinkley C and the Decommissioning of Hinkley B. EiBC is therefore of the view that more emphasis needs to be given to defining a *distinct innovation legacy* from nuclear and in this regard we have identified some potential projects that require detailed consideration (see below).
- A small but nationally significant group of organisations is located in SWT around the business domains of **waste management, recycling, biomanufacturing and the circular economy**. Three organisations in particular provide a platform to develop and grow this cluster in a way that is highly distinctive at regional and UK levels (Viridor, Biohm and SWP). Viridor, the largest recycling and energy recovery company in the UK, is headquartered in Taunton, has a long history associated with the South West and has an active programme of R&D associated with recycling and the circular economy⁴. Biohm is a biotech and biomanufacturing company based in London with innovative technologies in bringing new green construction materials and systems to market using local excess resources. A recent inward investment to Watchet, Biohm is establishing its first production plant in the UK and the ambition is to diversify into more bio-based construction products (eg biomanufactured construction boards, mycelium insulation boards, plant-based concrete and a biotechnology that consumes plastic). It also intends to develop a number of other related projects associated with the circular economy

² UK Government R&D Road Map 2020

³ HotSW agreed at its November 2020 Innovation Board to progress plans and investments around a Regional Technopole

⁴ For example, it is investing £65m in the UK’s biggest multi-plastic recycling and reprocessing plant at Avonmouth - this ground-breaking UK circular economy collaboration, integrates with Viridor’s polymers investments to deliver a more complete plastics recycling solution.

such as affordable housing using low carbon materials, renewable energy and research and skills initiatives underpinned by an innovative community partnership business model with the Onion Collective. Biohm has established links to a number of research intensive universities, is engaged in dialogue with central government and is backed by seasoned global investors making this a major innovation related opportunity. The credibility of Biohm makes this a major innovation related opportunity. Somerset Waste Partnership, a partnership business operated through a joint board drawn from Somerset's county council and its 4 district councils has responsibilities are for waste collection, waste disposal and recycling and is independently ranked as a leading operator in England for carbon saving, emphasis on waste reduction, energy from waste solutions, recycling, education and changing behaviours. It has a strong desire to support research, innovation and impact, in partnership with others, by using its operational knowledge, scale and influence. EiBC consider this cluster opportunity to be nationally distinctive, fully aligned with the Carbon Neutral ambitions of the SWT. Further detailed feasibility and planning work will be required and could attract funding and support from the private and third sectors, BEIS, Innovate UK, universities, BTC and HotSW.

- The SWT **Digital and Creative** cluster is largely a cross-cutting innovation asset embedded in many organisations, but also evident in the large number of micros of less than 10 employees. For example, Digital Taunton (DT) is a 750 plus membership organisation with many micros supporting an active cluster for the digital community, through collaborations, networking and by hosting quarterly workshop events. As a dynamic community led organisation it is a regional 'stand out' and together with CICCIC, a creative innovation and community interest company, both have been drivers supporting the £9.6m plus Taunton Digital Innovation Centre to be delivered by Q3 2021. Key to exploiting the local digital and creative assets is to *link* SWT micros and the growing BTC digital talent pool⁵ to the four clusters through partnership programmes and placements.

Enabling Innovation Assets

The innovation assets within the SWT area are supported by five enablers and some of these are areas where the Council has some influence and control. These enablers are: 1) policies that align with and support innovation assets; 2) business space and physical infrastructure that is suitable, functioning and attractive for knowledge based businesses; 3) good access to high level skills, talent and university research; 4) easy access to practical knowledge exchange and business innovation support services and funding; and 5) leadership/governance. EiBC's assessment of these enablers are summarised below:

- **Policy Alignment and SWT Innovation Assets:** there is a high degree of alignment between the Government's Industrial Strategy, the UK R&D Road Map, HotSW LIS and Productivity Strategies and SWT, SCC, SNHSFT and BTC strategies and plans relevant to innovation in the SWT area and also a good alignment between HotSW priorities in Clean Growth, Energy Futures, Digital Futures and Inclusive Growth. However, the Health/Medtech strength in SWT is not currently highlighted by HotSW as a priority and EiBC believe there is a strong case for this cluster to be better recognised and supported. Also assets and opportunities around waste, recycling, biomanufacturing and the circular economy should also have stronger policy priorities. HotSW's innovation policy emphasis was set out by its Innovation Board in November 2020 with this informed by the MIT REAP programme⁶. This seeks to build a network approach to innovation around a multiple locations using the Technopole concept

⁵ Through its SWInstitute of Technology Partnership, BTC has recently launched 28 'hop on hop off' Digital programmes

⁶ <https://reap.mit.edu/>

and to invest in support for knowledge exchange and business support services⁷. This approach strongly accords with the conclusions reached by EiBC.

- **Skills, Talent and Universities:** BTC and its University Centre employs in excess of 1,000 staff and recruits some 23,000 full time and part time students. Approximately 700 students are pursuing programmes at Higher Education (HE) level and significantly, BTC has a national role in co-hosting the UK's Nuclear College. It is currently expanding its T level⁸ and Digital programmes and its degree level Nursing programmes – the latter likely to stimulate demand for additional student accommodation. Although universities in Bristol, Exeter, Bath and Plymouth surround the SWT area and there are many links between these and knowledge based organisations in the area, there is, in EiBC's opinion, a case to secure some *selected strategic commitments* from the university sector within SWT around some of its key innovation assets and also opportunities to strengthen BTC's UK and international role in specialist high level vocational training (see recommendations).
- **Physical infrastructure:** infrastructure (innovation centres, science and innovation and mixed use developments that specifically targeting knowledge based occupiers) are one element required for a successful innovation ecosystem. Currently there is only 34,000 square feet specifically catering for knowledge based business in Somerset County area, but in the next two years this will increase fourfold to 124,00 square feet when construction and fit out at the TDIC (Firepool, Taunton), Zenith (Blackbrook Business Park, Taunton), Phase 2 and 3 SEIC (Bridgwater) and iAERO (Yeovil) innovation centres are complete. In addition to this with a second phase of the TDIC at Firepool, the Gravity and Nexus sites fully developed there will be a huge level of additional floorspace available over the next 2-10 years and specifically targeting knowledge-based businesses. In the light of this EiBC has concluded there is no case to promote a SWT science park at the present time.
- **Knowledge Exchange, Innovation Business Support:** A range of general business support services operate in SWT and are provided by the District Council, SCC and the HotSW Growth Hub. Since 2019 SCC and the four Somerset District Councils have also piloted a business mentor programme (Somerset Catalyst) to support fast growth knowledge based start-ups. However, EiBC's assessment is whilst all of these are beneficial, much more is required to provide knowledge based businesses with a more focussed and comprehensive innovation service for businesses – and that are regularly found in many successful science and innovation centres and innovation districts. This is important as start-ups, SMEs and even larger knowledge based organisations rarely have the time and resources to 'pick through' and bring together all the key services and support to drive and deliver innovation, or the external stimulus that such services bring to the process of securing innovation. EiBC has identified recommendations to pursue this type of service (involving the HotSW and other local authorities) and a specific business planning piece of work is required to take this forward.
- **Leadership and Governance:** Leadership is also widely accepted as one of the key elements of a successful ecosystem.⁹ EiBC's UK experience and our assessment of the particular challenges in SWT supports this view. Specifically, EiBC believes that a SWT Innovation Board supported by Cluster Groups can help secure innovation and economic development. From our initial consultations these concepts have support from a number of senior level employers and they can provide ideas, independent assessments of progress and be a powerful and influence voice for the funding of new initiatives. A Board and Cluster Groups would come as

⁷ HotSW Innovation Board Paper November 2020

⁸ T Level programmes are equivalent to 3 'A' levels and are applied to some 24 industry specific areas

⁹ Many established science and innovation parks and innovation districts have small innovation leadership boards, for example, Manchester Science Park and its Oxford Road Innovation District, Edinburgh BioQuarter, Newcastle Helix, Northern Ireland's Catalyst.

a near zero cost intervention with its inputs largely dependent on senior employer and stakeholders time and would complement the HotSW Innovation Board.

Summary of Recommendations

An Alternative to a Traditional Science Park

EiBC has concluded that there is no case for SWT to promote or invest in a traditional new science park, but rather pursue a different approach. The reasons why we do not recommend a science park have been touched on already, but as this was one of the central questions raised as a part of this assignment, we summarise the key points below:

- there is no evidence that a university, an anchor knowledge intensive business/organisation will provide the stimulus for a single site traditional science park.
- As we have already indicated over the next 3 years a network of new innovation centres will be delivered in Taunton (2), Bridgwater (3), Yeovil (1). Additionally 3 sites in SWT (Firepool TDIC, Nexus and Blackbrook) offer further opportunities for grow-on space for knowledge based businesses with a capacity in excess of 600,000 square feet in Taunton. This is in addition to a further 300,000 square feet of general business and light manufacturing space at the Crown Estate¹⁰ and over 300,000 square feet at the Gravity site. Firepool has a capability to accommodate a Phase 2 innovation centre and Blackbrook, already the home for several health based knowledge based businesses, has a key undeveloped site adjacent to Zenith innovation Centre, whilst the 40 acre Nexus site can accommodate around 377,000 square feet of knowledge based business. Outside Taunton, Watchet can also accommodate at least 54,000 square feet of business space at the former papermill site. All of these sites are committed and most are 'shovel ready'. Excluding the Crown Estate and Gravity sites and the other innovation centres coming on stream elsewhere in Somerset, the remaining SWT sites deliver in excess of half a million square feet of space with a potential to accommodate up to 4,600 direct knowledge based jobs in addition to indirect jobs.
- Our recommended Taunton Innovation District proposal¹¹ and also the opportunities at Watchet offer the SWT area to develop an innovation ecosystem at scale, that is credible, distinctive and viable and secures far greater investment leverage from the private sector.
- There appears to be little appetite from HotSW to support new science parks. Current thinking is based on developing existing assets and a networked Technopole – this using the key innovation assets of the region and supporting growth through a network of existing sites/innovation centres, parks and innovation zones/districts and by developing a knowledge exchange and business innovation support service.

Our alternative approach is to recommend that SWT pursues multiple actions that that builds on the particular and distinctive innovation assets in the area and can transformed into an innovation ecosystem by pursuing four action themes:

- Establishing a Thriving Innovation District in Taunton;
- Securing an Innovation Legacy from Hinkley;
- Creating a Biomanufacturing/Biomimicry and the Circular Economy Demonstrator in Watchet; and
- Establishing the Underpinning Support for Innovation across the District

¹⁰ Already the home of two major advanced engineering/health and photonics businesses, Amphenol Thermometrics and Novanta

¹¹ Innovation Districts are being developed in many UK and international locations. They 'constitute the ultimate mash-up of entrepreneurs and educational institutions, start-ups and schools, mixed-use development and medical innovations, bike-sharing and bankable investments - all connected by transit, powered by clean energy, wired for digital technology, and fuelled by caffeine' (Katz & Wager, Brookings Institution 2017)

Through these actions SWT would become known for its strengths in Global Marine Data Systems, Health/Medtech, Energy and Biomanufacturing and the Circular Economy and use the Taunton Innovation District, the Taunton Digital Innovation Centre, the Zenith Innovation Centre and a new innovation focused centre in Watchet as engines for the wider growth of knowledge based businesses. Integrated with a wider HotSW service, a new SWT Knowledge Exchange Business Innovation Support Service would support start-ups, high growth companies by providing research, market, financial, technology, skills, partnering and accelerator/mentor services. SWT would establish the Taunton Innovation District as a key part of the HotSW Technopole – this helping to change perceptions, develop place marketing initiatives and secure inward investment. Promotion, events, signage and an Innovation Cyclerooute could also connect key hubs and link to other initiatives being developed through the Garden Town vision.

SWT should encourage BTC to grow its HE and Degree Apprenticeships so that it supports innovation and together with HotSW and its partner councils. The Council should also invite all the universities surrounding the county to commit to specific place based partnership projects in key domains, eg in to place based partnership working in global marine systems, health/medtech and in biomimicry.

SWT should support the establishment of a SWT Innovation Board and domain specific Cluster Groups. These can support innovation initiatives, support inward investment and help leverage central government resources. The Council's role should be to support and enable these to be established, not to lead them.

Recommendations

Overall, we recommend that the Council adopts this *Framework for Action* – as a working document and considers four Action Themes and 22 specific recommendations:

Action Theme A: Taunton Innovation District (TID)

1. **Adopt and promote a Taunton Innovation District**
2. Work up the **Taunton Digital Innovation Centre (TDIT) Furniture Fittings & Equipment (FFE) specification and budget.**
3. Work up a preferred plan for **securing a TDIT operator**
4. Explore and develop **Firepool 'meanwhile innovation and creative uses'** in the TDIC Phase 2 area and the adjacent sites
5. Liaise with UKHO on the **Pilot Marine Data Systems Accelerator** and explore with UKHO and HotSW how this can become a permanent jointly promoted programme and also strengthened to encourage businesses to co-locate in the TID.
6. **Promote local economic development and government 'levelling up' relocations** associated with UKHO and the Blue Economy
7. Discuss with UKHO/HotSW/Government the setting up an **Expert International Panel for Blue Economy Commercialisation** to drive opportunities to capture some of the huge opportunities locally
8. Explore with Government (BEIS/MoD), HotSW and the UKHO a **Blue Economy co-location research partnership based in and using TDIC space.**
9. **Establish a Cluster Group** around healthcare, eHealth insurtech, medtech, digital and photonics – represented strongly by private sector and NHS employers.
10. Work with Rutherford and SNHS Trust to **establish an innovation operator for the Zenith Innovation Centre)**

Action Theme B: Nuclear/Renewables

1. Continue to **support the Hinkley Point Supply Chain** to ensure local WST businesses have access to the high value knowledge based Hinkley contracting opportunities (
2. Explore with EDF, HotSW, central government and SWT's local authority partners work a **business innovation legacy** from Hinkley. Three potential projects could be around a) the creation of an **International Training Centre for Nuclear Skills** operating as a major UK and export training service; b) a nuclear and/or renewable energy **research and testing facility**; and c) a **sustainable energy demonstrator project linked to the circular economy**.

Action Theme C: Biomimicry and Circular Economy Demonstrator

1. **Support the development of the biomanufacturing businesses** and a wider **cluster of cluster of biomimicry R&D and businesses developments**
2. Support the emerging wider opportunity for a **Biomimicry and Circular Economy Demonstrator in Watchet**.

Action Theme E: Underpinning Support

1. **Set up a SWT Innovation Board**
2. **Encourage and Support the creation of Cluster Groups** – Health/MedTech, including Insurtech and photonics; BioManufacture/Circular Economy; Global Marine Data Systems; and continue to support existing Energy Groups
3. In collaboration with HotSW and other SWT partners **set up a Knowledge Exchange and Business Innovation Support Service** in SWT and potentially in the wider County/HotSW area
4. Support BTC work up new programmes for **existing and emerging skills gaps for knowledge based businesses**
5. Explore the setting up a **CPD/Post Graduate Study Centre at TDIC and the Zenith Innovation Centre** in collaboration with the BTC and partner universities
6. Work to secure some **specific university commitments in SWT through a** Universities for Somerset Partnership Prospectus and MoU
7. Work up an **Innovation and Enterprise Communications** action plan aimed at changing perceptions for individuals, businesses, inward investment businesses and house buyers who operate in the knowledge-based sector
8. Consider **budgetary implications** of the *Action Framework* for the next 3 years