

# **Technium Case Studies**

Appendix 1 to Evaluation of the Technium Programme Stage 1: Final Report



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#### 1. Introduction

This appendix presents a short case-study on each Technium. The purpose of the case study is to provide an overview of

- the background and rationale behind the establishment of each Technium,
- how each Technium is funded
- the management and ownership arrangements of each Technium
- how companies can enter each Technium
- the business and academic support available to Technium companies, both in terms of expertise and facilities
- how and when company's exit each Technium; and
- the targets set for each Technium and the extent to which these have been met.

The table below summarises the development of the Technium network.



Year	Technium	Location	Sector	Region
2001	Technium 1	SA1 Waterfront, Swansea	No sectoral focus	South West Wales
2003	Digital	Swansea University Campus	Digital & Software Technologies	South West Wales
2004	Technium 2	Adjacent to Swansea 1, SA1 Waterfront, Swansea	No sectoral focus	South West Wales
2004	OpTIC	St Asaph Business Park, Denbighshire	Opto-electronic sector	North Wales
2004	Aberystwyth	Aberystwyth Marina, Ceredigion	Focused towards companies operating in biological and environmental sciences, computer sciences and digital technology/new media. Tends to aid pre-start and very early stage technology and knowledge based businesses	Mid Wales
2005	Digital@Sony	Sony Site, Pencoed near Bridgend	Technology based incubation. Satellite to the Digital Technium in Swansea	South East Wales
2005	Sustainable Technologies	Baglan Energy Park, Neath Port Talbot	Sustainable Technologies and Low Carbon	South West Wales
2005	CAST	Bangor, Gwynedd	Advanced software such as visualisation and communication technologies	North Wales
2007	Performance Engineering	Llanelli Gate, Carmarthenshire	Performance engineering technologies in the automotive, motorsport, aerospace and marine industry	South West Wales
2007	Pembrokeshire	Pembroke Dock, Pembrokeshire	Renewable and sustainable energy resources	South West Wales

The case studies have been produced using information and data provided by each Technium Manager, on Objective 1 funding documentation and from the Technium website (<a href="https://www.technium.co.uk">www.technium.co.uk</a>).



Each case study, with the exception of the OpTIC case study, has been reviewed by the relevant Technium Manager (or delegated team member) to ensure its factual accuracy. Several requests have been made to the Technium OpTIC management team asking for comment on the OpTIC Case Study however we have not received any response.



#### 2. Technium Swansea

#### 2.1 Introduction

Technium Swansea was the first Technium to be established<sup>1</sup>. Technium 1 opened in 2001 with the aim of helping to create a successful, sustainable Welsh economy by providing an environment which would help nurture and support the accelerated growth and development of technology and knowledge based businesses.

Objective 2 funding was secured which allowed the first dedicated Technium facility to be built on the old Swansea docks site, now known as SA1 Swansea Waterfront.

A second Technium (Technium 2) was built on the SA1 site in 2004. Technium 2 was designed to provide grow on space for clients from Technium 1. Neither Technium 1 nor Technium 2 has a sectoral focus.

Technium 1 is a 1,950 sq m (21,000 sq ft) facility which can accommodate up to 13 businesses. Technium 2 is 3,623 sq m (39,000 sq ft) and can accommodate up to 16 businesses. In addition to the incubator units, 10 desk spaces are available in a shared office for companies who do not need a whole incubator unit.

Technium 1 and Technium 2 are now known as Technium Swansea.

### 2.2 Rationale and Objectives

The concept of Technium was instigated in 1999 by Steve Davies at the WDA and Marc Clement from Swansea Institute of Higher Education (SIHE) and latterly, Swansea University, with the intention of creating the environment to create and retain high value jobs in South West Wales.

The Technium 1 project had four primary aims:

- To create a Business Innovation Centre
- To support the growth of existing knowledge driven SMEs
- To support the creation of new knowledge driven SMEs
- To create a one-stop shop capable of providing a seamless support mechanism for mobile R&D investment projects

The Technium aimed to bridge the gap between advanced academic research and commercial exploitation and create high value jobs to increase the retention of graduates in the local area. Initiatives already in place in South West Wales to support innovation such as the Swansea Innovation Centre were oversubscribed. Work by Swansea University had identified that graduates were leaving Wales due to a lack of opportunity; in addition work by the Welsh Development Agency had identified some pent up demand for better business support for knowledge based businesses.

<sup>&</sup>lt;sup>1</sup> More detailed information on the background and rationale behind the first Technium can be found in the main report (sections 2 & 3).



At the same time as this development work was being carried out in Swansea a number of policy and strategy documents were highlighting the need for increased levels of innovation and high value jobs in the Welsh economy. This included the Regional Technology Plan and the Swansea Bay Economic Strategy.

There had been other funding applications for a business incubator which provided both business and technical advice, but these had been unsuccessful for a number of reasons. The Technium bid was able to draw on the strengths of the previous bids, address the weaknesses and combine these with a strong partnership of applicants (WDA, UWS, SIHE, City and County of Swansea, West Wales TEC and Business Connect<sup>2</sup>) in order to take advantage of funding through the Objective 1 programme.

A detailed Operational Strategy was produced for Technium 1<sup>3</sup>. This document also proposed there should be two further phases of development on the Swansea Docks site although these phases had not been planned in the same detail as Technium 1. Phase 1 (Technium 1) would provide incubator space and support for start-up and early growth stages of development, Phase 2 would provide move-on accommodation and Phase 3 was for dedicated units for further larger scale move-on space. Technium 2 was the second phase of this strategy and was intended to support companies that emerge from Technium 1 as they mature and become free-standing entities. Objective 1 funding was sought for Technium 2 with the application form stating the following rationale:

"The Technium 1 project is well on the way to achieving its aims and deliverables. The building is fully occupied with a healthy cross section of companies, all in the knowledge economy and satisfying the original objectives of the project. Technium 1 was envisaged as the first phase of a clearly defined strategy. It facilitated a high quality environment to assist its tenant companies in the early days of their development. Tenants are allowed a maximum of two years tenancy in Technium 1. At the end of that period, a Technium 2 was envisaged in which the expanding companies could secure a medium term location".

The Technium 2 application puts forward the following evidence of demand for the second Technium:

- "Technium I is already full. All tenants have an 18 month tenancy agreement and are fully aware that they will be expected to move to a similar environment in the Port Tawe Innovation Village<sup>4</sup>.
- Early stage incubators at UWS already have ten start-up companies who are expressing a
  wish to enter Technium 1 and the current tenants vacate. In other words the pipeline
  envisaged is beginning to work. Failing to realise Technium II will stifle this strategy.

<sup>&</sup>lt;sup>2</sup> The role and function of the WDA has been absorbed into the Welsh Assembly Government, University of Wales Swansea is now known as Swansea University, Swansea Institute of Higher Education is now known as Swansea Metropolitan University

<sup>&</sup>lt;sup>3</sup> DTZ Pieda Consulting (2000) A New Business Innovation Centre for Swansea and South West Wales

<sup>&</sup>lt;sup>4</sup> Originally plans for the Swansea Docks site were to create an 'innovation village' (known as Port Tawe Innovation Village). The site would provide residential and employment sites so that people involved in innovative activity could live and work in one location. The plans for the innovation village were overtaken by general regeneration objectives which resulted in the innovation focus being lost to a more general mixed used development (SA1 Swansea Waterfront)



- The WDA and UWS recently undertook a joint inward investment visit to the US specifically targeting potential semi-conductor companies wishing to locate European design centres in Wales. This was an attempt to repeat the Agilent experience. An on-going dialogue with a number of these companies is proving promising and could realise a further demand for space in Technium 1, which could only be achieved with the realisation of the Technium 2 project
- Other partner organisations in Technium 1 have their own emerging demand for space and business support. This includes SIHE's initiative with Bertrand (UK) Limited – a division of Porsche – to relocate an R&D team in the region and other similar initiatives from Business Connect.
- The WDA has decided to brand Technium and proactively market the vision and concept internationally. There is a constant ebb and flow of visitors from Europe, US and the Far East. The creation of Technium 2 is absolutely crucial in further developing this embryonic knowledge driven cluster in the region
- The private sector is taking an active interest in Technium. This includes blue chip organisations such as PriceWaterhouseCoopers, Morgan Cole and Urquhart-Dykes and Lord, all of whom are prepared to invest in the future of the project. Again, the realisation of Technium 2 is crucial in satisfying the new thirst for private/public sector co-operation in regional economic regeneration
- The region has suffered due to lack of venture capital presence. A major fund, Celtic House, has now placed its first investment in a Technium 1 start up. Again, this activity could develop and illustrates the need for this project to succeed and evolve."

Technium 1 supports companies while they incubate their concepts, eventually leading to a more developed business plan. Technium 1 houses early stage start up companies. The space in Technium 1 is divided into relatively small units and facilities such as meeting rooms and conferencing facilities are provided centrally reflecting the early stage of development of its clients and consequently their space requirements. Technium 2 offers larger office space to house more mature companies, still in early stages of development but employing larger numbers of people. The original concept was for Technium 2 to provide larger space for tenants from Technium 1 that had outgrown the facilities there. Whilst most clients enter Technium 2 from Technium 1, some applicants are of a size, scale and maturity where it is most suitable for their growth prospects to enter immediately into Technium 2.

A third Technium building for larger grow on space has not been built by the public sector, however, a private sector partnership developed the Ethos building next to the two Swansea Techniums. The Ethos building took over four years to come to fruition after the initial idea for a private sector development. Ethos opened in May 2008 and a number of graduated Technium clients have taken space in the building. Ethos is connected to the Technium IT and telephony networks.

## 2.3 Ownership and Management

Both Technium 1 and Technium 2 are owned and managed by the Welsh Assembly Government.

The Technium is managed by a Technium Manager who is supported by three other staff on site.



#### 2.4 Funding

Technium 1 cost (capital and revenue) £3.2m whilst Technium 2 cost £7.9m. Funding for the Technium buildings are set out below

**Table 2.1: Technium 1 Funding Sources** 

Source	Technium 1
Objective 2	£1,448,000
Welsh Development Agency/Welsh Assembly Government	£1,325,000
Swansea University	£464,000
Private Sector	£18,000
Total Funding Received	£3,255,000

Source: Davies, S (2008) "Proposal for Maximising the Economic Impact of Technium"

Table 2.2 – Technium 2 Funding Sources

Source	Approved Amount (July 02)	Approved Amount (last reprofiling letter)	Actual Funding Amount (March 06)
Objective 1	£3,252,257	£3,252,257	£3,244,097
Welsh Assembly Government -			
Pathways 2 Prosperity		£2,505,420	£2,493,800
Welsh Development Agency/Welsh			
Assembly Government	£2,505,420	£219,500	£1,759,461
Swansea University		£376,300	£349,215
Morgan Cole		£108,000	£0
PriceWaterhouseCoopers		£108,000	£0
Urquhart-Dykes & Lord		£60,000	£9,180
Private Sector	£652,300	£18,000	£0
Total Funding Received	£6,409,977	£6,629,477	£7,855,753

Source: WEFO Approval Letters (dated July 02) and Final WEFO Claim Form and Progress Report (position at end of funding period 31 March 2006)

Technium 2 originally planned to have substantial investment from the private sector. Specifically there was the intention for PriceWaterhouseCoopers, Morgan Cole and Urquhart-Dykes and Lord to provide weekly surgery sessions in the Technium for Technium clients. The time that they provided was to be considered an 'in-kind' contribution to the costs of the Technium. However, in practice it was found that the surgery sessions were not being utilised by the Technium clients – either because they had their own providers of these services or because after the initial meeting they tended to arrange meetings directly with the service provider and not use the surgery sessions. Consequently there was a shortfall in private sector contributions to the costs of the Technium. The shortfall was filled through funding from the Welsh Assembly Government.

Following the end of Objective 1 and 2 funding the Technium has been funded through Welsh Assembly Government core budgets. Convergence Funding is being sought to cover some of the revenue costs of Technium Swansea going forward.



#### 2.5 Support and Facilities

Technium Swansea provides clients with high quality office space, high bandwidth internet connectivity and telephony and meeting and board rooms. There is no sectoral specific specialist equipment on site.

Clients of Technium Swansea can access business and technical support through the Technium manager who can signpost them to the most appropriate Welsh Assembly Government programme or service provider. Although the Surgery Sessions described above did not work in practice, the idea was developed into the Professional Service Provider group. These providers specialise in services such as Finance; Management, Admin, Marketing & IT; Product and Process Development and Legal Issues and HR. Technium Clients can access a minimum of two hours free advice from providers on the panel. If the Client needs support over and above the free advice offered, the Welsh Assembly Government can cover up to half the cost through their Flexible Support for Business initiative.

The Welsh Assembly Government Innovation manager for the South West region is based at Technium Swansea. The Innovation Manager has worked in the private sector and has significant experience relevant to innovation and intellectual property. The manager can provide advice and support on a range of innovation issues including where to access funding for intellectual property (IP) and new product development and how to find partners throughout the UK and Europe to exploit and licence new technologies.

Although the service provided by the innovation manager is available to any business in Wales, Technium Swansea clients can benefit from the South West Innovation Manager being located within Technium Swansea. This means that the Innovation Manager is much more accessible to them. The innovation manager has a very good understanding of all of the Technium Swansea clients.

## 2.6 Linkages with Private Sector & Academia

The South West Academia For Business (A4B) Project Development Manager is also based at Technium Swansea. The A4B officer can help businesses to collaborate and work with higher and further education institutions. The A4B Project Development Manager formerly ran industrial research programs in a multinational private sector company. He has significant connections in academia and experience in accessing research and development funding. The Officer will help a Technium client to find the most suitable HEI (within Wales, the UK, or further afield) to support the business' needs. As with the Innovation Manager (described above) the services provided through the A4B officer are available to any business in Wales, however, as the South West Officer is located within the Technium Swansea he is more readily available and accessible to Technium Swansea clients.

There are linkages between Technium Swansea and Swansea University and Swansea Metropolitan University. These Universities offer Technium clients technical advice and support and access to equipment, for which they may have to pay a fee and/or enter into a contractual agreement.



#### 2.7 Entering Technium

In order to enter Technium Swansea, companies must meet the standard Technium entry criteria (see Appendix 1). The process that companies go through is designed to ensure that the 'right' companies are selected as Technium companies. The process is set out below:

- Company visits the Technium and discusses their requirements with the Technium Manager to establish whether Technium can meet their needs. The Technium Manager gives them all of the information that they need
- Company registers their interest in becoming a Technium client by submitting a form.
   This requires them to set out why they want to come to Technium. This stage is a filtration method to separate out those with good ideas from those with a strong business.
- If the company is seen to be a 'Technium Business' they are then required to submit an
   Application Form and detailed business plan in which they have to justify: why they are
   a Technium company; how do they meet the criteria; why do they need support and so on.
- A Selection Panel made up of representatives from Sustainable Technologies, Performance Engineering, Digital and Swansea Techniums along with other key individuals from the Welsh Assembly Government and other stakeholders meets to assess the application form and business plan. There has to be a minimum of three Panel members present for the meeting to go ahead. The Panel ensure that the applicant has met the eligibility criteria and are credible. The panel uses their experience to identify whether the company is credible and high growth or just good at filling in forms.
- If the Selection Panel approves the company for entry to the Technium the company has to undergo Financial Due Diligence which is undertaken by the Welsh Assembly Government.
- If successful the company is then able to sign the lease

Technium clients need to demonstrate, through a business plan, that they have the basis of a knowledge enterprise capable of growth.

The application process is designed to be consistent and transparent across the South West Wales Techniums. It should be noted that applicants do not have to completely meet all the criteria listed to be able to enter the Technium, the panel use their experience and judgement to determine the extent to which the criteria are met. For example, a company may not be engaged in R&D at the time of application, however, they may have plans for R&D later in their business plan.

Units are rented out at £10.50 per sq ft plus a service charge of £5.00. Desk space users pay £200 per month.

## 2.8 Exiting Technium

Companies are expected to move on from Technium Swansea after five years, however there is currently a network-wide review of exit criteria underway to see if there can be a way of allowing companies to stay longer than five years if there is space in the building and it will not affect pipeline. The Technium Manager will discuss with the client their exit plans and work with the client in order to ensure that the exit from Technium is managed and goes as smoothly as possible. This will include helping the client to find suitable grow on space and bringing in the appropriate Welsh Assembly Government Relationship Manager who will



support the business once they have left Technium. Technium graduates remain part of the Technium network through the Technium Associate Member programme. As Associate Members graduates can still access support and advice from the Technium and use any specialist facilities.

Recently four Technium Swansea graduates worked together to obtain Objective 1 funding in order to build grow on space in Swansea. The Ethos building offers 32,000sq ft of office accommodation, in addition 7,000sq ft of conference and communal facilities to encourage collaboration and networking initiatives between companies.

### 2.9 Targets

Technium 1 targets and are set out below. These were achieved in the funding period 1999 – December 2001.

**Table 2.3: Technium 1 Targets and Outputs** 

Indicator	Target (1999)	Output (2001)
R&D centre created	1	4
Direct jobs created	6	6
No of SMEs contacted	600	450
New products and processes adopted	30	32
New products and processes developed	60	32
Jobs created within expanding SMEs	60	54
New linkages	90	102
% increase in turnover of assisted SMEs	15%	23%

Source: Technium 2 Objective 1 Application Form

Technium 2 targets and outputs are set out below. The table also records the results of the last re-profiling exercise which adjusted the targets set out when the project was originally approved. These targets were to be achieved in the time period January 2002 – March 2006.



Table 2.4: Technium 2 Targets and Outputs

	Original Target (July 02)	Reprofiled Target (last reprofiling letter)	Actual Achievement (March 06)
Activities			
Companies receiving advice in			
innovation and R&D	300	300	470
Collaborative projects between			
companies and research institutions	50	50	92
New Incubator	1	1	1
Floorspace in incubator and R&D			
facilities (m <sup>2</sup> )	3,639	3,639	3,639
Projects transferring environmental			
technologies to the business sector	1	1	0
Results			
Increase in turnover in supported			
companies	£50,000,000	£50,000,000	£0
Gross new companies in high tech			
sectors	50	50	12
Gross jobs safeguarded	500	500	130
Gross new jobs in high tech sectors	150	150	110
Number of new patents and trademarks	15	15	24
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Source: WEFO Approval Letters (dated July 02) and Final WEFO Claim Form and Progress Report (position at end of funding period 31 March 2006)

#### 2.9.1 Clients

The number of clients for Technium Swansea 1 and 2 for the period from 2001 – April 2009 as reported by the Technium manager are:

Table 2.5: Technium 1 and 2 Clients

	Number
Total Number of Clients Since Opening	24
Current Number of Incubator Clients	11
Current Number of Desk Space Users	2
Number of Clients Exited Technium	11
Number of Successfully Graduated Clients <sup>5</sup>	8
Number of Failed Clients <sup>6</sup>	3
Total Number of Associate Members	5

Source: Swansea Technium Manager – situation as at 27<sup>th</sup> April 2009

Of the three companies that have failed, one company failed whilst they were a Technium client, one company went through a managed close down and one company failed after they left Technium Swansea.

<sup>&</sup>lt;sup>5</sup> Clients that have moved on to larger premises, or have sold the business on

<sup>&</sup>lt;sup>6</sup> Clients that have closed down, moved into smaller premises, or have become dormant



## 3. Technium Digital

#### 3.1 Introduction

Technium Digital opened in 2004 in a building on the Swansea University campus on Swansea seafront. This Technium helps science and technology businesses to exploit digital and software technologies. Technium Digital is a three storey, 3,500 sq m (37,675 sq ft) facility. Incubator companies occupy one floor of the building in 15 office units, whilst the other two floors are used by Swansea University's Institute of Advanced Telecommunications (IAT). In addition to the incubator units five hot desk spaces are available.

#### 3.2 Rationale and Objectives

The application form submitted to WEFO stated that the Technium Digital will form an "integral part of the emerging network of Techniums across the South West Wales region" and will be active exclusively in digital technology. The application stated that the key aims of the bid were:

- To manage the design of Technium Digital to ensure that it matched the needs of companies operating in the digital economy
- To project manage the construction of Technium Digital and implementation of specialist features such as IT, necessary for companies in this sector of the economy.
- To plan and implement the support infrastructure necessary for incubating companies to benefit to the maximum extent from their tenancy at Technium Digital
- To plan and facilitate the collocation in Technium Digital of relevant Centres of Excellence and SME R&D activities
- To ensure that Technium Digital was fully integrated into the Technium Network thereby making its full contribution to the growth of the knowledge economy in Wales.

The objective of the Technium Digital project was to "help satisfy the demand created by the successful Technium 1 project". The application stated that the experience of Technium 1 demonstrated the need for further sector specific Techniums in the region. The application stated that "Technium 1 was envisaged as the first phase of a clearly defined strategy. As part of that strategy a network of sector specific Techniums are to be developed. The Digital Technium will be one of those."

The application put forward the following evidence of demand for the Technium Digital project:

- Technium 1 was already full.
- Digital companies such as Agilent Technology, Pure Wafer and International Rectifier invested in excess of £50m into the local area because of the research activities at Swansea University, who were a key partner in the Technium Digital project and who manage Technium Digital
- The private sector were prepared to invest heavily in the project (see Table 3.1) which was seen as clear evidence of demand.
- Early stage incubators at Swansea University already had ten start-up companies that were expressing a wish to enter Technium 1 as the current tenants vacated. In other



words the pipeline envisaged was beginning to work. It was felt that failing to realise Technium Digital would stifle this strategy.

- The WDA and Swansea University had undertaken a joint inward investment visit to the US specifically targeting potential semi-conductor companies wishing to locate European design centres in Wales. This was an attempt to repeat the Agilent experience. Ongoing dialogue with a number of these companies looked promising and was hoped could realise further demand for space in Technium Digital.
- Other partner organisations in Technium 1 had their own emerging demand for space and business support. This included Swansea Metropolitan University's initiative with Bertrand (UK) Limited – a division of Porsche – to relocate an R&D team in the region and other similar initiatives from Business Connect.
- The WDA had decided to brand Technium and proactively market the vision and concept internationally. There was a constant ebb and flow of visitors from Europe, US and the Far East. The creation of Technium Digital was seen as absolutely crucial in further developing this embryonic knowledge driven cluster in the region
- The private sector was taking an active interest in Technium. This included blue chip organisations such as PriceWaterhouseCoopers, Morgan Cole and Urquhart-Dykes and Lord, all of whom were prepared to invest in the future of the project. Again, the realisation of Technium Digital was seen as crucial in satisfying the new thirst for private/public sector co-operation in regional economic regeneration
- The region had suffered due to lack of venture capital presence. A major fund, Celtic House, had placed its first investment in a Technium 1 start up. It was seen that this activity could develop and illustrated the need for this project to succeed and evolve.

## 3.3 Ownership and Management

Swansea University was the lead partner in the development of Technium Digital and made the application for Objective 1 funding. Other partners included the City and County of Swansea, the WDA and Agenda Ltd. At the time of the Objective 1 application Agilent Technologies and CISCO were named as key project sponsors.

The Technium building is owned by Swansea University. A third of the building is leased to the Welsh Assembly Government for 125 years from 2003 to be used in the Technium Programme. Technium clients contract directly with the Welsh Assembly Government. Swansea University manage the Technium on behalf of the Welsh Assembly Government by delivering a range of Management Services covered in an Agreement between the WDA and the University.

A Technium Manager is employed by the University, he is supported by a Commercial Manager, Project Manager and a receptionist.

## 3.4 Funding

The total project cost of Technium Digital was £9.6m, this covered both capital and revenue costs. Capital costs represented 81% of the total costs of the project.

**Table 3.1 – Technium Digital Funding Sources** 

Source	Approved	Approved	Actual Funding



	Amount (July	Amount	Amount
Objective 1	<b>02)</b> £4,436,955	(September 04) £4,436,995	(September 05) £4,394,540
Objective 1	£4,430,933	14,430,993	14,394,340
Welsh Development Agency /			
Welsh Assembly Government	£1,294,400	£1,169,370	£1,169,370
Swansea University	£2,806,145	£2,484,039	£2,219,516
_Agenda	£1,529,200		
Cisco	£450,000		
Agilent	£250,000	£1,350,136	£1,423,403
IBM		£263,200	£250,000
Total Funding	£10,766,700	£9,703,740	£9,456,829

Source: WEFO Approval Letters (dated July 2002) and Final WEFO Claim Form and Progress Report (position at end of funding period 30 September 2005)

Since the end of revenue funding through Objective 1, a third of the building costs (utilities, maintenance and reception costs etc) are charged to the Welsh Assembly Government on an annual basis. Swansea University covers the remaining costs including the costs of business support provision carried out by the commercial manager and project manager.

### 3.5 Support and Facilities

Technium Digital has a range of specialist equipment to support Technium Digital clients in their work. This includes a Virtual Reality Studio which allows interactive, real-time data analysis in a visually immersive environment. It also enables product prototyping to take place in a fraction of the time required by conventional prototyping.

The Virtual Reality Studio is available by agreement, fully supported, for commercial use by both companies located in and external to Technium, as well as for University research projects from the School of Engineering, the Clinical School, School of Biological Sciences and the Computer Science department.

The Agilent Laboratory (housed within the Institute of Advanced Telecommunications) is available to Technium clients. The Laboratory is equipped with sophisticated communication testing equipment traditionally the domain of large companies. The laboratory focuses on the design and testing of high-performance electronic communication systems.

In addition to the technical facilities available, Technium residents can have access to a range of business support through:

- The Technium Professional Service Providers which provides access to about 30 business support providers in a range of different areas e.g. IP, legal, marketing. Businesses access a minimum of two hours of free support before incurring charges. If more support is needed, businesses can access support from the Welsh Assembly Government towards the cost of the consultancy.
- The Technium Manager is able to offer advice and support and signpost firms to other areas as necessary



#### 3.6 Linkages with Private Sector & Academia

As Technium Digital is located on the Swansea University campus there are links between the University and Technium clients. Key university departments such as the Institute of Advanced Telecommunications and the Research and Innovation Office are co-located in the Technium building or nearby ensuring that relevant academic R&D expertise is readily available to Technium clients. Swansea Metropolitan University's Faculty of Applied Design & Engineering has also worked with Technium clients.

### 3.7 Entering Technium

In order to enter Technium Digital, companies must meet the standard Technium entry criteria (see Appendix 1).

The maximum tenancy agreement is three years with three months written notice. Extensions are permitted but at a higher rental level. Rent is charged at £10.50 per sq ft plus a service charge of £5.00 per sq ft. If companies are not ready to take a full incubator unit, hot desk spaces are available at a charge of £200 per month.

In addition to becoming a Technium resident company, companies can alternatively take out Associate Membership. Technium associate membership is a virtual residency scheme which is designed for individuals and local, UK-based science and technology businesses looking to access the benefits of Technium without renting a unit.

### 3.8 Exiting Technium

The standard Technium lease is used, which is a three year arrangement. After three years the client may negotiate to stay in Technium Digital for longer, however they will incur higher rental fees. Generally Technium clients are encouraged to move on after the three year period.

Clients graduating from Technium Digital are encouraged to locate in grow on space at other Techniums with larger units, or locally available commercial premises. Graduates become Technium Associate members.

## 3.9 Targets and Outputs

As a recipient of European funding, Technium Digital was set a number of targets to achieve over the funding period (August 2002 – September 2005), the original targets are set out in the table below along with the level of achievement that was achieved by the end of the funding period.



**Table 3.2: Technium Digital Targets and Outputs** 

	Original Target (July 02)	Actual Achievement (September 05)
Activities		
Companies receiving advice in innovation and R&D	200	215
Collaborative projects between companies and research institutions	36	39
New Incubator	1	1
Floorspace in incubator and R&D facilities (m <sup>2</sup> )	3,500	3,500
Projects transferring environmental technologies to the business sector  Results	5	n/a
Increase in turnover in supported companies	£40,000,000	£5,000,000
Gross new companies in high tech sectors	25	12
Gross jobs safeguarded	200	46
Gross new jobs	150	130
Gross new jobs in high tech sectors	150	113

Source: WEFO Approval Letters (dated July 2002) and Final WEFO Claim Form and Progress Report (position at end of funding period 30 September 2005)

#### 3.9.1 Clients

Information received from the Technium manager regarding the number of clients supported at Technium Digital between July 2002 and April 2009 are reported below:

**Table 3.3: Technium Digital Clients** 

	Number
Total Number of Clients since Opening	12
Current Number of Incubator Clients	8_
Number of Desk Space Users	3
Number of Clients Exited Technium	1
Number of Successfully Graduated Clients <sup>7</sup>	0
Number of Failed Clients <sup>8</sup>	1
Total Number of Associate Members	3

Source: Technium Manager – situation as at 28<sup>th</sup> November 2008

<sup>7</sup> Clients that have moved on to larger premises, or have sold the business on

<sup>&</sup>lt;sup>8</sup> Clients that have closed down, moved into smaller premises, or have become dormant



## 4. Technium OpTIC

#### 4.1 Introduction

Technium OpTIC (Opto-electronics Technology and Incubation Centre) is based at St Asaph Business Park in North Wales. It supports businesses involved in the development of optical and electronic technologies. Companies in OpTIC work in a variety of areas, including optics, photonics and lasers, holography, vision systems and thin film coatings. Other areas include: opto-electronics, photovoltaic cells, optical polymers, fibre optics, optical metrology and other technologies requiring ultra precision and structured surfaces

OpTIC opened in 2004 and offers 7,700 sq m of floor space and is divided into three key centres:

- An Incubation Centre of 24 units (with each incubator unit being 52 sq m which can be extended to 100 sq m or 150 sq m). The incubator provides business support facilities for opto-electronic start-up companies. Support is available from specialist opto-electronic consultants as well as consultants specialising in more general business areas such as finance and law.
- A Technology Centre comprising 1,900 sq m of laboratory and clean room space for the development of innovative new products and processes within the opto-electronics sector. The Technology Centre is a co-operative project between existing research groups at Aberystwyth, Bangor and Glyndwr Universities and the opto-electronics cluster. The aim is to strengthen the existing research activities while forming new partnerships to carry out applications related research and in doing so, bridge the gap between industry and academia. The research programme at the Centre reflects the needs of the local cluster and new emergent commercial opportunities. A key role of the Centre is to generate new business ideas which can be taken forward as candidates for the Incubation Centre.
- A Business Centre providing a range of facilities for hire by organisations that wish to hold conferences, exhibitions, workshops, training and seminars. The Business Centre also provides dedicated support and advice to incubating companies on topics such as accessing finance, legal issues, business planning. The Business Centre also plays a key role in encouraging collaboration between Technium clients and opto-electronic businesses located in North West Wales.

In 2008 OpTIC won a Regio Star Award from the European Commission. The Awards highlight and celebrate innovative regional development projects which other European regions could learn from. OpTIC was regarded as a good example of an industry led cluster built on a pre-existing industrial strength in the region.

## 4.2 Rationale and Objectives

The concept of OpTIC was conceived by the Welsh Opto-Electronics Forum and was brought to fruition with the help of the Welsh Assembly Government. North Wales had an existing industrial strength in the opto-electronic sector. Since the 1950s, a high density of enterprises in this sector had developed in North Wales. They represent today around 30% of all such enterprises in the UK. Some of the prominent companies in the cluster include Sharp, Corus



Group, Phoenix, Leader Optics, Qioptiq, Tyco and Kent Periscopes. In North Wales the optoelectronics sector was estimated to have a total turnover of £194m<sup>9</sup> and employs 1,900 staff.

The Welsh Opto-Electronics Forum and the Welsh Assembly Government wished to build on this strength in order to attract and encourage additional start-up companies in and around this sector by offering networking, advice and top-class research facilities to help them to become more innovative. This ultimately aims at creating demand for skilled labour and at increasing the competitiveness and attractiveness of North Wales.

The aim of OpTIC as stated in the Objective 1 application form was "to establish an Optoelectronics Technology and Incubation Centre known as OpTIC as a powerful engine for growth in the Welsh economy. OpTIC will continuously generate new, high technology businesses and quality jobs and play a major role in sustaining and growing the existing Welsh Opto-electronics companies in North West Wales."

#### The objectives are:

- To embed a culture of innovation and entrepreneurship
- To create an infrastructure for innovation and technology support in a relatively remote environment
- To develop the long term R&D capacity in this sector in North West Wales
- To improve business competitiveness through improved links between industry and academia
- To strengthen the existing opto-electronics cluster
- To facilitate the commercial exploitation of academic and industrial research
- Maximise the usage of ICT for the dissemination of knowledge and to improve business competitiveness

The OpTIC business plan highlighted that most of the new business starts in the optoelectronics sector in North Wales have been generated through spin offs from industry rather than from academia. The plan highlights the opportunity to develop more spin-outs from academic research as well as from industry through improving collaboration between the local universities and industry.

The business plan sets out the main purpose of OpTIC incubator centre is to:

- Provide a new and more efficient environment for new business generation and business growth
- Strengthen the image and technical capability of the cluster
- Positively promote all that is best in Welsh opto-electronics
- Provide conferencing, library and training facilities.

It is hoped that these factors will help to attract inward investment from international optoelectronics companies

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<sup>&</sup>lt;sup>9</sup> OpTIC business plan April 2002



### 4.3 Ownership and Management

The management of Technium OpTIC has recently changed. For five years, until March 2009 OpTIC was managed by Optopreneurs Ltd, a not-for-profit organisation appointed by the Welsh Assembly Government following competitive tender. Optopreneurs was a public private partnership with an exit strategy for the public authorities. 50% of the stakeholders in Optropreneurs were enterprises that are members of Welsh Opto-Electronics Forum (WOF). They defined the concept of Optropreneurs and set it up jointly. Optropreneurs was run on a commercial basis with any surplus above operating costs being reinvested into OpTIC. The Welsh Assembly Government owns the OpTIC buildings and lets them at market prices to Optropreneurs.

WOF acted as an advisory panel to OpTIC, providing board members, commercial collaboration with WOF members and OpTIC regularly hosts WOF events. Additionally, part of the WOF administration is based in OpTIC.

In March 2009, a new company called OpTIC Glyndŵr took over the management of OpTIC. OpTIC Glyndŵr is a limited liability company wholly owned by a subsidiary of Glyndŵr Innovations, the enterprise arm of Glyndŵr University. OpTIC Glyndwr will continue to offer incubation, business support and technical facilities - but will also supplement these with research work, a technology spin-out service and educational courses.

The new management arrangement builds on the close relationship that had been evolving between Technium OpTIC and Glyndŵr University, which has had research scientists based at the Technium for some time. The closer linkage with the University will increase the role of higher education in the economy.

## 4.4 Funding

The total project costs for OpTIC were £22.7m. Capital costs accounted for £15m whilst revenue totalled £7.7m. OpTIC had the highest capital costs of all of the Techniums in Wales which reflects the amount of technical and specialist equipment that is available at OpTIC.



**Table 4.1: Technium OpTIC Capital Funding Sources** 

Source	Approved Amount (August 02)	Approved Amount (June 04)	Actual Funding Amount (June 03) <sup>10</sup>
Objective 1	£2,800,000	£2,627,720	£2,800,000
Welsh Assembly Government – Pathways			
2 Prosperity		£2,800,000	£2,800,000
Welsh Development Agency/Welsh Assembly			
Government	£4,200,000	£1,461,975	£1,481,518
Department of Trade and			
Industry		£199,800	
Total Funding	£7,000,000	£7,089,495	£7,081,518

Source: WEFO Approval Letters (dated August 2002 and June 2004) and Claim Form (position at 30 June 2003)

Table 4.2: Technium OpTIC Fit Out and Revenue Funding Sources

Source	Approved Amount (August 02)	Approved Amount (December 07)	Actual Funding Amount (August 08)
Objective 1	£3,539,628	£5,491,468	£5,082,253
Welsh Assembly			
Government – Pathways			
2 Prosperity		£3,380,973	£3,380,973
Welsh Development			
Agency/Welsh			
Assembly Government	£4,200,000	£1,461,975	
Private Sector		£4,370,994	£4,339,733
DLA	£90,000	£5,334	£5,334
Harrison Goddard Foote	£72,000	£26,200	£26,000
Thales	£122,000	£41,738	_
DTE	£90,000	£24,030	£24,030
Wales Opto-Electronics			
Forum	£26,000		
Finance Wales	£100,000		
Total Funding	£7,639,784	£15,567,839	£15,158,624

Source: WEFO Approval Letters (dated August 2002 and December 2007) and Final WEFO Claim Form and Progress Report (position at end of funding period 31 August 2008)

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<sup>&</sup>lt;sup>10</sup> The final audited claim form was requested from WEFO. They provided the claim form for the situation as at 30 June 2003 which stated the end of the project would be in December 2004. When queried WEFO confirmed that the June 2003 claim form was the final claim form, however this raises questions as to why a re-profiling letter was issued in June 2004.



### 4.5 Support and Facilities

OpTIC is home to a range of specialist facilities relevant to the sector. This includes:

- Centre for Holography including precision optic labs with laser operation capability.
- Centre for Laser Photonics designs and assembles customised stable Nd: pulsed lasers and printers for full-colour holography, and is developing technology to produce moving holographic portraits.
- Photonic Thin Films offers high reflectivity, anti-reflection and durable hard coatings for large optics up to 1.2m in diameter.
- Polymerisation Reaction Engineering supports emerging electro-optic applications with novel polymers, and Reactive Injection Moulding and Reactive Extrusion machines enable seamless transfer to industry.
- Ultra Precision and Structured Surfaces a unique facility for nano-scale precision generating, polishing, surface profilometry and interferonometry.
- Optical Systems to deliver instrumentation solutions by the integration of optical components, mechanical design, electronics and software to provide a complete customer package.
- Metrology a state-of-the-art facility, available to companies within OpTIC and also external organisations with the ability to measure surfaces with micron resolution using contact and non-contact technology.
- Solar Energy Research (CSER) in partnership with NEWI University of Wrexham, North Wales OpTIC has 10 scientists undertaking leading edge research and development work.

## 4.6 Linkages with Private Sector & Academia

OpTIC is located close to an existing cluster of businesses operating in the opto-electronics sector. Staff from OpTIC encourage collaboration between these businesses and Technium clients, and the location of research activities from Glyndwr University at the Technium has strengthened the relationship with academia.

OpTIC has developed a spirit of collaboration between industry, academia, the financial and legal professions and public sector. The partnership includes Phoenix, Qioptiq, Yorkshire Water, University of Wales Bangor, University of Cambridge, University of Cranfield, University College London and North East Wales Institute, Wrexham, in order to generate projects involving new technologies. OpTIC also works with blue chip companies such as Corning Incorporated and Selux, Bayer, Raython and Balfour Beatty, as well as other national and international groups to ensure results are globally significant and competitive.

In line with other Techniums in the network, clients of OpTIC can access support from the Professional Service Providers which provides access to about 30 business support providers in a range of different areas e.g. IP, legal, marketing. Businesses can access a minimum of two hours free advice before incurring charges. If further assistance is needed, finance for up to 50% of the consultancy cost can be accessed through the Welsh Assembly Government's Flexible Support for Business Programme.



### 4.7 Entering Technium

Companies wishing to enter Technium OpTIC are assessed against entry criteria. These include a condition that projected turnover during the third year of occupancy is in excess of £500,000. Companies are assessed against the criteria by a board of advisors and the Technium Manager.

Technium OpTIC offers clients 'easy in, easy out' licence arrangements. The licence is on a month by month basis either way – unless the client wants a longer notice period. The licensing approach gives OpTIC flexibility to move clients around to best suit their needs and the needs of other OpTIC clients. The Technium manager reported that through having a licence arrangement they are able to provide a range of services which are bundled into the licence which would not be possible with a lease. In addition the licence arrangement allows OpTIC to be actively involved in helping its clients grow, rather than just offering managed space.

OpTIC sets targets for each client to monitor their development and progress.

### 4.8 Exiting Technium

The OpTIC licence is arranged on a "rolling monthly" basis. However, a maximum duration of 3 years is imposed as it is believed that a company should be earning sufficient revenue to support itself after this period – or have leveraged investment to grow on.

After a period of less than 3 years OpTIC expects successful companies, supported by the OpTIC team, to move to purpose build accommodation on the surrounding Science Park.

## 4.9 Targets and Outputs

As a recipient of European funding, Technium OpTIC was set a number of targets to achieve over the funding period. The original targets are set out in the table below along with adjusted targets following reprofiling and the level of achievement that was achieved by the end of the funding period.



**Table 4.3: Technium OpTIC Targets and Outputs** 

	Original Target (August 02)	Reprofiled Target (July 03 & December 07 <sup>11</sup> )	Actual Achievement (June 03 & August 08 <sup>12</sup> )
Activities			
Companies receiving advice in			
innovation and R&D	30	30	32
Collaborative projects between			
companies and research institutions	20	20	29
New Incubator	1	1	1
Floorspace in incubator and R&D			
facilities (m <sup>2</sup> )	7,678	7,678	7,678
No. of companies receiving financial			
support for R&D	30	0	n/a
No hectares of direct land developed	2.02	2.02	2.02
No hectares of indirect land			
developed	3.64		
Results			
Increase in turnover in supported			
companies	£13,876,000	£13,876,000	£15,524,000
Gross new companies in high tech			
sectors	30	30	32
Gross jobs safeguarded	1,155	50	68
Gross new jobs	318		
Gross new jobs in high tech sectors	318	318	220
Number of new patents and			
trademarks	30	30	48
No of jobs accommodated directly	144	144	144
Number of gross new indirect jobs		318	616

Source: WEFO Approval Letters (dated August 2002, June 2004 and December 2007) and Final WEFO Claim Form and Progress Report (position as at 30 June 2003 & 31 August 2008)

#### 4.9.1 Clients

Information received from the Technium manager regarding the number of clients supported at Technium OpTIC between August 2002 and January 2009 are reported below:

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<sup>&</sup>lt;sup>11</sup> Reprofiling for the construction bid was carried out in July 2003, re-profiling for the fit out and revenue bid occurred in December 2007

<sup>&</sup>lt;sup>12</sup> The final claim for the construction bid was carried out in June 2003, and for the fit out and revenue bid in December 2008.



**Table 4.4: Technium OpTIC Clients** 

	Number
Total Number of Clients since opening	52
Current Number of Clients (Incubator Units)	
Current Number of Desk Space Users	
Number of Clients Exited Technium	22
Number of Successfully Graduated Clients <sup>13</sup>	15
Number of Failed Clients <sup>14</sup>	7
Total Number of Associate Members	

Source: Technium Manager – situation as at 2<sup>nd</sup> February 2009

The Technium Manager reported that since the Technium opened a total of 52 companies had been supported. Currently there are 25 companies operating at OpTIC. We do not have a breakdown detailing how many of these are full incubators or hot desks or who are associate members.

A total of 22 companies have left OpTIC. Of these

- 11 Moved on into grow-on space
- 4 Sold on/sold out;
- 3 Failed/closed down/in administration;
- 4 Become dormant;

The companies that have moved to grow on space or have sold on/out are deemed to be successful graduations.

OpTIC are aware of three 'failures' where the companies have closed down. These three all occurred in the early years of OpTIC's operation and controls have subsequently been introduced to flag up problems and allowing us to intervene earlier.

The recent downturn in the economic climate has had impact on available investment funding. Several investors have withdrawn support leaving clients exposed. OpTIC have been able to address this problem by encouraging "downsizing" – that is moving from a full incubation unit to a hot desk for example. OpTIC also have had three clients "mothball" their businesses. In this case staff have been paid off but IP has been retained – hopefully until such a point that this can be exploited.

<sup>&</sup>lt;sup>13</sup> Clients that have moved on to larger premises, or have sold the business on

<sup>&</sup>lt;sup>14</sup> Clients that have closed down or have become dormant



## 5. Technium Aberystwyth

#### 5.1 Introduction

Technium Aberystwyth is located in Aberystwyth Marina. The building opened in June 2004. Technium Aberystwyth is geared towards aiding pre-start and very early stage technology and knowledge based businesses. The Technium is focused towards companies operating in biological and environmental sciences, computer sciences and digital technology/new media.

Technium Aberystwyth is a 743 sq m (8,000 sq ft) facility which can accommodate up to 18 businesses in incubator units and has four hot desk spaces.

### 5.2 Rationale and Objectives

In June 2002 a report entitled 'Market Research & Development for Specialist Business Support and Innovation Centres' was produced for the Mid Wales Division of the WDA. The purpose of this document was to investigate the potential for specialist business support and innovation centres within rural west Wales.

The report mapped the 'knowledge topography' of Mid Wales and identified:

- There was no strong unified base of commercial activity within the region. In 1998 there were no businesses with more than 250 employees and only 50 businesses with between 50 and 250 employees. The lack of any large scale employers will reduce the incidence of corporate spin-out business start ups.
- There were five main knowledge centres in the region, namely: Aberystwyth University, Lampeter University, Institute of Grassland and Environmental Research (IGER)<sup>16</sup>, the Centre for Alternative Technology, and QinetiQ at Aberporth.
- There was no strong knowledge/technology based business start-up record for the area: only 6 spinout/start ups were recorded in the three years prior to the study.
- Aberystwyth University had increased its activity and emphasis on entrepreneurialism, however the report noted the need for the change in attitude to be embedded into the culture of the University so that commercialisation becomes the norm.
- The report highlighted the need for closer working relationships between HEIs and the business community.

Key growth sectors important to the rural environment of Mid Wales were identified by the WDA as sectors that might have the potential to compete globally and make a significant economic impact in the region. This included:

Agri-FoodRenewable Energy

<sup>&</sup>lt;sup>15</sup> Angle Technology (2002) Market Research & Development for Specialist Business Support and Innovation Centres. Report for the WDA Mid Wales Division

<sup>&</sup>lt;sup>16</sup> IGER has now merged with the Institutes of Rural Sciences and Biological Sciences at Aberystwyth University to form the Institute of Biological, Environmental and Rural Sciences (IBERS)



Biotechnology

Manufacturing

Forestry and Timber

Media and Software

The WDA in Mid Wales was committed to assisting companies in the region to grow and succeed through the application of innovative ideas and technologies. It was felt important to provide support to technology-based companies with high-growth potential in order to meet this aim.

On the basis of the infrastructure and key sectors, the WDA wished to establish a number of specialist business and innovation centres to support the development of knowledge based business. It was planned that the centres should be modelled on the Technium concept.

The report highlighted that rural areas do not always have all of the facilities and services that have been proved to be important in business creation and business incubation such as: a significant knowledge base, primarily technology-based, benefits from substantial research funding, and a concentration of undergraduates, graduates and post graduates. The report goes on to say:

"Mid Wales has no such major conurbations to fuel a high level of demand for knowledge or technology-based business start-up, nor has it a significant industrial base with commercial enterprises employing workforces of over 250. Indeed, the 1998 statistics show that there were only around 50 businesses with more than 50 employees. This coupled with its relative geographical isolation marks the Mid Wales Region as atypical compared to the majority of locations of business incubation initiatives in the UK. On the other hand, the area does attract a significant number of individuals into the region. The greatest numbers are students and tourists, some of whom develop a sufficient regard for the region to seek or at least to consider opportunities to continue their career and life goals in the area."

The report goes on to say that in the light of these challenges there must be realistic expectations of the potential achievements of the Technium and the time needed to achieve success. In order for Technium Aberystwyth to succeed:

- The need to encourage demand will be greater
- selection will require considerable care. If entry criteria were set too low which allowed lowgrowth or 'lifestyle' companies into the Technium, its record of success will suffer and eventually the Technium will become little more than just another property initiative;
- initiation rates of new businesses will need to be stimulated;
- the business development process will need to be intense, focused and targeted.

The model proposed in the report was of a central hub in Aberystwyth and a number of smaller satellite (spoke) centres that may specialise in some of the specific technology sectors identified above.

An application was made to the Welsh European Funding Office (WEFO) in March 2003. The stated aim of the project was to "provide a specialist business incubation facility or 'Technium', which will offer carefully targeted business support and mentoring to high growth rate, knowledge based businesses and pre-businesses on a time-limited basis." No explicit objectives for the Technium were stated.

The Technium project looked to encourage high growth start-up companies whilst also:



- Attracting high technology R&D investment opportunities
- Facilitating the commercialisation of ideas
- Creating and safeguarding high margin jobs
- Providing an environment suitable for growing high technology businesses
- Promoting research and innovation
- Providing access to leading edge IT and broadband technology

The Technium would support companies to produce innovative, high value added products and services for both internal and external markets. It was hoped that this would result in the creation and growth of high margin jobs, increased wealth and GDP and the initiation of an entrepreneurial culture and climate within rural west Wales.

### 5.3 Ownership and Management

Technium Aberystwyth is owned and managed by the Mid Wales Division of the Department to the Economy and Transport within Welsh Assembly Government.

Technium Aberystwyth is run as a single business unit within the Welsh Assembly Government and as such receives its block funding from the Technology and Innovation budget. Technium Aberystwyth has control over how to utilise their income, which is reinvested into the project on an annual basis.

The Technium Management Board (made up of SMEs and academic representatives) has the overall responsibility for the monitoring of the project. The Board are supported by an internal Welsh Assembly Government management group. The Technium Manager has day-to-day responsibility of monitoring client's performance.

The Technium Manager is supported by two other staff – a Technium Facilities Co-ordinator and a Receptionist/Administrator.

## 5.4 Funding

The Technium building was within the ownership of WDA Mid Wales prior to the project commencing. Objective 1 European funding was approved for the project in February 2004 which provided both capital support for the refit of the building into suitable office accommodation and revenue costs for the operation of the facility. The total cost of the project was £1.825m<sup>17</sup> and the project was complete in June 2008.

The majority of the costs (£1.15m) covered the revenue costs of the Technium project. As the Technium used an existing building only £669,000 was needed for capital works which included the fit out of the building into incubator units.

<sup>&</sup>lt;sup>17</sup> Final audited claim form



**Table 5.1: Technium Aberystwyth Funding Sources** 

Source	Amount Approved (February 04)	Amount Approved (February 08)	Actual Funding Amount (June 2008)
Objective 1	£882,054	£790,564	£790,564
Welsh Assembly Government Pathways to Prosperity	£375,534	£336,582	£336,582
Welsh Development Agency / Welsh Assembly Government	£377,416	£442,637	£580,414
Private Sector <sup>18</sup>	£61,267	£126,488	£117,479
Total Funding	£1,696,271	£1,696,271	£1,825,039

Source: WEFO Approval Letters (dated February 2004 and February 2008) and Final WEFO Claim Form and Progress Report (situation at end of funding period 30 June 2008)

Technium Aberystwyth is geared towards aiding pre-start and very early stage technology and knowledge based businesses, consequently, office accommodation at the facility is small scale. The Technium manager reported that with 743 sq m of lettable space, the Technium would never be able to cover its costs solely through rental income. From the inception of the project, the aim was to operate the facility on a semi commercial basis – i.e. to cover half of the costs which would be generated through the leasing of offices, meeting rooms and other services. Since Objective 1 funding has ceased income from rent and meeting room/event hire covers approximately 50% of the Technium's operating costs. The remainder is covered through the core budget of the Welsh Assembly Mid Wales Division. The Technium Manager oversees all income and expenditure.

## 5.5 Support and Facilities

Business support activities are provided by a dedicated Technium management team who are based on site. Both the Technium Manager and Technium Executive provide a relationship management function to both prospective and resident tenants, providing in-house prebusiness start advice and support and also ongoing business diagnostics and prescriptive, tailored support for clients. Technium Aberystwyth also had access to an in-house consultancy budget which could be used to help Technium clients' access specialist, tailored business support.

The Technium manager meets regularly with clients to monitor and support their progress against agreed key milestones. The review process also ensures that fundamental business practices (e.g. good financial management) are in place and that relevant issues relating to factors such as health and safety and employment law are being addressed. If business support services are needed the Technium manager will help the company access these from the most appropriate supplier.

In addition clients are able to access more general business support solutions provided by the Welsh Assembly Government including:

<sup>&</sup>lt;sup>18</sup> Private sector funding included rent income from Technium clients and in-kind contributions from private sector members of the Management Board (value of time costs).



- SMART Cymru support
- CASE industrial Fellowships
- CIRP academic industrial collaboration projects
- Assembly Investment Grant
- Company branding and website development
- Regional Specialist Support
- Sales and Marketing mentoring
- Business and financial planning
- E-Business support

Originally, laboratory space was provided in Technium Aberystwyth for potential bioscience businesses wishing to invest in the area, but due to a lack of demand, these labs were turned into office space which has now been fully occupied.

### 5.6 Linkages with Private Sector & Academia

The Technium Manager reported that there has not been as many spin outs from local universities as was first expected. Although several academic departments (such as the Computer Science department, Aber Bio Centre and IBERS) have developed partnerships, joint collaborations and research projects with Technium companies there could be more opportunities for collaborative work between the Technium and academia.

There are good linkages between Technium Aberystwyth and some key private sector organisations who have assisted companies with key functions (e.g. HR) and given them contract work where appropriate.

## 5.7 Entering Technium

As set out in section 5.2, the Angle Technology Report (2002) highlighted the need for careful selection of companies into the Technium to ensure that low growth or lifestyle businesses do not enter and detract from the aim of encouraging high growth, knowledge or technology based companies. This is a particular problem for Technium Aberystwyth as one of the main appeals of Aberystwyth is the lifestyle opportunities it has e.g. rural, slower pace of life, access to beaches and countryside and so on. As a result businesses growth can be constrained by the lifestyle requirements and decisions of the owner.

Technium Aberystwyth uses vetting documents (Appendix 2) to try and determine whether an applicant is a growth business or 'lifestyle' business. They adhere to the criteria as set out on the Technium website, but as a rule, and due to the type of facilities available, their target market is early stage business start or pre-start businesses. Technium Aberystwyth clients need to demonstrate through their business plan that they have high growth potential. The business plan is expected to show key developmental milestones, R&D activity and expectations to link to one of the local HEIs.

Pre-businesses who are at the 'proof of concept' stage of development are also eligible to be Technium clients in the hot desk area. Pre-businesses enter into flexible licence agreements with the Technium whilst they are developing their idea. Staff at Technium help the company with the proof of concept and to develop a business plan. Once a company starts trading they may transfer from a hot desk into one of the four 'personal suites' available at Technium Aberystwyth. These suites are smaller than a standard incubator unit and are subject to a licence agreement rather than a lease. Licences tend to be offered for a six month period.



The maximum tenancy agreement is three years. Rent is charged at £20.00 per sq ft. Desk space users pay £10 per day. This includes the use of a desk top computer.

### 5.8 Exiting Technium

The report by Angle Technology (2002) highlighted the need for an incubator to set down a clear policy that companies enter the incubator for a defined maximum period of time to ensure that the "incubator maintains its standards and ethos by ensuring that those within its facility are striving to grow and that there is the space for them to grow into". The report suggested an incubation period of 24 months. The maximum duration of leases is three years. After this time the Technium manager reviews the growth profile of the business to assess whether there is a business case for allowing the company to stay in the Technium. If the Manager feels that the business can continue to benefit from Technium support they may be offered an additional 6-month licence. For example, one company in Technium Aberystwyth took on two additional staff just before the end of their three year lease. The Technium Manager decided to allow them an additional six-month tenancy as to move premises at that point would have been disruptive to the business.

The Technium manager reported that he would only issue two six-month licences following the end of the three-year lease. Therefore the maximum length of time that a client may be in an incubator unit in the Technium is four years.

Technium graduates are encouraged to stay in Mid Wales at existing grow on space that is available at Aberystwyth Science Park and IBERS. In addition Technium Aberystwyth has worked with private sector landlords to develop high quality grow-on space for Technium clients.

## 5.9 Targets and Outputs

As Technium Aberystwyth received funding from WEFO it had a number of targets set at the time the application was approved. These targets were revised throughout the funding period (latest revision in February 2008). The table below sets out the targets set at the original approval and at the latest re-profiling exercise. The final outputs achieved as recorded on the final audited claim form at the end of the Objective 1 funding period (Feb 04 – June 08) are also recorded



Table 5.2: Technium Aberystwyth Targets and Outputs

	Original Target (February 2004)	Re-Profiled Target (February 2008)	Actual Achievement (June 2008)
Activities			· · · · · · · · · · · · · · · · · · ·
Companies receiving advice in			
innovation and R&D	57	75	57
Collaborative projects			
between companies and			
research institutions	8	12	7
New Incubator	1	1	1
Results			
Increase in turnover in			
supported companies	£3,300,000	£3,300,000	£738,000
Gross new companies in high			
tech sectors	11	11	7
Gross new jobs	34.5	34.5	31
Number of new patents and			
trademarks	4	4	3

Source: WEFO Approval Letters (dated February 2004 and February 2008) and Final WEFO Claim Form and Progress Report (situation at end of funding period 30 June 2008)

#### 5.9.1 Clients

Information received from the Technium manager regarding the number of clients supported at Technium Aberystwyth between February 2004 and November 2008 are reported below:

**Table 5.3: Technium Aberystwyth Clients** 

	Number
Total number of clients since opening	17
Current Number of Incubator Clients	8
Current Number of Desk Space Users	4
Number of clients exited Technium	5
Number of Successfully Graduated Clients <sup>19</sup>	2
Number of Failed Clients <sup>20</sup>	3
Total Number of Associate Members	0

Source: Technium Manager – situation as at 26<sup>th</sup> November 2008

<sup>19</sup> Clients that have moved on to larger premises, or have sold the business on

 $<sup>^{20}</sup>$  Clients that have closed down, moved into smaller premises, or have become dormant



## 6. Technium Digital@Sony

#### 6.1 Introduction

Technium Digital@Sony is located within Sony's UK Technology Centre in Pencoed, near Bridgend.

Technium Digital@Sony opened in 2005 and specialises in technology based incubation. Technium businesses tend to be working on very leading edge technology. Clients of Technium Digital@Sony tend to have a manufacturing element to their business and take advantage of the relationship with Sony. The Technium is a satellite to the Technium Digital at Swansea University though has a separate management body.

Technium Digital@Sony is a 610 sq m (6,595 sq ft) facility which is divided into eight incubator units.

#### 6.2 Rationale and Objectives

The evaluators have been unable to source any documentation or information with respect to the rationale or objectives of establishing a satellite to Technium Digital.

### 6.3 Ownership and Management

There is 11,148 sq m (120,000sq ft) of land at the Sony Pencoed site of which Sony uses 2 787 sq m (30,000 sq ft) for their operations and let out 5 574 sq m (60,000 sq ft).

The premises are owned by Sony UK Ltd and leased to the Welsh Assembly Government for a term of 10 years from 14<sup>th</sup> September 2004 at a rent of £73,700 p.a.

The Welsh Assembly then manages the Technium and contracts directly with Technium clients.

@Wales (the Welsh Assembly Government early stage incubator for digital media businesses) are funded by the Welsh Assembly Government to manage Digital@Sony.

## 6.4 Funding

The total cost for the Technium was £602,000. This funding was obtained from the Welsh Assembly Government and was to cover the capital costs of fitting out the building on the Sony site.

Table 5.4: Technium Digital@Sony Funding Sources

Source	Amount
Welsh Assembly Government	£602,000
Total Funding Received	£602,000

Source: Davies, S (April 2008) Proposal for Maximising the Impact of Technium. Appendix 4.



Technium Digital@Sony is a satellite operation of the Technium Digital at Swansea University. As such the revenue costs of running Digital@Sony formed part of the Technium Digital project. No revenue budget has ever been allocated to Technium Digital@Sony.

### 6.5 Support and Facilities

Technium Digital@Sony has no specialist equipment itself. Sony offers skills/expertise and facilities in product design, manufacturing, testing, purchasing, distribution. Technium businesses can contract separately with Sony to utilise this expertise and experience.

In terms of business support, Technium clients have access to the Technium Manager, Welsh Assembly Government Information Technology Councillors and the Technium Professional Service Providers.

The Technium manager meets quarterly with businesses and undertakes a business review. Client's business plans are reviewed along with their current activities to ensure that key milestones will be met. The Technium Manager makes sure that he is aware of any potential problems so that they can help to rectify the situation. The purpose of the review is to pick up the bad news as well as the good news.

As the Technium Manager is from @Wales, Digital@Sony clients can also access the expertise from @Wales, this includes assistance with IT Strategies, help on networks, strategic marketing advice and strategic finance.

## 6.6 Linkages with Private Sector & Academia

Technium Digital@Sony is a satellite to Technium Digital located at Swansea University. Technium businesses can access support from the University if required.

Technium clients can access expertise and facilities available at Sony's Technology centre as described above.

## 6.7 Entering Technium

In order to enter Technium Digital@Sony, companies must meet the standard Technium entry criteria (see Appendix 1).

Rent is charged at £10.00 per sq ft plus a service charge of £3.50 per sq ft.

In addition to becoming a Technium resident company, companies can alternatively take out Associate Membership. Technium associate membership is a virtual residency scheme which is designed for individuals and local, UK-based science and technology businesses looking to access the benefits of Technium without renting a unit.

## 6.8 Exiting Technium

The maximum tenancy agreement is three years, however, as there are empty units available if a tenant wishes to stay longer than three years this is acceptable. There is grow-on space available at the Sony site. Sony operates a 'New Business Centre' at its Pencoed site where new technology companies can rent office space for £13.00 per sq ft. Companies based at



the New Business Centre can contract with Sony to use specialist facilities if required in the same manner as Technium clients.

### 6.9 Targets and Outputs

As Technium Digital@Sony did not received European funding, specific targets were not set for the Technium. The Technium Programme Manager reported that Digital@Sony outputs are recorded on a regional basis and form part of the overall South East Wales Region outputs.

#### 6.9.1 Clients

The outputs achieved at Technium Digital@Sony between 2003 and November 2008 are:

Table 5.5: Digital@Sony Clients

	Number
Total Number of Clients Since Opening	5
Current Number of Incubator Clients	3
Number of Desk Space Users	0 (not available at Digital@Sony)
Total Number of Clients Exited Technium	2
Number of Successfully Graduated Clients <sup>21</sup>	2
Number of Failed Clients <sup>22</sup>	0
Total Number of Associate Members	1 (former resident)

Source: Technium Manager – situation as at 11th December 2008

Two companies have graduated from Technium Digital@Sony. One company moved into space at Sony's New Business Centre after two years in the Technium whilst the other relocated to Cardiff after one year.

<sup>&</sup>lt;sup>21</sup> Clients that have moved on to larger premises, or have sold the business on

<sup>&</sup>lt;sup>22</sup> Clients that have closed down, moved into smaller premises, or have become dormant



## 7. Technium Sustainable Technologies

#### 7.1 Introduction

Technium Sustainable Technologies is located in the Baglan Energy Park in Neath Port Talbot.

The Technium opened in October 2005 with a focus on supporting businesses using technologies and processes that contribute to low-carbon activities.

The Technium Sustainable Technologies is a 3,397 sq m (36,565 sq ft) facility with 32 professional office units and six hot desk spaces.

### 7.2 Rationale and Objectives

The application form for Objective 1 money made by Neath Port Talbot County Borough Council does not have a clear statement of aims and objectives for the project.

The application states that "the original Technium 1 project was constructed with funding from the Objective 2 programme and is now fully operational and fully occupied. Technium 1 was envisaged as the first phase of a clearly defined strategy to develop a network of Techniums and demonstrated a need for further sector specific Techniums in the region. The Sustainable Technologies Technium will help satisfy the identified demand and will be directly linked to Technium 1 and the "hub" of the network."

The application presents the following evidence of demand for the project:

- The success of Technium 1 and the development of the Technium network has demonstrated the demand for the accommodation, facilities and support which will be offered in the Sustainable Technologies Technium
- The private sector is investing significantly in the project, demonstrating confidence in its future success
- Swansea University has undertaken broad level enquiries with appropriate companies who
  have stated their support of the initiative and their intention to invest in the project,
  providing tangible evidence of the need for the project. The University has also identified
  Centres of Excellence which will link with the project.
- Each of the project partners recognises the potential of the project to strengthen the regional economy and create employment opportunities, increased competitiveness and turnover growth.
- The WDA has decided to brand Technium and proactively market the vision and concept internationally. There is a constant exchange with visitors from Europe, US and the Far East. The creation of the Sustainable Technologies Technium is absolutely crucial in further developing this embryonic knowledge driven cluster in the region.

Swansea University identified that the sustainable technologies sector had considerable future growth potential for innovation and R&D activities which would also bring long term environmental benefits.



In addition Neath Port Talbot had a small cluster of energy and environmental businesses. A scoping study for the Sustainable Technologies Technium was commissioned by the Welsh Development Agency (WDA) in 2004. The study found that a Technium on the theme of sustainable technologies should focus on the key areas of Energy, Materials and Geoenvironmental Technologies. These sectors were identified through interviews with academics, the public sector and industrial agents as areas of common interest and expertise within Wales.

The study highlighted that cross-links could exist between the activities at Technium Sustainable Technologies and those at ECM<sup>2</sup> and the Bio-Composites Centre at Bangor.

### 7.3 Ownership and Management

Neath Port Talbot County Borough Council was the lead partner behind establishing a Technium in the County. Other partners included BP, GE Energy, WDA/WAG and Swansea University.

The Technium building is in the Baglan Energy Park, this is land formally owned by BP. Following the withdrawal of BP's activities on the site in 2004, BP carried out land remediation works to allow the site to be redeveloped for economic development uses. The land for the Technium and Solar Centre were gifted to the Local Authority.

The Technium Sustainable Technologies building is owned by Neath Port Talbot County Borough Council. The head lease for the building is held by the Welsh Assembly Government. The Welsh Assembly Government then contracts directly with Technium clients.

The Welsh Assembly Government contracted Swansea University to undertake the management of the Technium on their behalf. It was planned that the WDA would undertake the management of the Technium; however Technium Sustainable Technologies was completed at the time of the absorption of the WDA into the Welsh Assembly Government. At this time the Welsh Assembly Government were unable to take on new contracts for employees which led to the arrangement with Swansea University. Swansea University provided in-kind match funding through providing individuals to provide business support and management of the building.

Following the end of the Objective 1 funding period (November 2008), Swansea University were unable to continue providing the management post, therefore the building is now managed by the Welsh Assembly Government. An interim manager is currently managing the building. If a convergence funding bid is successful the Welsh Assembly Government are looking to recruit a new Technium manager and administrative support (two posts).

## 7.4 Funding

Funding for the Technium was provided by Neath Port Talbot Council through the Local Development Fund, WDA/WAG, BP, Swansea University and the EU Objective 1 fund.

The total cost for the Technium for the period October 2005 – November 2008 was £8,622,524. This includes both capital and revenue costs. The capital costs of the Technium totalled £6.6m. The table below sets out the different sources and types of funding:



Table 7.1: Technium Sustainable Technologies Funding Sources

Source	Approved Amount (December 03)	Approved Amount (February 08)	Actual Funding Amount (November 08)
Objective 1	£2,211,952	£2,203,811	£2,193,226
Welsh Assembly Government – Local			_
Regeneration Fund	£2,696,020	£3,969,536	£3,966,266
Welsh Development Agency/Welsh			
Assembly Government (DEIN)	£1,294,733	£1,078,365	£1,210,528
Local Authority	£1,466,416	£194,133	£179,319
Swansea University	£588,959	£781,437	£665,576
British Petroleum	£431,837	£431,837	£407,608
Total Funding	£8,689,917	£8,659,119	£8,622,523

Source: WEFO Approval Letters (dated December 2003 and February 2008) and Final WEFO Claim Form and Progress Report (situation at end of funding period 30 November 2008)

### 7.5 Support and Facilities

There is no specific specialist equipment in Technium Sustainable Technologies, although Technium companies can use equipment in any Technium in the network or at any University that is signed up to the programme.

Technium Clients can access business and technical support through the Technium manager who can signpost them to the most appropriate service provider. In addition Clients can access support from the Professional Service Providers which specialise in services such as Finance; Management, Admin, Marketing & IT; Product and Process Development and Legal Issues and HR. These providers offer Technium Clients a minimum of two hours free advice. If the Client needs support over and above the free advice offered, the Welsh Assembly Government can cover up to half the cost through the Flexible Support for Business programme.

## 7.6 Linkages with Private Sector & Academia

The previous Technium Manager was employed by Swansea University and as a result there were good links between Technium Sustainable Technologies and Swansea University. The Technium Manager helped Technium Clients to get involved in research projects/networks such as the Wales Institute of Sustainable Education Project (WISE) and Welsh Energy Resource Centre.

The Technium Manager sat within the Institute of Innovation within Swansea University which helped relationships between the University and Technium companies. Companies have also worked with the Engineering; Medical and Environment and Society departments.

## 7.7 Entering Technium

In order to enter Technium Sustainable Technologies, companies must meet the standard Technium entry criteria (see Appendix 1). The process that companies go through is designed to ensure that the 'right' companies are selected as Technium companies. The process is set out below:



- Company visits the Technium and discusses their requirements with the Technium Manager to establish whether Technium can meet their needs. The Technium Manager gives them all of the information that they need
- Company registers their interest in becoming a Technium client by submitting a form.
   This requires them to set out why they want to come to Technium. This stage is a filtration method to separate out those with good ideas from those with a strong business.
- If the company is seen to be a 'Technium Business' they are then required to submit an
   Application Form and detailed business plan in which they have to justify: why they are
   a Technium company; how do they meet the criteria; why do they need support and so on.
- A Selection Panel made up of representatives from Sustainable Technologies, Performance Engineering, Digital and Swansea Techniums along with other key individuals from the Welsh Assembly Government and other stakeholders meets to assess the application form and business plan. There has to be a minimum of three Panel members present for the meeting to go ahead. The Panel ensure that the applicant has met the eligibility criteria and are credible. The panel uses their experience to identify whether the company is credible and high growth or just good at filling in forms.
- If the Selection Panel approves the company for entry to the Technium the company has to undergo Financial Due Diligence which is undertaken by the Welsh Assembly Government.
- If successful the company is then able to sign the lease

Leases in Technium Sustainable Technologies can be for between three and five years. Rent is charged at £9.50 per sq ft per annum plus a service charge of £5.00 per sq ft. Hot desks are available at £200 per month.

In addition to becoming a Technium resident company, companies can alternatively take out Associate Membership. Technium associate membership is a virtual residency scheme which is designed for individuals and local, UK-based science and technology businesses looking to access the benefits of Technium without renting a unit.

## 7.8 Exiting Technium

As yet there have not been any companies graduating from Technium Sustainable Technologies. Baglan Energy Park (where the Technium is located) has land available for development. The application form highlighted that it was hoped that graduating companies would chose to locate at the Energy Park to help to develop a cluster of activity in the sustainable technologies field. Alternatively the Technium manager reported that there is a lot of grow on space in Swansea at the SA1 development so when companies are ready to graduate they would signpost companies there.

Companies are expected to move on from the Technium after five years

## 7.9 Targets and Outputs

Targets for the Technium Sustainable Technologies are set out below. These were for the time period October 2005 – November 2008



Table 7.2: Technium Sustainable Technologies Targets and Outputs

	Original	Reprofiled	Actual
	Target	Target	<b>Achievement</b>
	(December 03)	(February 08)	(November 08)
Activities			
Companies receiving advice in			
innovation and R&D	200	126	137
Collaborative projects between			
companies and research institutions	35	8	10
New Incubator	1	1	1
Floorspace in incubator and R&D			
facilities (m <sup>2</sup> )	3,400	3,400	3,400
Results			
Increase in turnover in supported			
companies	£40,000,000	£9,860,000	£4,556,000
Gross new companies in high tech			
sectors	25	14	5
Gross jobs safeguarded	200	0	72.5
Gross new jobs in high tech sectors	150	120	72
Gross new jobs	150	20	16.5

Source: WEFO Approval Letters (dated December 2003 and February 2008) and Final WEFO Claim Form and Progress Report (situation at end of funding period 30 November 2008)

#### 7.9.1 Clients

Information received from the Technium manager regarding the number of clients supported at Technium Sustainable Technologies between October 2005 and November 2008 are reported below:

**Table 7.3: Technium Sustainable Technologies Clients** 

	Number
Total Number of Clients since opening	5
Current Number of Incubator Clients	4
Current Number of Desk Space Users	0
Number of Clients Exited Technium	1
Number of Successfully Graduated Clients <sup>23</sup>	0
Number of Failed Clients <sup>24</sup>	1
Total Number of Associate Members	4

Source: Technium Manager – situation as at 18<sup>th</sup> November 2008

<sup>23</sup> Clients that have moved on to larger premises, or have sold the business on

<sup>&</sup>lt;sup>24</sup> Clients that have closed down, moved into smaller premises, or have become dormant



#### 8. Technium CAST

#### 8.1 Introduction

Technium CAST (Centre for Advanced Software Technology) opened in 2005 and is based in Bangor in North Wales. The Technium specialises in helping businesses exploit the commercial potential of visualization and communication technologies.

The Technium is a 6,500 sq m (69,965 sq ft) facility that offers business incubation for up to 16 businesses. In addition, Technium CAST offers a Software Hotel for businesses requiring access to facilities in CAST for a short duration. The aim of the 744 sq m (8,000 sq ft) space (which is configured into 8 units), is to encourage businesses to interact with the CAST technical team, network with tenants and work on collaborative projects.

### 8.2 Rationale and Objectives

The aim of the CAST project was to "establish a Centre for Advanced Software Technology and Incubation Facility at Parc Menai, Bangor, Gwynnedd, which will optimise the benefits to the North West Wales economy of the niche international computing specialisms of the University of Wales, Bangor. CAST's dynamic high tech culture will support and encourage North West Wales SMEs to produce innovative, high value added products for international markets, thus resulting in the creation and growth of high quality jobs and wealth in the region."

The Objectives of the project were to:

- To embed a culture of ICT innovation and entrepreneurship
- To improve international business competitiveness of the region through strong links between industry and academia
- To encourage more individuals to up/re-skill and seek employment opportunities within the region
- To develop and strengthen the existing software cluster in North West Wales, and facilitate new job creation
- Develop the long term R&D capacity of the software sector in North West Wales
- Create an infrastructure for innovation and technology support in the region, incorporating rural areas
- Maximise the usage of ICTs for the dissemination of knowledge and to improve business competitiveness

## 8.3 Ownership and Management

The CAST project was put forward by the WDA (North Wales Division) in partnership with Bangor University. The building is owned by the Welsh Assembly Government and is managed by CAST Ltd, a not for profit company limited by guarantee which is a wholly owned subsidiary of Bangor University. CAST Ltd are responsible for business incubation, ICT collaborative projects such as visualization, compliance testing laboratory as well as meetings rooms and events.

Between 2005 and December 2007 SERCO were contracted to manage the Technium building (a facilities management role) however SERCO withdrew from the project in 2007 for



financial reasons. Since 2007 Operon have been responsible for the facilities management of Technium CAST.

Until December 2007 the head lease for Technium CAST was held by CAST Ltd with Technium clients entering into contractual agreements with CAST Ltd. Since December 2007 the head lease has been held by Bangor University.

## 8.4 Funding

Objective 1 European funding was approved for the project in May 2004 which provided both capital and revenue funding for the facility. The total cost of the project was £17.8m and the project was complete in August 2008. The funding sources are set out below

**Table 8.1: Technium CAST Funding Sources** 

Source	Amount	Amount	Actual Amount
	Approved	Approved (July	(August 08)
	(February 03)	07)	
Objective 1	£1,952,521	£8,477,315	£8,477,315
Welsh Assembly Government			
Pathways to Prosperity	£5,742,697	£1,552,121	£1,552,121
Welsh Development Agency /			
Welsh Assembly Government	£4,083,069	£5,727,624	£5,627,708
Private Sector	£550,039	£1,717,259	£2,100,464
Welsh Assembly Government			
Grant	£293,835	£50,000	£50,000
SME Contribution	£2,849,062		
Total Funding	£15,471,223	£17,524,319	£17,807,608

Source: WEFO Approval Letters (dated February 2003 and July 2007) and Final WEFO Claim Form and Progress Report (situation as at the end of the funding period 31 August 2008)

## 8.5 Support and Facilities

The incubation facility provides indigenous software companies with leading edge equipment and technology as well as specific business support services. A team of specialist advisers are available to support the growth and development of knowledge based businesses. Business advisers assist clients in identifying suitable programmes offered through the Welsh Assembly Government. In addition, all Technium CAST companies have access to the Technium Professional Service Providers who provide Technium clients with a minimum of two hours of free advice. Providers are available in areas such as product development, finance, HR and legal issues.

CAST clients have access to a range of specialist facilities and equipment. The Technium building is equipped with

- two 230 sq m air conditioned machine rooms for the location of high-performance computing equipment and communication systems,
- a visualisation suite with a 4k Stereoscopic PowerWall which allows both 3D animation and real-time content and develop applications for companies in a number of target sectors



- a Compliance Testing Laboratory (CTL) which is the only laboratory in the world to receive full Gambling Commission approval to undertake legal compliance testing of gaming machines, software and casino equipment.
- High performance computing equipment

Companies have access to high-tech IT and telecoms infrastructure such as Cat 5 structured cabling throughout, wireless internet throughout the building and high bandwidth broadband.

Technium CAST also offers a wide range of expertise to businesses by assisting them in handling growth, process improvement and turnaround for those experiencing difficulty. CAST can assist clients with Management Information Systems, Customer Relationship Systems, Business Processes software, Project Management systems and Software Development

Bangor University operates R&D facilities within CAST. The R&D facilities offer SMEs support, consultancy services and research projects in programming, distributed computing and grid technologies. By having university operations on site SMEs have easy access to academic expertise. The facility actively encourages graduates and post-graduates involvement in commercial R&D projects and encourages them to seek employment in the region.

CAST also features a 'Software Hotel'. This provides temporary workspace, equipment and resources to both SMEs and potential inward investors who are working with the University on short term product growth and development projects.

In addition to this technical specialist equipment, CAST is also equipped with conferencing facilities to allow meetings or conferences for between 8 and 240 delegates.

## 8.6 Linkages with Private Sector & Academia

CAST is linked to Bangor University and its School of Computer Science.

IBM provided more than £630,000 worth of specialist High Performance Computing equipment based on state-of-the-art IBM IntelliStation graphical workstations, IBM Deep Computing Visualisation (DCV) software, a high performance compute cluster, and associated storage.

## 8.7 Entering Technium

Technium CAST has slightly different criteria to most of the other Technium's that use the standard criteria which are advertised on the Technium website. The application criteria can be found in Appendix 3. The application process used by Technium CAST is set out below:

- 1. The applicant undergoes a **telephone screening** to ensure that they are the correct profile and that the company is complementary with CAST profile/objectives
- 2. Members of Technium CAST management interview the Director/Directors to ensure Competencies and overview of company/ project
- 3. If the company gets through the screening process they are invited to submit an Application Form and Business



- 4. A panel from Technium **checks the company plans** for growth prospects, job creation and whether the company has sufficient funding in place
- 5. Bank reference taken on monthly rental sum
- 6. Companies House Search undertaken

The acceptability of a potential candidate is based on the following:

- Whether the concept has been thought through
- Will the business meet Technium CAST's performance criteria
- Is sufficient funding in place
- Will the business benefit from being in CAST.

Leases are available in CAST units for between 1 and 3 years. Short term arrangements can be made in the 'Software Hotel'. Rent is charged at £20.00 per sq ft inclusive of service charge.

### 8.8 Exiting Technium

Clients at Technium CAST are required to move on from the Technium after three years. Graduating companies are signposted to grow on space at Parc Menai in Bangor

### 8.9 Targets and Outputs

As Technium CAST received funding from WEFO it had a number of targets set at the time the application was approved. These targets were revised throughout the funding period (latest revision in July 07). The table below sets out the targets set at the original approval and at the latest re-profiling exercise. The final outputs achieved as recorded on the final audited claim form at the end of the Objective 1 funding period (Feb 03 – August 08) are also recorded

**Table 8.2: Technium CAST Targets and Outputs** 

	Original Target (February 03)	Re-profiled Target (July 07)	Actual Achievement (Aug 2008)
Activities			
Companies receiving advice in innovation and R&D	144	144	149
Collaborative projects between companies and research institutions	32	32	32
Floorspace in incubator and R&D facilities (m²)	6,726	6,726	6,726
Results			
Gross new companies in high tech sectors	15	15	18
Gross jobs safeguarded	50	50	70
Gross new jobs in high tech sectors	528	264	256

Source: WEFO Approval Letters (dated February 2003 and July 2007) and Final WEFO Claim Form and Progress Report (situation as at the end of the funding period 31 August 2008)



#### 8.9.1 Clients

Information received from the Technium manager regarding the number of clients supported at Technium CAST between May 2004 and January 2009 are reported below:

**Table 8.3: Technium CAST Clients** 

	Number
Total number of clients since opening	34
Current Number of Incubator Clients	14
Number of Desk Space Users	4
Number of clients exited Technium	16
Number of Successfully Graduated Clients <sup>25</sup>	10
Number of Failed Clients <sup>26</sup>	6
Total Number of Associate Members	2

Source: Technium Manager – situation as at 16<sup>th</sup> January 2009

 $<sup>^{\</sup>rm 25}$  Clients that have moved on to larger premises, or have sold the business on

 $<sup>^{\</sup>rm 26}$  Clients that have closed down, moved into smaller premises, or have become dormant



## 9. Technium Performance Engineering

#### 9.1 Introduction

Technium Performance Engineering is located at Llanelli Gate in Carmarthenshire. The Technium opened in January 2007 with a primary focus on performance engineering technologies in the automotive, motorsport, aerospace and marine industry.

Technium Performance Engineering is a 2,200 sq m (23,681 sq ft) facility which can accommodate up to thirteen businesses. The Technium is designed to house young innovative businesses with growth potential or spin outs from larger organisations and as such the units available are relatively small (22 sq m - 127 sq m). In addition to the incubator units the Technium has four hot desk spaces.

### 9.2 Rationale and Objectives

The original sectoral focus for this Technium was the automotive sector. This sector was chosen due to the importance of the sector in Wales. Automotive employs 25,000 people in 200 companies with an estimated turnover of £2bn. The purpose of the Technium was to assist in securing that level of economic activity and hopefully facilitate expansion. In the Llanelli area there is a cluster of automotive activity with several large companies in the area e.g. Schaefler, Calsonic Kansei as well as a number of smaller companies in the supply chain. In addition the British Automobile Racing Club Pembrey Circuit is near the site. Although the Technium was to be primarily focused on the automotive sector, the generic skills set at the Technium would be able to support related sectors including motorsport.

A feasibility study was carried out to assess the demand and sustainability for a Centre of Excellence in Performance Engineering at the Pembrey Motor Racing Circuit near Llanelli. The Centre was to feature: a Technology Centre; advanced engineering and R&D Facilities; extension of facilities necessary to enable the expansion of motorsport activity at Pembrey and Training and Education Provision. The study concluded:

- There was a potential development capacity of 41,805 sq m (including a 2,787 sq m technical centre) which could be developed in four phases
- 12 companies expressed an interest in relocating to Pembrey
- The 12 companies indicated an initial space requirement of 11,916 sq m which would expand to 17,047 sq m.

However, after the study was completed it became evident that site constraints at Pembrey made it difficult for major industrial development and consequently the proposals were amended for all major investment to be located at Llanelli Gate with a satellite operation at Pembrey. The provision of expanded facilities for motorsport activity was not covered by the Objective 1 application.

Objective 1 funding was sought to construct a technology centre, resource advanced R&D facilities and provide some training and education resources. Further development of educational resources will be considered in subsequent phases of development. The aim of the project was to "establish and deliver a Centre of Excellence for Performance Engineering at Dafen, Llanelli as an integral part of the Technium concept."



It was felt that a Technium was needed in Carmarthenshire as the economic performance of the county is constrained by a number of factors including: a lower than average income, nearly half of the county's VAT registered enterprises are in agriculture, a lack of larger employers (95% of the county's employment units employ less than 25 people) and low levels of GDP per capita. In addition, Carmarthenshire has one of the lowest rates of new business formation in the UK and the county is affected by out-migration of young people.

The application form presented the key findings of a report commissioned by the then WDA into the employment land and premises in Wales which highlighted:

- Major weaknesses in the provision of 'quality' sites and buildings to meet the requirements of the new service (especially ICT) and financial services industries and high tech manufacturing.
- A relatively weak supply of buildings to respond to the new and traditional economy requirements and to stimulate demand, especially in the disadvantaged parts of Wales

The application stated: "AutoTechnium is part of a live and ongoing strategy for the roll out of the Technium philosophy. As such, there is additional ample and tangible evidence underlying the need for this project." It was felt that the AutoTechnium project addressed the recommendations of the WDA's employment land study (above).

The application also draws on the experiences of Technium 1 to justify the demand for AutoTechnium. It states: "Technium 1, based in Swansea, is fully let. The Phase 2 development is likely to have a high uptake of the incubator facilities. There is good demand for companies wishing to relocate into the vacated Technium 1 units. AutoTechnium will provide a much needed high quality business innovation centre in Carmarthenshire. The experiences from the Swansea development support the demand for this facility".

The Technium Manager reported that he felt that the automotive sector focus was too narrow which could restrict the success of the Technium. He therefore suggested that the sectoral focus of the Technium be changed to Performance Engineering which covered a broader range of sectors and therefore provided a more sustainable model for the Technium.

## 9.3 Ownership and Management

The Technium was led through a partnership between the Welsh Development Agency and Swansea University. A number of other partners supported the initiative, this included:

- Carmarthenshire County Council
- Swansea Metropolitan University
- British Automobile Racing Club
- Wales Automotive Forum
- ATS Cymru Wales
- Wales Tourist Board

- Ford Motor Sport Europe
- Calsonic Kansei Europe
- Aerospace Wales Forum
- Coleg Sir Gar
- IBM

ATS Cymru, the Wales Tourist Board, Ford Motor Sport Europe and Calsonic Kansei are no longer formal partners of Technium Performance Engineering. Following the absorption of the Welsh Development Agency into the Welsh Assembly Government the Technium building is now owned and managed by the Welsh Assembly Government.



The Technium is managed by a Technium Manager. Facilities management support is provided by Operon.

### 9.4 Funding

Funding for the Technium was provided by the Welsh Assembly Government, Swansea University, IBM and the EU Objective 1 Programme.

The total cost (capital and revenue) for the Technium was £8.5m. Total capital costs for the construction of the building were £5.6m. The table below sets out the sources of funding

Table 9.1: Technium Performance Engineering Funding Sources

Source	Amount	Amount	Actual Funding
	Approved	Approved	Amount
	(October 03)	(November 08)	(December 08)
Objective 1	£4,106,641	£4,598,350	£4,591,035
Welsh Assembly Government -			
Pathways 2 Prosperity	£2,519,691	£3,173,720	£2,861,689
Welsh Development Agency/			
Welsh Assembly Government	£345,615	£150,000	£483,521
Local Authority	£500,000		
Swansea University	£1,110,854	£481,000	£556,639
Private Sector	£553,841		
Total	£9,136,642	£8,403,070	£8,492,884

Source: WEFO Approval Letters (dated October 2003 and November 2008) and Final WEFO Claim Form and Progress Report (position at the end of the funding period 31 December 2008)

Following the end of Objective 1 funding the running costs of Technium Performance Engineering have been covered through the core budget of the Welsh Assembly Government. A submission has been made to the Convergence Fund to cover some of the revenue costs of the Technium Performance Engineering going forward.

## 9.5 Support and Facilities

Clients of Technium Performance Engineering are able to access business support services which are directly tailored to the needs of their business. The Technium Professional Service Providers provides access to about 30 private sector business support providers in a range of different areas e.g. IP, legal, marketing. Businesses can get a minimum of two hours of consultancy advice free before incurring charges. If further support is required companies can access support from the Welsh Assembly Government to subsidise the costs of consultancy.

Technium Performance Engineering is able to offer Technium client's access to Project Lifecycle Management (PLM) Software, specifically IBM's CATIA software. The Technium has eight commercial licenses of this.

Recently six workshops have been built which can be rented by Technium companies. The main Technium building only provides office space which is not always suitable for companies in the Performance Engineering sector who may want to make prototypes or carry out other activities not suited to an office environment. The workshops were completed in early November 2008, and were available to rent from January 2009.



### 9.6 Linkages with Private Sector & Academia

Companies can also benefit from technical support from departments in Swansea University (Engineering and Innovation schools) and Coleg Sir Gar (Engineering and digital design) and Swansea Metropolitan University (Engineering and Design).

Private companies such as IBM and Calsonic Kansei support Technium companies. IBM provides software to support product lifecycle management and Calsonic Kansei have facilities that they allow Technium companies to use for a nominal charge e.g. a wind tunnel can be used to test vehicle aerodynamics, and also a noise chamber.

There are good links between Technium Performance Engineering and BARC Pembrey. Both organisations promote each other's facilities. The availability of track testing facilities nearby adds value to the Technium Performance Engineering offering. There are no plans for an innovation centre to be developed at Pembrey.

## 9.7 Entering Technium

In order to enter Technium Performance Engineering, companies must meet the standard Technium entry criteria (see Appendix 1). Although there is a focus on Performance Engineering if a company was identified which met all of the criteria but was not in this sector they would still be allowed to enter the Technium. Clients need to demonstrate through their business plan that they have the basis of a knowledge enterprise capable of growth

Rent in the main Technium building is charged at £14.50 per sq ft (which includes a service charge); rent in the workshops is £6.00 per sq ft.

Technium Performance Engineering has four hot desk spaces which are available for £200 per month.

## 9.8 Exiting Technium

The maximum tenancy agreement is three years, at the end of this period a review is carried out and if the company is continuing to perform well and there is an argument for it to stay in Technium the lease can be extended for up to another two years.

Technium Performance Engineering is located on an 18 hectare site. Companies graduating from Technium Performance Engineering are encouraged to establish manufacturing/design facilities on this site.

One client in the Technium is currently proposing building a manufacturing unit on land adjacent to the Technium. It is the intention that their manufacturing staff will be located there whilst the designers stay in Technium. The factory should be operational during 2010.

## 9.9 Targets and Outputs

Targets for the Technium Performance Engineering are set out below. These were for the time period May 2005 – December 2008



Table 9.2: Technium Performance Engineering Targets and Outputs

	Target	Reprofiled	Actual
	(October 03)	Target	<b>Achievement</b>
		(December 08)	(December 08)
Activities			
Companies receiving advice in			
innovation and R&D	30	15	24
Collaborative projects between			
companies and research institutions	6	5	7
New Incubator	1	1	1
Floorspace in incubator and R&D			
facilities (m <sup>2</sup> )	2,200	2,200	2,200
No. of companies receiving financial			
support for R&D	225	6	4
Projects transferring environmental			
technologies to the business sector	1		0
Results			
Increase in turnover in supported			
companies	£35,000	£35,000 <sup>27</sup>	£220,000
Gross new companies in high tech			
sectors	125	4	3
Gross Jobs Safeguarded	150	19	12
Gross new jobs in high tech sectors	125	22	26

Source: WEFO Approval Letters (dated October 2003 and November 2008) and WEFO Final Claim form (position as at 31<sup>st</sup> December 2008)

### 9.10 Clients

Information received from the Technium Manager regarding the number of clients supported at Technium Performance Engineering between June 2005 and April 2009 are reported below:

**Table 9.3: Technium Performance Engineering Clients** 

	Number
Total Number of Clients since opening	5
Current Number of Incubated Clients	4
Current Number of Desk Space Users	1
Number of Clients Exited Technium	0
Number of Successfully Graduated Clients <sup>28</sup>	0
Number of Failed Clients <sup>29</sup>	0
Total Number of Associate Members	6

Source: Technium Manager – situation as at 25<sup>th</sup> November 2008

<sup>27</sup> This target was originally recorded as £35,000,000 on the original application form. On the WEFO approval letter this was recorded as £35,000.

<sup>&</sup>lt;sup>28</sup> Clients that have moved on to larger premises, or have sold the business on

<sup>&</sup>lt;sup>29</sup> Clients that have closed down, moved into smaller premises, or have become dormant



#### 10. Technium Pembrokeshire

#### 10.1 Introduction

Technium Pembrokeshire is located in Pembroke Dock in Pembrokeshire and opened in December 2007. Technium Pembrokeshire supports businesses working in fields related to power and energy though is open to clients from all sectors. Technium Pembrokeshire is a 3,344 sq m (36,000 sq ft) facility which can accommodate up to 18 businesses in incubator units. In addition there are 13 independent workshop units for businesses that require industrial space close to the Technium environment.

### 10.2 Rationale and Objectives

Pembrokeshire County Council identified in their Objective 1 application, that whilst there were high levels of business start up relative to population, many of these businesses were small lifestyle enterprises that have minimal impact on GDP. The County Council identified a strategic priority of developing higher value employment opportunities and higher levels of business innovation. However, as the County lacks a local university they face additional challenges in achieving this. The Technium provides a facility which can host university research and development activities, and incubate and grow new businesses in emerging knowledge based sectors.

Two separate but linked applications were made for Objective 1 funding. The first was for the development of the Technium (primarily the capital costs of the project) and the second was for the facilitation of the Technium services (primarily the revenue costs of the project). The objectives of the capital bid were to "provide Pembrokeshire with a resource to facilitate high quality business-academia links to improve business competitiveness and innovation primarily in the energy/power sector, but not restricted to that sector." The project provided office and workshop space and an applied research facility which had been designed to be conducive to the generation of new ideas for business products, processes and practices. The aim was that the Technium would lead to an increased number of high quality start-up and growth projects, increased employment, improved competitiveness and productivity and in the longer term, increased GDP per capita.

The revenue application stated that the purpose of the Technium Pembrokeshire project is to "increase the research and development capability of Pembrokeshire businesses in order that this may act as a catalyst in the short, medium and long term to increase business productivity, competitiveness and ultimately make an impact on the low rates of per capita GDP in Pembrokeshire"

The power and energy sectoral focus was arrived at as the local economy is dominated by a strong energy sector with two strategic oil refineries – Chevron/Texaco and Murco; two Liquid Natural Gas (LNG) storage and re-gassification terminals – Dragon LNG and South Hook LNG and a proposed 2000MW CCGT Power Station – RWE nPower.

## 10.3 Ownership and Management

Pembrokeshire County Council was the lead partner in the development of Technium Pembrokeshire. Other partners included the Welsh Assembly Government and Swansea University.



The Technium is owned and managed by Pembrokeshire County Council.

A Management Board comprised of representatives from Pembrokeshire County Council, the Welsh Assembly Government and Swansea University are responsible for the strategic management of the Technium. Operational responsibility rests with a Steering Group which is made up of one representative from each partner plus the Technium's commercial manager. The Steering Group is responsible for the day-to-day management of the facility. The Steering Group assess potential client's suitability to enter the Technium.

The Technium is managed by a Technium manager. He is supported by two admin/business support assistants and a facilities assistant.

The Economic Development Division of Pembrokeshire County Council is responsible for compiling the performance data.

### 10.4 Funding

Funding for the Technium was provided by the Welsh Assembly Government, Pembrokeshire County Council and the EU Objective 1 Programme. Two separate bids were made to WEFO. One 'Technium Development' covered the capital costs of the project and the second 'Technium Facilitation' covered the revenue costs of the project.

The total cost (capital and revenue) for the Technium was £13.4m. The capital expenditure made up nearly 90% of the costs. The tables below sets out the sources of funding.

Table 10.1: Technium Pembrokeshire Development Bid Funding Sources

Source	Amount	<b>Actual Amount</b>	
	Approved	Approved (April	(September 08)
	(March 05)	08)	
Objective 1	£4,203,000	£4,448,937	£4,448,937
Welsh Assembly Government -			
Local Regeneration Fund	£5,602,194	£5,602,194	£5,602,194
Welsh Development Agency/			
Welsh Assembly Government	£650,000	£650,000	£650,000
Local Authority			
Private Sector	£1,000,000	£1,226,309	£1,293,651
Total Funding	£11,455,194	£11,927,440	£11,994,782

Source: WEFO Approval Letters (dated March 2005 and April 2008) and Final WEFO Claim Form and Progress Report (situation at end of funding period 31 December 2008)



**Table 10.2: Technium Pembrokeshire Facilitation Bid Funding Sources** 

Source	Amount Approved	Amount	Actual Amount
	(March 05)	Approved (April 08)	(Sept 08)
Objective 1	£917,897	£917,897	£679,881
Welsh Assembly Government - Local			
Regeneration Fund	£400,000	£200,000	£93,170
Welsh Development Agency/Welsh	£650,000		
Assembly Government			
Local Authority	£200,000	£400,000	£193,530
Swansea University			£297,511
Private Sector	£214,308	£264,000	£18,946
Total Funding	£1,732,205	£1,781,897	£1,283,038

Source: WEFO Approval Letters (dated March 2005) and Final WEFO Claim Form and Progress Report (situation at end of funding period 30 September 2008)

Following the end of the Objective 1 funding, funding for Technium Pembrokeshire has been provided through Pembrokeshire County Council budgets. A funding application has been made to the EU Convergence Fund which will part fund the revenue costs of the Technium going forward.

### 10.5 Support and Facilities

Technium Pembrokeshire has a fully equipped Power Electronics Research Laboratory, which is supported by Swansea University Research Staff. In addition the Technium has 4 IBM Catia Product Lifecycle systems. Catia provides an integrated suite of Computer Aided Design (CAD), Computer Aided Engineering (CAE), and Computer Aided Manufacturing (CAM) applications for digital product definition and simulation. The systems are available to all members of Technium Pembrokeshire.

There is also an IBM Super Computer cluster which is part of the Mike Barnsley Centre for Climate Research, a Swansea University lead research facility.

Technium residents can have access to a range of business support through:

- The Technium Professional Service Providers which provides access to about 30 business support providers in a range of different areas e.g. IP, legal, marketing. Businesses access a minimum of two hours of free support before incurring charges. If more support is needed, businesses can access support from the Welsh Assembly Government towards the cost of the consultancy.
- The Technium Manager is able to offer advice and support and signpost firms to other areas as necessary

## 10.6 Linkages with Private Sector & Academia

Swansea University is a key partner of Technium Pembrokeshire. Due to energy and power sectoral focus staff from the University's Power Electronics team are available to Technium clients. The university has two research facilities at Technium Pembrokeshire – a Mechanical Workshop and Electronic Laboratory. The University are currently seeking funding from research programmes to enable University staff to be permanently located at Technium



Pembrokeshire. The University also provides specialist support from other departments should it be required by Technium clients.

### 10.7 Entering Technium

In order to enter Technium Pembrokeshire, companies must meet the standard Technium entry criteria (see Appendix 1). Applicants are assessed against the entry criteria by a Steering Group made up of representatives from the Assembly, Pembrokeshire County Council and Swansea University and the Technium Manager. Prospective clients must be involved in the process of innovation, research and development and must be able to demonstrate a robust and sustainable business plan.

Standard leases in Technium Pembrokeshire are for three years. Rent is charged at £14 per sq ft including basic service charge, utilities and broadband.

### 10.8 Exiting Technium

Technium Pembrokeshire clients are required to move from the Technium after a maximum of three years residency, however this is assessed on a case-by-case basis and is dependent on the particular needs of the company. Adjacent to the main Technium Pembrokeshire building, 13 workshop units have been created for science and technology businesses requiring workshop space or businesses graduating out of the Technium who require industrial/business space close to the Technium environment. Rent in the workshop units is charged at £6.00 per sq ft plus commercial rates and utilities.

## 10.9 Targets

As the Technium Pembrokeshire received funding from European Objective 1 programme a number of targets were set for the project. The original targets are set out in the table below along with adjusted targets following reprofiling and the level of achievement that was achieved by the end of the funding period. The funding period ran from March 2005 to September 2008.



**Table 10.3: Technium Pembrokeshire Targets and Outputs** 

	Original Target (March 05)	Re-profiled Target (March 05/April 08)	Final Actual Achievement (September 08/December 08)
Activities			,
Companies receiving advice in			
innovation and R&D	32	32	64
Collaborative projects between			
companies and research institutions	11	11	2
Floorspace in incubator and R&D			
facilities (m <sup>2</sup> )	6,500	6,486	6,508
Projects transferring environmental			
technologies to the business sector	11	11	1
No hectares of land developed	12	3.5	3.74
Results			
No of jobs accommodated	44	44	44
Increase in turnover in supported			
companies	£4,500,000	£4,500,000	£0
Gross new companies in high tech			
sectors	9	2	2
Gross new jobs in high tech sectors	35	35	10.5
Number of new patents and			
trademarks	5	5	4

Source: WEFO Approval Letters (dated March 2005 and April 2008) and Final WEFO Claim Form and Progress Report (situations at end of funding period 30 September 2008<sup>30</sup> and 31 December 2008<sup>31</sup>)

### 10.9.1 Clients

Information received from the Technium manager regarding the number of clients supported at Technium Pembrokeshire between December 2007 and December 2008 are reported below:

<sup>30</sup> Facilitation Bid

<sup>31</sup> Development Bid



### **Table 10.4: Technium Pembrokeshire Clients**

	Number
Total Number of Clients since opening	2
Current Number of Clients (Incubator Units)	1
Current Number of Desk Space Users	1
Number of Clients Exited Technium	0
Number of Successfully Graduated Clients <sup>32</sup>	0
Number of Failed Clients <sup>33</sup>	0
Total Number of Associate Members	2

Source: Technium Manager - situation as at 2 December 2008

 $^{\rm 32}$  Clients that have moved on to larger premises, or have sold the business on

 $<sup>^{\</sup>rm 33}$  Clients that have closed down, moved into smaller premises, or have become dormant



## Appendix 1 - Standard Technium Entry Criteria

Technium has set out several criteria for occupancy which should be addressed by companies seeking residence in a Technium. Successful applicants will:

- be innovative, high growth potential companies
  - The Technium environment is intended to assist innovative companies to grow quickly.
     It is anticipated that companies will reside in Technium for 18 months to 2 years, during which they will have expanded and be ready to move to larger units (e.g. Technium 2).
- be based in a High-Tech or Knowledge-Based sector
  - Wales is encouraging the creation and development of companies within the high technology / knowledge based sectors. The Technium network is part of this strategy and is focussed upon companies within these sectors.
- be exploiting IPR
  - High Tech / Knowledge based companies will usually be commercially exploiting their own or licensed Intellectual Property.
- be engaged in Research & Development
  - Technium companies will typically be involved in R&D activities involving new products, processes and new technologies. Technium is unlikely to house companies who are engaged in purely training or consultancy activities.
- already have, or wish to develop, academic links
  - Technium is a partnership closely linked with University departments and particularly the Knowledge Transfer Centres in Wales (KTCs). It is anticipated that many Technium companies will have, or will develop, fruitful links with KTCs.
- have in place a capable Management Team
  - the management team should be balanced and capable of addressing the business requirements of the company, have the necessary technological expertise and ability to drive the business forward.
- have developed a good knowledge of the appropriate Market
  - it is expected that a level of market research will have been undertaken relevant to the product / process / technology under development.
- have a sustainable financial status
  - financial projections should be available that describe the sources of finance and / or revenue in place which indicate the sustainability and growth aspirations of the company during its residency in Technium.
- have considered their specific requirements for residency in Technium
  - Technium is more than just office space, providing a high level of facilities, business and technology support to its companies. Applicant companies should describe those elements of Technium support they will require during their period of residency.
- have considered the period they wish to remain within the Technium environment



- Technium companies should have a considered exit strategy from the Technium environment and have developed a good understanding of what will constitute success for them.
- have an established and credible Business Plan
  - o the Business Plan should be comprehensive and address all the points listed above.



# **Appendix 2 – Entry Process to Technium Aberystwyth**

Technium Aberystwyth Entry Screening

Stage 2 – Entry Criteria Assessment Form

Company name & contact details		
Key contact(s)		
Initial contact route		
Background		
Entry Criteria Match		
-		
Is the Company based on an innovative in	idea or new technology?	Y/N
Does the Company intend or have the potential to penetrate the knowledge economy or technology based <i>emergent</i> sector?		Y/N
Does the Company have existing links with a HEI, or an identified need to establish them?		Y/N
Is there a need to obtain technology or technical expertise from a HEI or other source?		Y/N
Is there potential to create high added value employment in Mid-Wales		Y/N
Is there potential to develop manufacture. Technium residence?	cturing capability during or following	Y/N
Assessment and actions		



#### **Tenant Entry Screening**

#### **Company Potential and Capability Assessment**

Acceptance of companies for tenancy at the Technium Aberystwyth is subject to their potential for commercial sustainability and growth. Following confirmation of sufficient match with eligibility criteria, detailed assessment of companies must establish grounds for confidence that:

- Technium Aberystwyth services would not be wasted or used inappropriately;
- Company Management is motivated, capable and self-reliant;
- chances of financial default are minimised;
- WDA and the Technium network will not be embarrassed by the Company's activities or possible failure.

This assessment will usually best be undertaken by examination of the Company's business plan. There may be cases, however, where the business plan is incomplete, but where a reasonable assessment can be made from information obtained during meetings with the company. In such cases, it may be possible to allow the company to become a tenant, and for assistance with business plan preparation to be a key part of the business support it receives.

Note also that the information provided in a business plan may not be sufficient to enable the criteria listed above to be met. For example, assessment of technology may not be possible from descriptions provided in a business plan, and additional information such as detailed technical reports or demonstrations may be required.

Company name:		
Date of assessment:		
Assessment undertaken by:		
Comments and description of sources of company information used		
- meetings, business plan, etc		



#### Assessment Criteria

#### **Business Case**

Market potential – is this well-argued, researched and credible?

Competition – is this sufficiently well analysed, understood and addressed?

High growth potential – on what basis is the company likely to grow substantially?

#### Knowledge-basis and IP

What is the knowledge or IP basis of the business case?

Where applicable – is this technically sound?

Where applicable, does knowledge or IP generate a realistic market opportunity?

Are there any issues concerning the Company's rights to IP upon which it depends?

#### Management

Do the Company's Principals / Management have credible backgrounds, including previous careers and relevant sector-experience ?

Do the Company's Principals / Management have realistic understanding of their proposed business and its challenges ?

Are there any concerns regarding the capability, commitment and credibility of the Company's Principals / Management ?

#### **Ethics**



Do any aspects of the Company's history, intended activities or markets involve ethical issues that could present public relations or operational problems for the Aber Technium?

#### **Financial status**

Has a financial assessment been prepared by WDA? (Yes or No)

Does this assessment confirm or refute likely financial sustainability and realistic potential for the Company to grow?

Is there reasonable confidence in the Company's intention and ability to pay accommodation and other charges?

Are there any additional questions or concerns regarding the Company's financial position?

#### Conclusions

With regard to Technium Aberystwyth entry criteria and the diligence criteria listed above, should the Company's application for tenancy be approved?



# **Appendix 3 – Entry Criteria for Technium Cast**

Name:
Address:
*Match to Technium CAST project objectives =
On a scale of:
1 = New start-up creating 'advanced software' [BEST]
2 = New start-up using advanced software or technology
3 = New start-up with incidental technology requirements
4 = Other [WORST]
Rationale:
* Synergy / fit with other tenants =
On a scale of:
1 = Clear partnership potential [BEST]
2 = Partnership potential
3 = No potential partnerships at present [WORST]
Rationale:
* Innovation/ links to academia/ engaged in R and D =
On a scale of :



1 = Clear innovation strategy with IPR [BEST]
2 = IPR or copyright potential
3 = No IPR or copyright at present [WORST]
Rationale:
*Financial Sustainability =
1 = Highly sustainable with good growth prospects [BEST]
2 = Sustainable with good sales pipeline ( letters of intent )
3 = Not sustainable and viewed high risk[WORST]
Rationale:
*Conclusion
Panel Signature
Signed:
Date :



## **Criteria for Incubation Clients**

Clients Contact Details:	Comments
Name:	
Address:	
In essence, we recommend that we judge the acceptability of a potential candidate based on the following:-	
<ul> <li>Has the concept been thought through</li> <li>Will the business meet Technium CAST's performance criteria if successful</li> <li>Is sufficient funding in place</li> </ul>	
Will the business benefit from being in Technium CAST	
The principal we are recommending is that we should establish whether the response is in line with the objectives of Technium CAST:-	
<ul> <li>Business Aim</li> <li>Long-term business objective</li> <li>Is the objective in line with the requirements of Technium CAST</li> </ul>	
<ul> <li>□ Business Concept</li> <li>□ The technical concept underpinning the business</li> <li>□ The development of the product range</li> <li>□ The competitive edge this will give the business</li> <li>□ The markets the business will operate in</li> </ul>	
☐ The Business Plan	
<ul> <li>□ Current status</li> <li>□ Management</li> <li>□ Does the performance of the business, as set out in the Business Plan, meet the requirements of Technium CAST</li> <li>□ Synergy with Technology Centre / existing clients</li> </ul>	
<ul> <li>□ Finance</li> <li>□ Financial viability</li> <li>□ Start up costs</li> <li>□ Funding requirements</li> <li>□ Confirmed sources of funding</li> <li>□ Future sources of funding</li> </ul>	
Due Diligence: (i.e. Business Plan, Bank Reference, Companies House, Director check etc)	



Acceptance: Virtual / Touchdown / Incubator / Software Hotel	
Accepted by Management Team: Date:	
Attendees:	