

Evaluation of SEEKIT knowledge exchange programme

Introduction

The Scottish Funding Council (SFC) supports and promotes the capacity of Higher Education Institutions (HEIs) to engage in effective knowledge exchange activity with business to maximise the value of the research they undertake. A range of initiatives and investments are currently used by the SFC to encourage the productive exchange of knowledge and expertise, including the Knowledge Transfer Grant¹, the Innovation Centre programme and the Interface Innovation Voucher Scheme. The SFC is also taking an important strategic role in enhancing university-business engagement through its membership of the Innovation Scotland Forum.

In addition to this, since October 2011 the SFC has been responsible for administering and delivering the SEEKIT² knowledge exchange programme. Formerly the responsibility of the Scottish Government (see below), the purpose of the SEEKIT programme was to encourage new and improved productive knowledge transfer activities between small to medium sized enterprises (SMEs) and the Scottish public sector science base³.

Aim and scope of the evaluation

Aim

This report provides an evaluation of the SEEKIT programme⁴. The review took place during April to August 2015 and is based on a document based assessment of performance against contracted targets and objectives and the views of stakeholders, partners, delivery staff, businesses and individuals where provided in final project reports.

¹ The SFC is consulting on proposals for changes to the Knowledge Transfer Grant, <http://www.sfc.ac.uk/communications/Consultations/2015/SFCCN022015.aspx>. The consultation will close on 16 November 2015.

² Scottish Executive Expertise, Knowledge & Innovation Transfer Programme (SEEKIT)

³ The transfer of functions arose from recommendations contained in the Innovation Framework and the Scottish Government's wish to improve the scheme's operational efficiencies and to better align its interventions in the knowledge exchange area.

⁴ Projects that were 'live' at the point of transfer from Scottish Government to SFC have been considered as part of this evaluation only.

A review of the SEEKIT programme has been undertaken to assess the performance of the programme and to identify any significant achievements or common issues that may inform SFC's future approach to knowledge exchange policy.

A series of projects have been selected to illustrate the key findings of this review and are provided at **Annex B**.

Scope

The review process has focussed on an assessment of the performance of each project against a series of Key Performance Indicators (KPIs) and an examination of available data, including the qualitative evidence provided by each project in its final report and independent evaluation material where this has been provided. It is important to note that significant difficulties were experienced obtaining 'end of award' reports and many were submitted more than 12 months after Scottish Government and SFC funding had ended. Consequently, there were a high number of instances where a project had ended and key project staff were no longer available to respond to requests for more comprehensive quantitative and qualitative information, thereby imposing a limitation on findings.

Key findings

The results, outputs and impacts delivered by the SEEKIT programme suggest that the programme has played a key role in improving the performance of Scottish SMEs by driving the flow of knowledge, experience and people between business and the science base, between businesses and across sectors. Although the individual performance of projects against relevant KPIs varied across the programme, there is evidence to show that there is now a better connected network of SME businesses linked to each other and the research base. Individual project reports record that SMEs involved in the SEEKIT programme now possess greater market awareness, are engaged in new collaborations, have increased knowledge of and access to R&D support mechanisms and, in many cases have a much clearer understanding of how innovation can grow their businesses. All these changes and the learning that can be taken from this initial assessment, suggest that this programme will have lasting benefits for knowledge transfer from the science base into Scottish business to aid sustainable economic growth.

SEEKIT Programme

Background

The promotion of collaboration and knowledge exchange between Scotland's HEI sector and business community has been high on the Scottish Government's agenda for over a decade.

The 2001 strategy document, *A Smart, Successful Scotland*, under its "growing businesses"⁵ priority identified the challenge of increasing the commercialisation of research and innovation through increased R&D spend, greater interaction between HEIs and industry and increased levels of patent registration.

The Government Economic Strategy (GES) introduced by the Government in 2007 reiterated the new Scottish Government's commitment to this. Under the strategic priority of a "supportive business environment"⁶, the GES identified a need to reinforce the link between Scottish HEIs and industry and increase levels of R&D spend. It was recognised that a number of actions were required including,

- recognise, reflect and promote the key role of Scotland's universities and colleges as world-class assets in further developing our science base, other key sectors and the wider economy;
- provide clear incentives through the SFC and other agencies to encourage colleges, universities and businesses to engage collaboratively in the exchange of knowledge and expertise to drive greater innovation in the economy;
- develop a new science strategy for Scotland, outlining how science will underpin Scotland's success as a nation through developing knowledge exchange between academia and business, increasing the flow of overseas investment into Scotland's R&D base and developing the science base; and
- utilise the potential of mechanisms such as Intermediary Technology Institutes to increase the connections between Scotland's scientific strengths and global market opportunities, while ensuring the involvement of Scottish-based firms.

⁵ *A Smart Successful Scotland*, 2001, pg. 10- <http://www.gov.scot/Resource/Doc/158455/0042945.pdf>

⁶ *The Government Economic Strategy*, 2007, pg. 26 - <http://www.gov.scot/Publications/2007/11/12115041/0>

The SEEKIT programme was first launched by the Scottish Executive in December 2003 to actively contribute to the successful achievement of these objectives which have remained a priority for Government.

Programme summary

The key objectives of the SEEKIT programme were:

- To help effect wealth creation from the science base;
- To increase the competitiveness of SMEs through their engagement with the science base; and
- To encourage productive knowledge transfer links between business and the science base.

The SEEKIT scheme was not prescriptive and was intended to support a wide range of knowledge transfer/ outreach activities. All project proposals were, however, required to show that the project would improve the science base partner's ability to work effectively with Scottish based SMEs and ultimately result in positive competitive benefits to local businesses. Applications for funding were invited from public bodies, such as Universities and Research Institutes. There was an expectation that most projects funded under the SEEKIT programme would be able to attract co-finance from the European Structural Funds or other sources of funding where practicable. SEEKIT support would be limited to providing the balance of funding required to allow the project to proceed. Projects which fulfilled the scheme criteria would be supported on a first-come first-served basis, according to the availability of funds.

27 projects were funded as part of the SEEKIT programme, with activities ranging from the development and exploitation of clean technologies in the construction industry to improving the flow of knowledge arising from the cutting-edge Scottish research base in animal bioscience into commercialised innovative products and processes in existing and new Scottish SMEs. Project information, including lead institution and level of funding awarded, is provided at **Annex A**.

In total, Scottish Government and SFC allocated £12.7 million over 2011-14⁷.

With the aim of developing and supporting academic-industry collaborations, the range of activities/services provided across programme were:

⁷ Following an initial transfer of £3.1M in 2011-12, the Scottish Government transferred up to £4.5M to SFC for each of the years 2012-13 to 2014-15.

- Events - workshops, seminars (awareness raising/ promotion of services and opportunities for academic-company collaborations);
- Advice/information - one to one support from advisers and mentoring, 'sign posting' to alternative support services;
- Financial support - industry driven feasibility studies, circa £5000;
- Facilitating access to facilities/technical support at relevant HEIs and providing ongoing support for university-business engagement.

26 of the 27 projects funded have now concluded the activity funded under the original terms of the SEEKIT programme and have submitted a final project report and financial statement⁸. As part of the review process, circa £1 million has been clawed back by SFC as unspent funds.

Key findings

To what extent did the HEIs achieve the planned outputs, results and impacts?

KPIs

A series of KPIs were set for each project in relation to knowledge exchange activity and business engagement. Tables 1 to 3 below detail the key KPI headings and performance data. This data has been collated using the information provided by each project in its final report and is intended to highlight areas of achievement across the programme and identify those KPIs that were more challenging. It is important to note that the KPIs set with each project were intended to drive behaviour and were intentionally ambitious, therefore, this information provides scope for exploring the reasons why there may have been a trend in 'performance' against a particular KPI, but it would be wrong to assume that a project, or indeed the programme itself, 'failed' in instances where a KPI was not achieved.

Finally, the KPIs on which this analysis focuses are framed around the economic activity goals which formed the basis of the SEEKIT programme, thereby limiting reflections on wider sector developments and achievements.

Outputs

All completed projects broadly fulfilled their specific project aims and objectives. As shown in Table 1, the projects delivered a wide range of outputs across the science base and were very successful in creating academic-business relationships directly related to their activity, although maintaining and developing these relationships

⁸ Medical Devices Knowledge Exchange Initiative, was granted a no-cost extension in July 2015 and will conclude in July 2016.

proved more difficult in some instances. Nevertheless, across the programme, projects were successful in planning and delivering targeted events, maximising attendance and engaging with individuals and SMEs through the provision of advice and information. The results of the independent surveys commissioned by some projects, indicated high levels of satisfaction with the service received by individuals and SMEs.

Table 1: Outputs

KPI	Percentage of projects that did not achieve the KPI target	Percentage of projects that achieved or exceeded the KPI target set	Total KPI activities/support delivered across all projects
No. of events held ⁹	37 %	63 %	7920
No of SMEs attending events	37 %	63 %	8931
No. of individuals/SMEs helped with advice/information (< 1 day) ¹⁰	30 %	70 %	6699
No. of SME's assisted 1-5 days	30 %	70 %	2742
No. of SMEs assisted with high level support (>5 days)	33 %	67 %	1387
No. of SMEs undertaking Innovation/RTD projects	37 %	63 %	1634
No. of new patents issued/IPR registrations made	64 %	36 %	143
No. of new links between SMEs and Research Institutions.	28 %	72 %	3848

⁹ An 'event' was broadly defined across the programme.

¹⁰ No. of individuals/ SMEs helped with advice/ information (<1 day): Please note that many SMEs assisted did not score in this category as initial help was given for more than one day. This is reflected in the totals provided No. of individuals/SMEs helped with advice/information 1-5 days and >5 days.

A wide range of factors contributed to the success of projects in delivering the output targets detailed above, including:

- **Additionality.** There was a demand for the specialist support or service provided which was known (or perceived) to be otherwise unobtainable. The project was fulfilling a market need.
- The project (or lead institution) already had extensive contacts in the Scottish science base and was positioned well to appropriately link SMEs to research partners who could meet industry requirements e.g. Animal Bioscience KTN, University of Edinburgh.
- Project staff were considered by surveyed individuals/SMEs to be professional, proactive and knowledgeable with access to a wider network of expertise i.e. research and Government expertise.
- Events featured high quality speakers, relevant content and included opportunities for meaningful networking.

Reasons why 'output' targets were not achieved

Economic conditions

Of those projects that did not achieve the output targets set, this was due to a wide range of issues, not least the level of the pre-recession KPI targets set at the outset which came to be widely considered unrealistic as economic conditions became more challenging and many companies cut back on learning and network activities. For example, the Sporting Chance Initiative (Annex B, pg. 19-20) initially experienced difficulties attracting attendees to SCI events. In light of this, the project team was forced to adopt a strategy of delivering smaller, more targeted events with higher quality content aimed at skills development and networking. This approach was found to be more appropriate in engaging with companies across SEEKIT projects, however, the number of SMEs with which the project engaged at the outset was below the target level.

Expectations around the delivery of outputs like new patents/IPR registrations and licenses also proved to be unrealistic. In the UK, patents typically take 3-5 years from the filing date before they are issued. In the majority of cases, expecting a project to achieve a new patent issue within the timeframe of the project proved an unrealistic goal and measure of performance.

Additional reasons provided were:

- Limited SME partner potential.
- Difficulties maintaining contact with SMEs beyond the initial contact/exploration stage. Although the majority of projects were very successful in promoting expertise and services, it proved more challenging developing this initial contact into the delivery of commercial benefits. In some instances this was due to the relevant SME not maintaining contact with the project beyond the initial contact/exploration stage. E.g. Innovation in Thin Film.
- Competitive environment - for programmes where there were already a range of organisations that offered a similar or closely related service, positioning a project clearly within the market proved to be more difficult e.g. Food and Drink.
- Ability of firms to take action – firms welcomed the opportunity to reduce costs but significant investments that may lead to this are considered too ‘risky’.
- Divergence in expectations of business and the academic e.g. timing and business awareness issues.
- A small number of projects reported difficulties determining the appropriate level of support required by an individual or SME.
- Of the projects that did not achieve respective targets set in relation to the mid-level assistance provided (i.e. No. of SME’s assisted 1-5 days), a minor number of projects attributed this to the high number of clients that progressed from the ‘advice’ category straight into the ‘high level’ category, therefore missing out on the mid-level of support.
- The failure to adequately capture SME engagement and interaction through the effective use of a CRM system.

Were the expected results and impacts achieved?

Across the programme, the delivery of KPIs in the categories, ‘results’ and ‘impacts’ proved more challenging.

As shown in Table 2 below, the delivery of KPIs related to increased investment by SMEs and the reductions of costs per unit output proved challenging, a reflection of the realities of the time it takes for such gains to be realised and the financial

characteristics of the business base. Similarly, whilst projects experienced greater success in relation to the introduction of products, processes or services, this too was reported to be a challenge across the programme. As reported by the majority of projects, this trend reflects the time it takes to bring a product to market and also that developing a product was not applicable to all those individuals/SMEs supported through the SEEKIT programme.

Table 2: Results

KPI	Percentage of projects that did not achieve the KPI target	Percentage of projects that achieved or exceeded the KPI target set	Total KPI 'results' delivered across all projects
Increased investment in External Knowledge/Innovation/RTD by SMEs (£k)	74	26	£68 million
No. of products, processes or services significantly improved/new ones introduced	46	54	2127
No. of SMEs with reduced costs per unit output	65	35	869
No. of new spin-out/SMEs formed	40	60	168

Factors that influenced the delivery of these KPIs were:

Funding

'Pump priming' resources were considered essential to effectively supporting early stage developments, including feasibility studies. Projects that demonstrated a high positive relationship between the availability of funding and the delivery of results included, Sporting Chance, Depict and Renewable Energy from Waste and Co-products.

Commercial awareness of academics

The majority of SMEs/individuals surveyed as part of an independent project evaluation reported that the level of commercial awareness demonstrated by academics was a significant key factor in the delivery of results driven KPIs. Projects performed well when beneficiaries reported academics had a good knowledge of business needs. A lack of commercial awareness amongst academics and difficulties

meeting tight deadlines was one of the most commonly reported stumbling blocks to successful joint working.

Professionalism, knowledge and approach of project staff

Once again, the professionalism and expertise of the project team was an essential factor in determining the delivery of results. Those projects that performed well against KPIs featured a project lead and team that possessed specialist knowledge of the relevant industry sector and was viewed by beneficiaries to offer impartial advice. Also, where teams engaged closely with a business from the outset, they were more likely to be successful in clearly identifying and articulating the focus of a project to academics, thereby reducing the likelihood of issues arising.

It was also reported that where project staff possessed good commercial awareness, this made it easier for individuals/SMEs to work with academics, particularly when Intellectual Property issues were encountered.

Additional issues/problems reported included:

- Changing operating context. 2KT+ reported that that the economic recession and regionalisation in the College sector had a negative impact on the project outcomes delivered. Led by Edinburgh Napier University and Queen Margaret University, the 2KT+ project initially involved 4 colleges (Carnegie, Jewel and Esk, Stevenson and Telford) and, upon SFC request, the agricultural colleges of Oatridge and Elmwood to investigate the potential role of the rural business sector to participate in the drive for improved academia-business engagement. From 2011 (year 3 of project activity) the regionalisation of colleges affected all college partners within 2KT+ ¹¹. The process of change altered to a great extent the focus of partners on 2KT+ project and included significant Project management, Board-level changes and departures. The changes effected the staffing of 2KT+ at each of the Colleges as uncertainty grew pre-merger. Towards the end of the project, changes in personnel made management of the project across organisations very challenging, if not impossible.
- Operational difficulties e.g. staff departures and difficulties recruiting the personnel required to deliver project objectives.
- SME not maintaining contact with project beyond initial contact/exploration stage.

¹¹ Barony, Elmwood and Oatridge Colleges and SAC – merged to become Scotland's Rural College – SRUC combining the FE and HE opportunity for agriculture in Scotland. The creation of Edinburgh College also marked the merger of Edinburgh's Telford College, Jewel and Esk College and Stevenson College.

- More stringent conditions for commercial lending affecting the ability of businesses to borrow to support product development and commercialisation.
- The initial grant in support of feasibility study proved insufficient.
- The volume of forms each SME was required to complete caused project delays.

Impact

At the point of review, it is too soon to make a fully informed assessment of the economic impact of the support provided to the SEEKIT projects, however, in cases where analysis has been undertaken by external evaluators, this has been considered and the data is presented in Table 3 below.

Table 3: impact

KPI	Percentage of projects that did not achieve the KPI target	Percentage of projects that achieved or exceeded the KPI target set	Total achieved across all projects
Increase in turnover in assisted businesses	68	32	£113 million
Total no. of gross new jobs	70	30	1,509
Total no. of jobs safeguarded	68	32	4,108

Table 3 indicates that the support provided by the SEEKIT programme delivered significant commercial returns and served to both create and safeguard jobs. Whilst it is clear that the delivery of these KPIs has proved challenging, it is important to remember the ambitious nature of the targets set and recognise that the scale of the commercial returns generated and employment benefits delivered as a direct consequence of the programme are substantial and a considerable achievement during a period of economic recession.

As stated, it is too soon to assess the full economic impact of the SEEKIT programme but early indications show that work to improve the performance of Scottish SMEs through innovation and new collaborations by driving the flow of knowledge, experience and people between business and the science base, between business and across sectors, has had a marked positive impact on the Scottish economy.

Legacy

It is clear from the results delivered by the SEEKIT projects that the value of the programme will continue beyond the period of SFC/Scottish Government investment. However, with constraints on public sector expenditure placing challenges on business and innovation support, the continuation SEEKIT projects in their original form has proved challenging. Although the majority of 'end of award' reports stated a desire to continue activities - on the basis that there was a demand for the services provided - it was recognised that this being realised was subject to the availability of future funding from public sources. Ultimately, in the majority of cases the realities of the economic downturn served to prevent the continuation of activity, though the learning that has arisen from activities has undoubtedly been reflected in large scale investments like the Innovation Centre Programme and the development of Innovation Voucher Scheme through the provision of follow-on vouchers.

A minor number of projects (11%) were successful in continuing their activities by linking these to alternative funding sources, or initiatives related to Government priorities. Notable examples include:

- **Sporting Chance Initiative (pg. 19-20)**
Established as a hub for business innovation in sport, the Sporting Chance Initiative (SCI) was awarded funding of £450,000 from the Scottish Funding Council in March 2015. Based at the University of Stirling, Scotland's University for Sporting Excellence, the SCI team will use this funding to continue to deliver their specialised range of innovative services to sports related businesses over the next three years.
- **Strathclyde Entrepreneurial Network (pg.24-26)**
The main aim of the Strathclyde Entrepreneurial Network (SEN) project was to create and nurture links between the University and industry. Post SEEKIT funding, the University of Strathclyde agreed to provide core funding to sustain the activities driven by SEN on the basis that the activities of the project were deemed to add value to the University's activities in the areas of enterprise, commercialisation and alumni relations. The funding saw key posts maintained and key activities continue and grow.
- **RenewNet (pg.37-38)**
Initially funded through the SEEKIT programme to build relationships between SMEs and universities through technical support in electrical power engineering, RenewNet entered a second phase of activity in 2011 through its inclusion in the SPIRIT programme - a demand led knowledge exchange competition.

Lessons for the future

The conclusions that can be drawn from the SEEKIT programme are restricted by the absence of critical qualitative information in some cases and the point at which this evaluation was undertaken. In taking forward support for innovation in the future, it is important to note the following recommendations:

- The long-term monitoring of projects beyond the period of funding is essential in order to fully evaluate the results and impact delivered.
- It is critical that final project reports are submitted in accordance with agreed deadlines. Significant delays may compromise the scale and quality of findings.
- Qualitative evidence is critical to fully understanding and assessing what is delivered by an individual project and identifying common issues that may have influenced performance across a programme. Quantitative evidence alone limits the scope of findings.
- Targets should be set that drive performance but also reflect the realities of product development and commercialisation.
- Where collaboration between business and the education sector is a key feature of a project/programme, KPIs should be developed that enable an assessment of sectoral achievements in addition to the delivery of economic activity goals.

The Scottish Government has allocated ring-fenced funds in support of innovation for 2015-16. In recognition of the value of adopting a 'selective', multi-level approach to innovation support, this funding will be used in a more strategic way to support Scotland Can Do and to boost innovation and entrepreneurship by linking academia and industry in key sectors for the Scottish economy, in ways that complement the existing support being offered through the Innovation Centre programme.

Annex A

Lead institution	Project	Purpose	Total Cost *
Edinburgh Napier University	2kt+	To provide businesses with a range of support and services to facilitate research, development and innovation within a network of universities and colleges.	£1,792,747
Edinburgh Napier University	EDTC Technology Gateway	To promote the development of new or improved products and processes by Scottish SMEs. The project will promote innovation by providing a support service and access to knowledge-based expertise to enable the adoption of technology into new or existing products or processes.	£1,462,720
Edinburgh Napier University	TIPD - New Product Management	To improve the competitiveness of the enterprise base of the Lowlands and Highlands of Scotland, by directly education industry and facilitating the projection of demonstrator and prototype units that are key requirements in the introduction of new projects.	£737,614
Edinburgh Napier University	Business Innovation Centre	To assist SMEs in the development and improvement of products, processes and services, increasing business competitiveness and creating new jobs for the Scottish economy.	£2,059,175
Scottish Enterprise	TTOM	To improve technology transfer between the SME base and Scotland's HEIs in a range of high growth markets, associated with new technology development.	£540,000
University of Strathclyde	Strathclyde 'KT for company growth' project	To enable SMEs to access the research and expertise available within the University of Strathclyde with the aim of leading to new products, processes, increased profit and ultimately benefit for the Scottish economy.	£442,795.00
University of Dundee	The Innovation Portal, incorporating the BioPortal	To design a model to increase and enhance Scottish SME access to the expertise of the research base.	£1,464,143

Lead institution	Project	Purpose	Total Cost *
University of Edinburgh Partners: University of Edinburgh (lead) University of Strathclyde University of Glasgow Scottish Enterprise	RenewNet	To provide technical support and advice to Scottish SMEs working in the renewables or electrical engineer fields with their power engineering problems.	£748,716
The Farm Animal Genetics And Genomics Faraday Partnership Ltd [Non-HEI]	Animal Biosciences Knowledge Transfer Network (AB KTN)	To improve the flow of knowledge arising from the cutting-edge Scottish research base in animal biosciences into commercialised innovative products and processes in existing and new Scottish SMEs.	£1,255,115
Lead: Glasgow Caledonian University Partners: University of Strathclyde The Glasgow School of Art Edinburgh Napier University University of Dundee Heriot Watt University	CICSTART online	To enable knowledge exchange between seven Scottish universities and Scottish SMEs operating in the construction sector.	£955,365

Lead institution	Project	Purpose	Total Cost *
Robert Gordon University			
University of Strathclyde	Strathclyde Entrepreneurial Network	To support Strathclyde students and graduates for business creation and business growth. The key mechanisms are stimulating entrepreneurship, access to business finance and provision of start up support.	£998,877
Glasgow Caledonian University	Sustainable Food and Drink (SFD)	To help companies cut costs and improve competitiveness by highlighting how poor resource use and wastage contributes to their carbon footprints; helping identify opportunities for reducing their carbon emissions; and use carbon footprinting to provide evidence for the impact that various environmental initiatives have.	£848,745
University of Glasgow	MERITT (SIGMA)	To break down the barriers to academic/SME interaction. MERITT is part of a larger project called SIGMA which aims to increase engagement by Scottish companies in innovation, product development and new supply chains.	£2,667,499
University of Glasgow	Nexus	To facilitate bioscience networking and profiling activities in the West of Scotland.	£811,802
Edinburgh Napier University	Renewable Energy from Waste and Co-Products (REWC)	To improve the competitiveness of the enterprise base of lowlands and uplands Scotland by educating industry and facilitating both the production of sustainable biofuels.	£523,305
The Robert Gordon University	Centre for Design and Innovation Management (c4di)	To assist businesses to improve their use of design and to facilitate innovation by providing access to design expertise, cutting edge research and a network of design practitioners.	£781,861

Lead institution	Project	Purpose	Total Cost *
The Robert Gordon University	DePICT Developing the ICT Business Base	To establish a new and innovate ICT collaborative pooling network of academia and SMEs in the North East of Scotland, Highlands and Lowlands.	£895,963
Scottish Crop Research Institute [Non-HEI]	Interface Plus	To facilitate greater interaction between Scottish SMEs with a network of Government funded Research Institutions in the Interface programme.	£383,000
University of Stirling	Sporting Chance Initiative	To facilitate and supports knowledge exchange and innovation collaborations between Scottish SMEs and HEIs and provides advice to SMEs on how best to exploit market opportunities.	£1,400,298
University of Strathclyde	Strathclyde MedTech (Previously known as Medical Devices Knowledge Exchange Initiative)	To drive medical technology growth in Scottish SMEs to support them during recession and to build a platform for future growth.	£684,233
University of Strathclyde	Scottish Environmental Technology Network (SETN)	To support the development of the Environmental and Clean Technology sector.	£906,972
Lead: University of Strathclyde Partners: University of Aberdeen University of Dundee University of Edinburgh	SUPA Knowledge Transfer to aid company growth	To deliver a change in culture in Scottish physics and SMEs by combining academic and enterprise leadership with new measures and structures to optimise KT.	£877,116

Lead institution	Project	Purpose	Total Cost *
University of Glasgow Heriot Watt University University of St Andrews University of Strathclyde University of West of Scotland			
University of the West of Scotland	Innovation in Sensors and Project Design (INSPIRED)	To help Scottish SMEs solve problems, develop new products and enhance their use of existing/new technologies within sensor application, systems, packaging, project design and rapid prototyping.	£700,533
University of the West of Scotland	Scottish Centre for Enabling Technologies (SCET)	To support the Scottish Creative Industries sector by facilitating co-operation in R&D and knowledge transfer in the area of enabling technologies for content and knowledge management between the partner Universities' multi-disciplinary science base and Scottish companies.	£848,581
University of the West of Scotland	Innovation in Thin Films	To enhance productive knowledge transfer within Scottish SMEs from the University of the West of Scotland's Thin Film Centre.	£556,180

* Please note that this represents total project costs which include funding from Scottish Government and SFC.

Annex B

Project title	Sporting Chance Initiative
Institution	University of Stirling
SEEKIT Funding	£393,902.00 <i>£1.5 million was secured in total from other project partners, including the European Regional Development Fund (ERDF), SEEKIT, Stirling Council and the University of Stirling.</i>
Timescale	April 2010 – April 2014
Original objectives as outlined in proposal	
<p>The aim of the Sporting Chance Initiative (SCI) was to promote and facilitate knowledge transfer and collaboration between businesses and HEIs/academics in Scotland, in order to develop and bring to market new products or services for sports businesses.</p>	
Challenges/ Changes	
<p>The project was originally intended to run from January 2010 for 3 years, but was extended in late 2012 to September 2013. Around March 2013, the project was given a further six month extension from September 2013 to April 2014 as a result of the slow drawdown of monies.</p> <p>This project was awarded ERDF continuation funding in June 2014 and further SFC strategic funding in March 2015 to continue activity under the name Scottish Centre for Business Innovation in Sport. This funding will end in 2018.</p>	
Outputs and results	
<p>Overall, significant progress was made in meeting the targets set by ERDF, SEEKIT and Stirling Council. The interim report submitted in September 2012 revealed progress towards targets at that time had been limited and the level of appropriateness of engagement with companies in target sectors required improvement. By the end of December 2013, however, total project spend was recorded at just under £1.3 million, 84% of the overall approved funding with the project almost 90% of the way through the project period.</p> <p>Since the start of the project until the end of February 2014, the initiative supported 522 unique SMEs, amounting to 580 business opportunities (defined as an engagement with a company), since some businesses were supported on more than one occasion. Among the sectors supported by Sporting Chance, 45% were in the sports equipment and services sector and 18% in the tourism and outdoors sports sectors. Other sectors included the digital, creative and technology sector, textiles and materials and food and drink.</p> <p>The most common type of support delivered by SCI has been advising and sign</p>	

posting to other support/funding (51%) and one fifth (20%) of business support given by SCI being 72 STAR Grant awards – funding of £5000 for collaborative research projects with an HEI. Other types of support included market research support (13%) and business to business support (9%)

SCI delivered 33 business events/workshops, almost double the target; however, there were fewer attendees at these events than targeted.

In total, SCI assisted 321 SMEs with 1 to 1 support of over half a day (92% of the ERDF target) and a further 246 SMEs were supported with advice or information. The project assisted with the development of 48 new products or processes.

According to the final report which drew upon evidence provided by businesses, the project was well regarded by clients and relevant to their needs. 95% of businesses surveyed felt that support received from SCI staff was very useful, 73% found STAR Grant funding very useful and 70% found SCI events/workshops to have been very useful. The direct business advice received by the Business Development Managers was considered the most useful aspect of the project.

Impacts

According to the future forecast information provided by SCI, a total net increase in turnover of £5,904,000 has been calculated for STAR Grant businesses to date and over the next three years. This gives a return on investment of £3.86 benefit to the Scottish economy for every £1 spent by SCI.

According to the evaluation report, other commercial impacts of STAR awards include the creation of 142 jobs and the safeguarding of 69 jobs.

Most STAR recipients stated that commercial benefits would not have occurred without SCI support (41%) or would have taken longer to materialise (35%).

Wider business benefits achieved through SCI support and detailed in the final project report are:

- Collaboration with an HEI (29%);
- Increased awareness of technology (21%);
- New products/processes (18%);
- Further funding being applied for (15%); and
- Collaborations with other businesses (14%).

Project title	Interface – the knowledge connection for business Plus (HR10028)
Institution (s)	Scottish Crop Research Institute
SEEKIT Funding	£180,000 Project underspend - £2,601.00
Timescale	January 2007 – June 2012
Original objectives as outlined in proposal	
<p>The objective of the Interface plus SEEKIT award was to ensure the participation of the Research institutions in the Interface programme as a national service to support business-academic engagement. The purpose of Interface Plus was to facilitate greater interaction between SME's and small businesses with a network of government funded research institutes namely: the Scottish Crop Research Institute, Macaulay Research Institute, Moredun research Institutes and the Rowett Research Institute, sponsored by SEERAD); the institute of Animal Health and Roslin Institute, supported by UK Research Councils, Scottish Association of Marine Sciences plus the former Scottish Agricultural College, collectively known for the purposes of this project as the Scottish Research Institutes (SRIs).</p>	
Challenges/ Changes	
<p>Following the start of the project, there was considerable change to the partner organisations on the supply side. Notably:</p> <ul style="list-style-type: none"> • The Scottish Crop Research Institute and Macaulay Research Institute merged to become the James Hutton Institute. • The Rowett Institute became part of the University of Aberdeen • The Roslin Institute became part of the University of Edinburgh • Scottish Association of Marine Sciences became part of the University of Highlands and Islands • The Scottish Agricultural College (SAC) is now funded by the SFC. <p>Therefore, only the James Hutton Institute, Moredun research Institute and Institute of Animal Health which has a very small presence in Scotland are not included in SFC funding.</p> <p>On 29 November 2011 it was agreed that the Interface Food and Drink Network would engage closely with the remaining research institutes James Hutton Institute, Moredun Research Institute and Institute of Animal Health in supporting business through an academic engagement post.</p> <p>A significant challenge to the outputs and results delivered by the project was the limited capacity within the smaller institutions to respond to business requirements.</p>	

Outputs and results

Over the lifetime of the project there was a considerable amount of activity in taking forward 649 business requirement specifications to the Research Institutions for consideration. However the research institutes only had capacity to respond to 109 of these which led to 77 company –academic discussions. The target figure outlined in the approved grant letter is shown in brackets.

- No. of SMEs helped with advice/information 649 (target 60)
- No. of SMEs assisted 109 (target 30)
- No. of new links between SMEs and Research Institutions 77 (target 30)
- No. of SMEs assisted with High Level support. 38 (target 20)
- No. of SMEs undertaking Innovation/R&D projects. 6 (target 17)

Overall, the project failed to meet the output targets outlined in the grant offer letter.

- Increased investment in innovation/RTD by SMEs £71.2k (target £410k)
- Increased investment in innovation/RTD to Research Institutes (additional information, no target set) £173k
- No. of new patents issued/IPR registrations made 0 (target 3)
- No. of new products introduced 0 (target 5)
- No. of new processes introduced 0 (target 3)
- No. of new licensing deals between SMEs and science base 0 (target 5)
- No. of new Spin-outs/SMEs formed 0 (target 1)

The most successful aspect of the project was the engagement with large international food and drink companies – e.g. BBSRC Link project involving ConAgra & James Hutton RI for research into Acrylamide in Potato products. A collaborative project including 3 UK academic partners and 9 industry partners. Total project cost £946k, Industry funding £476k (50.3%), £28k from ConAgra (cash & in-kind), £163k of funding going to SCRI. This allowed a researcher to be employed at SCRI. In addition, Alliance Boots / Boots Centre for Innovation commissioned analysis with other major international companies such as PepsiCo.

Impacts

An independent Interface evaluation showed that the net employment impacts that were created as a result of the support of the 86 surveyed beneficiaries were:

- 12.6 net additional jobs created and 54.6 forecast net additional jobs to be created in the future.

If this figure is grossed up to the supported population on the basis of a response

rate of 29%, the following impacts are suggested:

- 41-49 gross jobs; and 40-48 net additional jobs.

In addition the project is estimated to create a further:

- 158-189 gross jobs; and 173-207 net additional jobs.

The total estimated net cumulative GVA of the Interface is £66,861,982 consisting of: £7,707,218 net additional GVA created to date; and £59,154,764 net GVA **predicted** in the future.

The estimated return on investment (ROI) achieved by the Project was calculated for **jobs created** and **predicted** for the future based on a set of assumptions on project cost, job creation and the net GVA estimated to be generated per annum. In respect to national benchmarks, the ROI for current impacts was lower than the national figure. The ROI for future impacts is considerably higher, but is acknowledged by the project holder to be almost certainly an overestimation of the actual impacts that will accrue in future. Even if a conservative position is taken, however, of the proportion of the future forecast impacts that will be realised, the ROI for Interface would appear to compare with national benchmarks.

Project title	Strathclyde Entrepreneurial Network (H10051)
Institution (s)	University of Strathclyde
SEEKIT Funding	151,498.00
Timescale	1 June 2008 – 28 August 2012
Original objectives as outlined in proposal	
<p>The aim of the Strathclyde Entrepreneurial Network was to support Strathclyde students, alumni and staff, to translate research, learning and knowledge into commercially viable businesses. The project's main aim was to create and nurture links between the University and industry facilitating knowledge exchange activities, in this case the commercialisation of learning, knowledge and research.</p>	
Challenges/ Changes	
NA	
Outputs and results	
<p>The project, Strathclyde Entrepreneurial Network (SEN) met the majority of its original targets and, in some cases, exceeded the level of expected activity. Those targets that were not met were narrowly missed and the reasons for this provided below.</p> <p>Supporting small and medium-sized enterprises (SMEs)</p> <p>SEN organised 40 events over the course of the funding period. In total, 363 SMEs attended these events. This exceeded the original approved target of 12 events and 108 new SMEs attending events.</p> <p>The project was very successful in providing support to SMEs in varying levels:</p> <p>Advice and information – achieved 171 SMEs (original target 160); Assistance – achieved 70 SMEs (original target 84) ; High level support – achieved 17 SMEs (original target 16); and Engaged with new pre-start clients – achieved 179 (original target 45).</p> <p>According to the project lead, the fact that the assistance target was not met can be attributed to the high number of clients that jumped from the 'advice' category straight into the 'high level' category during a given quarter, therefore missing out on the mid-level of support.</p> <p>Product Development</p> <p>Over the course of the project, the team supported the development of 43 new innovative products. In respect to these products, the project surpassed the original</p>	

approved targets of:

New patents filed, achieved 19 (target 15); and

New products/processes/services introduced/improved, achieved 43 (target 36).

Links and License Deals

New links between SMEs and Science base, achieved 28 (target 24)

New license deals between SMEs and Science base, achieved 9 (target 5).

Business creation and growth

135 new jobs were created against an original target of 150. According to the project report this target was not achieved due to the majority of SMEs formed were set up with 1 founding member. Growth within staff numbers came within the first few years of trading therefore the majority of start-ups have not reached this stage yet.

SEN developed a strong pipeline of pre-start clients, with 179 engaging over the course of the project. Original target 45.

Number of Spin Outs/SMEs formed: achieved 58 against a target of 60. This target was marginally missed.

The project reported additional increased sales of £3,154,420 from SMEs that were assisted during the course of the project. Target £2,000,000.

Research and Development

Original targets were greatly exceeded in this area.

SMEs undertaking innovative R&D approved achieved 21 (target 16). 19 new patents filed.

Investment in innovative R&D by SMEs, approved target £600,000, achieved £2,038,300.

Specialist Support

(SMEs receiving support for energy saving and resource efficiency and e-commerce/SMEs with reduced costs per unit/Renewable energy projects supported)

SMEs receiving support for energy saving and resource efficiency, approved target 4, achieved 4.

Renewable energy projects supported, achieved 13. Original target 4.

Number of SMEs with reduced costs per unity output: achieved 3 against an original target of 4. This target was marginally missed. According to the final project report,

this was due to the fact they were focussed more on creating companies. Having a smaller base of existing companies made it difficult to achieve the full target.

Other

The University of Strathclyde agreed to provide core funding to sustain the activities driven by Strathclyde Entrepreneurial Network post February 2012 (current project end date). The activities of the project were deemed to add value to the University's activities in the areas of enterprise, commercialisation and alumni relations. The funding will see key posts maintained and will allow for a number of key activities to continue and grow. The decision by the University of Strathclyde to invest in the activity post SEEKIT/ERDF funding indicates the success and value of the project.

Project title	More Effective Results in Technology Transfer (MERRITT) (Ref: HR10035)
Institution (s)	University of Glasgow
SEEKIT Funding	£655,537
Timescale	1 July 2008 – 31 January 2012*

Original objectives as outlined in proposal

The purpose of the project, More Effective Results in Technology Transfer (MERRITT), was to break down the barriers to academic/SME interaction. Its overall aim was to effect wealth creation from the research base, increase the competitiveness of SMEs through their engagement with academia and encourage productive Knowledge Transfer links between business and the academic base.

MERRITT was part of a larger £2.7M project, known as SIGMA (Scottish Innovation in Global Market Applications), which aimed to increase engagement by Scottish companies in innovation, product development and new supply chains. This 3-year initiative was intended to build on the success of two recently completed externally funded programmes in the University of Glasgow – Dialogues and ADS (Aerospace, Defence and Security) – in which technology driven SMEs were supported to grow their businesses through interaction with academics and larger companies. MERRITT (SIGMA) was seen to be breaking new ground in supporting a wide range of key industry sectors such as Life Sciences, Renewable Energy, Nanotechnology, Financial Services, Transport and Security and Defence.

Outputs and Impacts

The MERRITT project easily exceeded all of the targets gross output measures set by funders, including some by very high margins and can, therefore, be considered a success. The project team engaged with over 500 SMEs, creating new links between industry and the science base. It supported SMEs to introduce or improve over 60 new products/processes. It also helped to increase investment in external knowledge/innovation by SMEs to a total of £1.5M and turnover by supported enterprises to a total of £4M. It was reported that 81 new jobs had been created in Scotland.

One main function of the MERRITT project was to organise and run events. In total, MERRITT held 44 events with the purpose of stimulating knowledge exchange and supply chain activities amongst academics, SMEs and larger companies with over 400 SMEs attending the events. One of the main elements of the project and a key factor in achieving the project deliverables was the First Step Awards (FSA) programme. This encouraged academics to engage with industry through the use of £5k funding grants used to buy out their time to work on small developmental projects. This was very effective in stimulating academic engagement and building relationships. It

resulted in an increase number of products and services being developed and opportunities for further development work. A total of 94 projects were completed during the course of the project.

Other

In respect to the future of the project, the outcomes from MERRITT have been fed into the Encompass project¹² which was designed to create a coherent support structure that removed the barriers to innovation and would grow the number of companies engaging in innovation activities. The purpose of the project was to:

- Raise awareness of innovation opportunities and help companies identify their own needs;
- Provide support to companies in addressing their management, financial, market and innovation needs through a coalition of support partners; and
- Provide resources to companies to enable them to engage in real innovation.

This project is a partnership between the Universities of Glasgow, Strathclyde and Aberdeen and is funded by the European Regional Development Fund, Scottish Enterprise, Scottish Funding Council and University partners.

The FSA process was considered to have been successful in encouraging the SME community to engage with the project and the academic base. The process was streamlined throughout the project and all “lessons learned” were incorporated into the process to be used again in the Encompass project.

¹² Further information regarding the Encompass project is available at, <http://www.encompass-scotland.co.uk/>

Project title	Animal Biosciences KTN (HR10040)
Organisation	Bioscience Network Limited
Funding	£235,963
Timescale	April 2009- June 2012
Objectives as outlined in original proposal	
To deliver improved performance of Scottish SMEs through innovation and new collaborations in animal biosciences by driving the flow of knowledge, experience and people between business and the science base, between business and across sectors.	
Outcomes	
The project has been very successful in meeting and exceeding the majority of the targets set at the outset. Success extends across targeted events and engagements with SMEs to 'hard' outputs with 53 new innovation/RTD projects including SMEs; 4 new licensing deals, 5 patents and 27 new or improved products/processes and at least 5 new spin-out companies. According to the financial and economic report provided it increased turnover in assisted businesses of over £7.6 million and has helped create 82 new jobs and safeguarded an estimated 150 jobs. The majority of the new jobs created are highly skilled scientific and technical position (high remuneration jobs) in SMEs and also research positions in Scottish universities and research institutes who co-operate with SMEs.	
Lessons learned	
<p>BKTN had an existing and extensive contact base which enabled effective networking events to be held that provided opportunities for between Scottish SMEs and Research Institutions that resulted in innovation/RTD projects and collaborations that should lead to commercialisation opportunities and wealth creation.</p> <p>Given the long timescales involved from a project's inception to bringing a new product, process or service to market the benefits to Scottish SME's over time from this project is likely to exceed those reflected in the metrics detailed in this document.</p>	
Other	
<p>Networking activity relevant to innovation and animal biosciences takes place across the UK funded by the Technology Strategy Board grant to the Biosciences KTN, but this activity no longer has additional resources to provide accelerated and Scottish specific activity. This project played a key role in improving Scotland's innovation performance within the sector over the last 3 years.</p> <p>BKTN activity will continue but will be scaled back due to funding constraints post June 2012.</p>	

Project title	Sustainable Food and Drink Programme (HR10043)
Institution (s)	Glasgow Caledonian University
SEEKIT Funding	£741,885
Timescale	August 2009 – July 2012
Original objectives as outlined in proposal	
<p>The overall aim of the sustainable food and drink programme was to “assist SMEs in the Scottish Food and Drink sector to improve their business competitiveness and environment performance by managing their carbon emissions”. This was to be achieved by helping firms:</p> <ul style="list-style-type: none"> • To understand better their carbon footprints and the inefficiencies that contribute to them; • To identify opportunities for firms to reduce their carbon footprints through cutting waste and costs; and • To engage with stakeholders by demonstrating good corporate governance. <p>Note The initial ERDF and SEEKIT targets emphasised provision of support to process in and manufacturing firms in the food and drink sector. Due to economic conditions (see below), the Sustainable Food and Drink programme expanded its targeted group of firms to take in all food and drink firms as defined by the Scottish Government. Support could then be provided to a wider range of firms, in particular smaller firms and firms in the hospitality sector.</p>	
Challenges/ Changes	
<p>The management and ownership of the programme for a period of time by the University – the structure within which the programme was to be delivered (the Caledonian Environment Centre) ceased to exist in 2011 and this created challenges for the delivery team.</p> <p>The ‘competitive’ environment in which the programme operated – a range of organisations offer similar or closely related services and it was difficult to position Sustainable Food and Drink within the market.</p> <p>The ability of firms to take action –most firms welcomed the opportunity to cut costs but were likely to consider significant investments too risky. Engaging with the ‘non-ready’ market was also difficult because of the time pressures on small business owners/mangers.</p> <p>In some instances the targets set were optimistic. For example, a target was set to provide, 1,200 supports or assists to firms over the course of the project. In 2009, however, it was estimated that there were only 1,200 food and drink processing companies in the whole of Scotland – including small, medium and large enterprises.</p>	

This also includes those firms that would not fall within the Sustainable Food and Drink remit in terms of size and location. Initial targets were also based on the forecast of growth within the sector. The food and drink sector, in Scotland was affected between 2009 and 2012 by the economic downturn and challenging economic conditions. Due to these conditions and features of the target population, the original targets set may be considered unrealistic.

Outputs

Most activity targets were either close to being achieved or exceeded, with the programme having the most notable impact on cost savings and investment leverage.

According to surveys undertaken by independent evaluators the programme gave firms the confidence to take action. There was also evidence that the knowledge gained by businesses had been translated into action in a relatively short timeframe.

It was successful in connecting firms to Interface Food and Drink and this resulted in Knowledge Transfer projects. Also very effective in linking firms to Carbon Trust, Energy Savings Trust and Zero Waste Scotland.

A good proportion of beneficiary firms gave very positive feedback. The mentoring services were particularly valued and this was considered a service that differentiated SFD from other organisations and initiatives.

In respect to sales related programme targets, these could have been better. It should be noted, however, that in its assessment of the Programme, independent evaluators believed the original targets set were very high and may not have been realistic given the population of food firms in Scotland. Targets were also considered high in respect to creating links between SMEs and the Science base (target 442) and the number of SMEs helped with Advice/Information (target of £1,200). Given that an assessment of the population of firms in the Food sector indicates that there were approximately 1,200 firms comprising the sector (in 2009) these targets may be viewed as unrealistically high.

Also very effective in linking firms to Carbon Trust, Energy Savings Trust and Zero Waste Scotland.

Outcomes

There were three stages of potential impact from Sustainable Food and Drink. These were:

- Knowledge development;
- Translating Knowledge into action; and
- Generating financial impacts from action.

In terms of knowledge development that Programme made a notable contribution to

firms' understanding of sustainability related issues. The translation of knowledge into action was also good, primarily in this firms that received more intensive support. With regards to the generation of financial impacts from action the majority of those who had taken action reported that there had or would be financial benefits as a result, including Cost Savings derived from advice on carbon footprints and efficiency savings. The principal target set for SFD related to Sales Generated (target £1,04m). As highlighted in the report produced by independent evaluators, this was at odds with what the Programme was intended to achieve which was built around how firms could improve their efficiency. Quantitative benefits are more likely to be derived through cost savings rather than sales.

Final figures indicate that the Programme generated cost savings of £348k amongst assisted firms.

Other

Overall, SFD performed well given the changing operating context within which it had to perform. Satisfaction from beneficiaries was high.

Scotland Food and Drink intends to place greater emphasis on sustainability in the future.

Project title	Innovation in Thin Film (HR10029)
Institution (s)	University of the West of Scotland
SEEKIT Funding	£556,180
Timescale	October 2011 – February 2012
Original objectives as outlined in proposal	
<p>The aim of the Innovation in Thin Films project was to assist a wide range of small and medium sized businesses across Scotland by providing a unique service in the application of Thin Films.</p>	
Outputs and outcomes	
<p>In respect to providing support, assisting SMEs and creating new links between SMEs and Research Institutions the project met or exceeded the targets set. For example: Innovation/knowledge transfer networks supported 21 (target 14) Number of new links between SMEs and research institutions 86 (target 72) Number of SMEs assisted 105 (target 66)</p> <p>The project was less successful in meeting the original targets set in relation to increased investment, patents and licenses.</p> <p>Increased investment in innovation/RTD by SMEs - 3.01m (target 3.3m) Number of new/improved products introduced 29 (target 32) Number of new processes introduced 30 (target 35) Number of new patents issued/IPR registrations made 3 (target 5) Number of new licencing deals between SMEs and the Science base 2 (target 5) Number of new Spin-Outs/SMEs 0 (target 1)</p> <p>According to the final project report, Innovation in Thin Film led to the creation of 12 new jobs and safeguarded a further 22. In respect to income generated, it was reported that there was a £1.4m increase in sales in assisted businesses. The project was also successful in providing assistance to SMEs to enable them to apply for awards, including Innovation Vouchers.</p> <p>Output data and supporting evidence suggests that Innovation in Thin Films was very good at promoting expertise, services and undertaking preliminary research on behalf of companies. Although there were instances where this engagement with SMEs progressed to the delivery of commercial benefits (e.g. Ferryhill Motors) in a large number of cases this initial contact did not progress. The final report suggests that this may be attributed to the relevant SME not maintaining contact with Innovation in Thin Films beyond the initial contact/exploration stage.</p>	

Project title	SME Innovation Portal (HR10052)
Institution (s)	University of Dundee University of Abertay Dundee James Hutton Institute
Funding	£392, 195
Timescale	October 2010 –September 2013
Original objectives as outlined in proposal	
<p>The Innovation Portal (the University of Dundee, the University of Abertay Dundee, the James Hutton Institute and Dundee City Council – through the BioDundee project) were awarded £1,015,000 in total from the Lowland and Upland Scotland Objective 2 European Regional Development Fund and the SEEKIT programme.</p> <p>The aim of the Innovation Portal was to develop partnerships between innovative firms and academia. It was created to broker relationships between businesses and academic expertise to encourage the development of innovative products and services. It was intended to guide prospective companies through the process from initial discussion, through the grant application process to the development of new products, processes or services.</p> <p>The activities of the Portal were intended to create partnerships that would develop and drive commercial opportunities.</p>	
Challenges/Changes	
<p>Operational difficulties linked to the availability of the appropriate marketing personnel to support delivery of the portal’s objectives in the early years of the grant. Also, there was a period where there was no BioPortal Manager in post which had an impact on activity in this area of the project.</p> <p>The final project report submitted in October 2013 noted that subsequent to the grant award, external factors may have affected the degree to which certain project objectives could be achieved as intended. These included:</p> <ul style="list-style-type: none"> • Reduced availability of funding from public sector sources: including the follow on research and business development funding for which the Portal acted as a gateway; and • More stringent conditions for commercial lending affecting the ability of businesses to borrow to support product development and commercialisation. 	
Outcomes	
<p>Overall the Portal was highly effective in helping SMEs through the provision of advice (target: 400; achieved: 471)and developing links between SMEs and the sciences base (target 225: achieved; 282). Targets failed to be achieved in respect to key outputs, including the undertaking of projects – 13 (53) , patents issued/IPR</p>	

registrations made – 1 (14). Reasons for this may be attributed to operational difficulties noted above and also the lag between concept and product development which influences the extent to which businesses witness any benefit from programmes such as those brokered through the Portal.

The impact of the operational difficulties noted above, is evidenced by comparisons of the achievement of the Portal to 2011 and between 2011-2013 where there was a marked acceleration in the delivery of outputs against initial targets. It is important to note that despite this delay, by April 2013 initial targets for the number of new links between SMEs and the science base had been exceeded. Also, the number of businesses that had received advice or information increased significantly between July 2011 and April 2013, showing a higher level of usage of the Portal's services and increased awareness of the services it offered. Also, in the last two years levels of investment in external knowledge/Innovation/RTD by SMEs also improved. The Portal had achieved only 4% of its initial target in July 2011, by April 2013 it had increased to 30%.

An online business survey was developed as part of the project to establish the extent of the economic and financial impact generated by business linkages developed through the Innovation Portal. This covered levels of employment, investment and turnover in 2009 (official start of ERDF) and currently; the degree to which any changes could be attributed to the involvement of the Innovation portal as a vehicle for encouraging innovative and competitive businesses. Responding businesses (32 out of 67) employed a total of 2,887 staff in 2013, a 14% increase (345 staff) increase in the 2009 figure of 2,542. Over the same period the combined turnover of responding businesses increased by 22% from £79.6 million to £97.2 million. 35 % of responding businesses thought the Portal had contributed to these effects, its involvement considered responsible for an average 3% of employment and 3% of turnover changes (equivalent to turnover of £592,937 and 12 jobs). Over 65% of businesses said that the Portals' assistance had encouraged an increase in business investment in Innovation or Research Technology Development. The sum of business investment attributable to the Portal was estimated by companies to be £1,799,010, with the average amount invested as a result of the Portal being £99,945. In respect to qualitative factors: 91% of responding businesses thought that the Portal had extended their business and/or research networks; 72% felt that the programme had led to product and/or service innovation; and 88% thought that the work promoted through the Innovation Portal had increased knowledge exchange.

Qualitative research undertaken by PBA Roger Tym indicated that the business community considered the Portal to be a good source of information in helping businesses move products forward, particularly providing assistance in progressing grant applications. This was in recognition that, small & start-up firms do not have the resources to consider grant schemes and application processes which act as a

disincentive for many in applying. Businesses surveyed as part of the projects final report, believed that many applications would not have gone ahead without Portal intervention.

Lessons learned

It is difficult to make an accurate assessment of the effectiveness of this investment, due to the time lag between concept and product development means immediate evidence of effectiveness in terms of 'hard outputs' and impact is difficult to obtain.

From a business perspective, there was a very clear positive impact of this type of initiative. Qualitative data suggests that the Portal made the process of businesses working with academia easier. This was attributed to its commercial awareness and ability to smooth the process and act as a facilitator.

Quantitative data indicates that when operational challenges are encountered at the start of a project this may lead to significant delays in achieving projected targets. Nevertheless, projects of this type can make progress, both quickly and effectively once operational challenges have been resolved.

Other

Funding in support of the Innovation Portal ended in September 2013, however, continuation funding provided through the ERDF will enable the continuation of activities until March 2015. The Portal will continue to market the next round of Scottish Funding Council Innovation Vouchers and related follow-on vouchers. ERDF extension is granted and institution will continue to promote the Portal's own small grant scheme with money that has become available from approved projects that failed to start and a £40k top up from ERDF as applied for. Future activities supported through the Portal, have been planned for.

Project title	Renewable Energy from Waste and Co-Products
Institution (s)	Edinburgh Napier University
SEEKIT Funding	£210,000
Timescale	1 January 2010 – 31 March 2012 The original end date for the project was December 2011. The project was granted a 3 month extension until March 2012.
Original objectives as outlined in proposal	
<p>The aim of the project, Renewable Energy from Waste and Co-Products (working name Biofuel Business Programme – BBP), was to significantly improve the competitiveness of the enterprise base of Lowland Scotland and to facilitate the production of sustainable biofuels from existing waste streams arising from key industrial clusters in Scotland. Key activities were targeted at: awareness raising; addressing misinformation about the production of biofuels and the development of the biofuel industry; creating process improvements, new jobs and increased turnover; and developing pilot projects and deeper/stronger collaborations with universities.</p>	
Challenges/ Changes	
<p>Delays in starting project activity and staff changes influenced delivery. The official starting date was January 2010 but due to delays in the recruitment process the team was not in place until April 2010. Also, the original Project Manager and Science Officer left in December 2010 and a replacement was not in post until March 2011. An extension was granted until March 2012 and this allowed for the project to be completed successfully.</p> <p>Additional challenges were:</p> <ul style="list-style-type: none"> - Resource intensity: Influencing sufficient small and medium sized enterprises (SMEs) due to resource intensity of delivering quality assistance. - Monitoring outputs and outcomes effectively: The project holder did not provide evidence that the number of SMEs receiving support for energy savings and resource efficiency met the target set. The target was 50 SMEs, 46 SMEs were reported. According to the final report, it was believed that the number of SMEs actually exceeded this number. The outputs of events had not been sufficiently enough monitored, however, to evidence those types of impacts. The presented results only reflected outputs from longer (more than 1 day) interventions. - Economic conditions: The project did not meet its target in respect to increased investment in external research and technological development by SMEs (achieved 95% of target set.) Due to the economic climate this may still be considered a very positive result taking into consideration the economic climate. 	

Achievements and outputs

This project was very successful. It met and in many cases exceeded the majority of the key outputs set. Through organised events, advice, free consultancy and short term research and development (R&D) projects, it supported approximately 153 business clients, 11 of these were awarded feasibility funding of £5000 by the programme. 28 businesses progressed into the innovative R& D projects which resulted in more than 16 new products/processes or services. 14 SEEKIT created new jobs and 13 jobs were safeguarded, potentially increasing turnover of assisted companies by a reported £3.5M.

According to the external project evaluation undertaken on behalf of the project, the project was very successful in fulfilling its role to drive awareness amongst SMEs of the potential benefits of biofuel production in Scotland. It should be noted that three areas of work were noted to have been especially valued by firms. These were: events; feasibility studies; and sample analyses.

Other (including future learning)

Events – the quality of the speakers, content of events and proactive role of staff in facilitating contact with other attendees and between attendees and speakers were highly valued by SMEs.

Feasibility studies – professional presentation, detail and meaningful information are key to providing a reliable basis on which to make an investment decision.

Professionalism and knowledge – the expertise and approach of a team is important to the outputs delivered. In respect to this project, the analytical skills, proactive approach and the team's links to a wider network of expertise was reported by SMEs to have been very important to the outputs delivered by the project.

Monitoring systems – effective monitoring systems are essential to measuring outputs and providing evidence of impact. There is a risk that success will not be captured if adequate monitoring systems are not in place.

Realistic target setting– activities in respect to this project were found to be more resource intensive than anticipated. This led to underachievement in the number of SMEs that reported that they were seriously considering product and process changes as a result of project engagement.

Specialist knowledge and support- This project was supported by an Advisory Board, which consisted of stakeholders and leaders in the biofuel industry. The final report states that many of the most interesting contacts and new ideas were developed as a result of input from Advisory Board members. It was considered to have played a key role in supporting the project.