



**Lowlands and Uplands Scotland ERDF and ESF Programmes 2007 - 2013
Programme Monitoring Committee**

**SCOTTISH ENTERPRISE STRATEGIC DELIVERY BODY
PROGRESS REPORT TO THE LUPS PROGRAMME MONITORING COMMITTEE**

1. BACKGROUND

This report provides an update on progress with the delivery of the Scottish Enterprise Strategic Delivery Body (SDB) Innovation and Commercialisation projects funded under ERDF Priority 1. The information presented below covers the period from the commencement of each project in April 2008 and October 2007 respectively up until the 30th June 2011.

Scottish Enterprise as the Strategic Delivery Body (SDB) provides financial and physical performance information on a quarterly basis to the IAB, in addition to the standard progress report required for the Eurosyst system and compliance monitoring that is conducted throughout the programme period.

Previous reports followed a set structure agreed as part of the approval and monitoring process, which focussed largely on spend and target figures. It was agreed following the last Programme Monitoring Committee to expand the report to include more qualitative information on implementation, strategic integration and projected demand and outcome.

2. SDB OVERVIEW

The Scottish Enterprise (SE) SDB comprises two separate ERDF applications, Supporting Innovation in Lowland and Upland Scotland (Innovation) and Supporting Commercialisation and Research in Lowland and Upland Scotland (Commercialisation), both intrinsically linked in terms of supporting SE's innovation and growth portfolio.

Each element comprises a number of delivery products designed to provide an integrated and co-ordinated approach with the overall aim of stimulating an innovation culture in Scottish SMEs and increasing spin-out and commercialisation opportunities.

COMMERCIALISATION SDB
£31,326m - £14m ERDF
4 years to March 2012

INNOVATION SDB
£13,119m - £6m ERDF
3.5 years – completed 30 June 2011

PROJECTS
Intermediate Technology Initiatives
Proof of Concept

PROJECTS
Innovation & Winning Through Innovation
Wellness and Health Innovation
South Of Scotland Innovation System
Digital Media Initiative

OBJECTIVES
Increasing regional benefits of a strong higher and further education sector
Improving RTD and innovation across region
•Nationally significant impact on growth sectors
•Collaboration with HE institutions - foresighting
•Build critical mass in key sectors
Long Term projects – 150 Companies

OBJECTIVES
Developing a broader approach to innovation to include products and processes
Stimulate innovation as a driver for growth - internationalisation
•Build capacity to innovate advice, support & grant
•Provide co-ordinated approach in key sectors
•Address SME concerns – risk, cost, time, route to market
Progressive interventions – 2295 Companies

It is important to recognise that the original applications and projects were defined at the start of the programme period in 2007 in a very different economic, government and enterprise network structure than that which exists today. In addition the operation of an SDB was a new concept introduced under the 2007-13 programme period, which like any major change in EU funding support has necessarily taken some time to develop and embed.

The size and significance of the SDB programme has made it easier to identify clear synergy with the wider SE/SDI products available to support the growth and internationalisation aims of the SMEs involved. Delivery forms part of the overall Account Management process, with bespoke account teams drawn together to provide an integrated portfolio of specialist expertise and support designed around the needs and potential of each individual company. As such the SDB products do not sit in isolation but utilise a wider range of SE support which can add value to the innovation and commercialisation potential of the SME, particularly in the areas of access to finance, business efficiency and internationalisation support. Many of the products utilised also benefit from structural funds support, e.g. Venture Fund, Smart Exporter, Investor Readiness and Business Efficiency programmes.

Participation in the SDB process is not restricted to Account Managed companies. To promote the importance of innovation in companies, SE also supports non relationship managed companies. These companies can access SE support often by referral from the wider enterprise support network. An initial review of support provided indicates that there is an even balance between account managed and non relationship managed companies. Much of this engagement is through Winning Through Innovation.

The original concept of the SDB process was to provide an approved framework of support within which flexibility could exist to respond to changing economic and operational environmental impacts. This has proved successful in allowing a change of focus for those products included, as well as the reallocation of funds across approved projects, to meet changing demand which has emerged as a result of the economic downturn. Given the scale of change which has been experienced over the lifetime of the SDB it would also have been helpful to be able to bring new projects/products which were developed to meet these needs into the portfolio. This is an area to be considered in any future development of the process.

The volume of transactions involved in a project of this size have required considerable resource in terms of the claims, compliance and monitoring processes. In particular, the long term nature of the interventions makes output reporting on a quarterly basis unrealistic in all but basic information, which can lead to the perception that progress is not being made. However, the close working relationship which has been developed with the Managing Authority as part of this process has led to a better ability to identify the most appropriate additional EU funded support to strengthen SE's contribution to the achievement of overall Operational Programme targets and Scottish Government priorities.

3. UPDATE ON INNOVATION SDB

The Innovation SDB was specifically designed to support a range of progressive interventions with the objective of:

- Stimulating demand for innovation by ensuring that companies are aware of the benefits
- Extending the culture of innovation by addressing the concerns of businesses e.g. risk, cost, time, route to market
- Building capacity to innovate and develop new products, processes and services
- Providing advice and grant support to SMEs to assist with implementation of innovation
- Providing a coordinated approach to innovation in key sectors

This more co-ordinated approach has also focussed on facilitating collaboration, bringing together SMEs, academia and corporate partners to produce market ready products and services.

The Innovation SDB provides a total budget of c. £13m (£6m ERDF) comprising five components, capable of being implemented progressively or accessed individually depending upon SME and sectoral needs and opportunities.

- Winning Through Innovation - provides a programme of events, workshops and master classes designed to raise awareness of innovation, support the development of new products, processes, services of approaches to business and take forward new innovation opportunities.
- Innovation Support & R&D grants - . Innovation support grant is aimed at those companies seeking to design or introduce internal mechanisms internally to encourage innovative cultures and behaviours, or preparation for market launch, while the R&D grant provides higher level of support to companies seeking to grow through the development of new products, processes or services.
- South of Scotland Innovation System Initiative – aimed at assisting entrepreneurs across the South of Scotland to grow through collaboration with other businesses, the academic sector and peers.
- Wellness and Health Innovation – designed to help companies explore and develop new products, services and applications for the newly emerging wellness and health market, with a focus of building a community of SMEs capable of taking advantage of the growing need for innovation in this area.
- Digital Media Initiative - establishment of a collaborative Digital Media support network providing specialised market and technology advice designed to support and accelerate innovation in this key sector of the Scottish economy. Including events, facilitation of partnering (academia & international) and sector specific advisory services.

Financial Update

The Innovation SDB is has now reached full spend and a final claim up to the end of June 2011 will shortly be submitted.

	Number of Projects approved	Number of Projects delivered	Total Eligible Costs	Approved Grant	Declared Expenditure to date – June 2011	Grant paid to date
Supporting Innovation	6	5	13,118,832	5,903,474	13,118,832	5,489,814

While the original budget profile for this SDB included elements of eligible salary, overhead and marketing costs, as a result of increased demand and changes resulting from the removal of the EDGE project, and incorporation of T-TOM into the Innovation Grants portfolio, all funds were able to be reallocated to direct support to companies and collaboration activity.

Progress against Target

The following table provides information on actual achievements. We are in the process of collating information for the final claim and the figures below will increase once final analysis has been completed, particularly in the categories of products and services developed and renewable energy projects supported. This process relies upon information collected through individual company updates and therefore requires more time to bring to conclusion for those companies most recently supported.

Each of the individual projects within the SDB will be the subject of independent external evaluation which will provide information on the overall impact of the Innovation SDB and specifically draw out direct impacts on increase in turnover and jobs created.

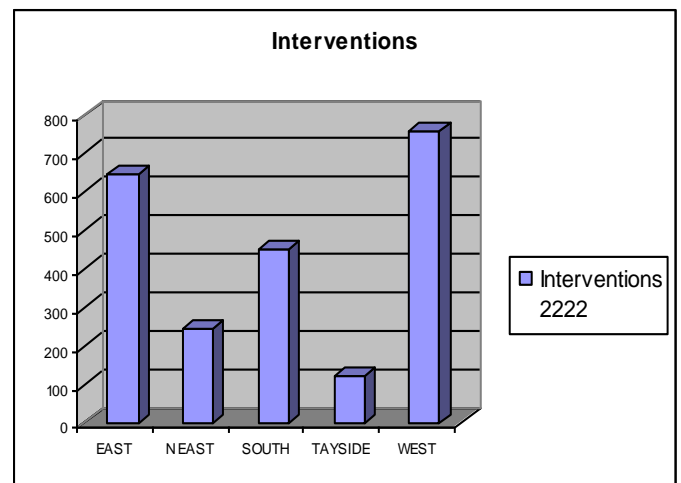
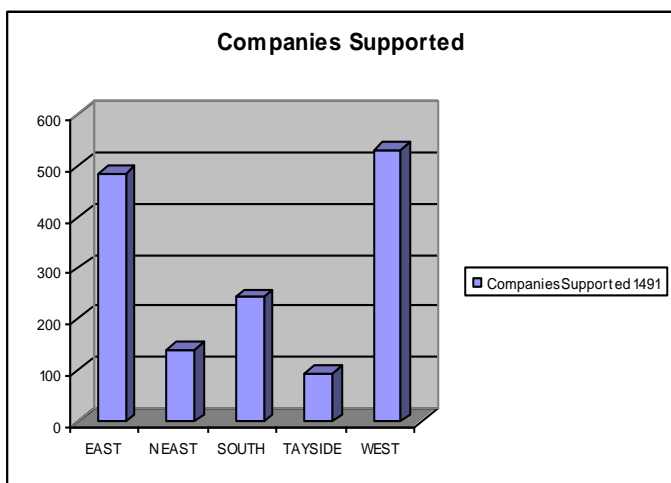
The figures to date are broadly positive. While the number of companies supported is less than the original target, this can be accounted for by the fact that two projects were withdrawn from the portfolio without a revision to overall targets and more importantly, the impact of the economic downturn has resulted in individual SMEs requiring greater levels of support than originally anticipated in a time of economic growth. This is evidenced by the fact that the number of individual interventions is much closer to the original company target figure.

The number of new products and services developed is also very positive, with further achievements anticipated before the end of the Operational Programme period.

Individual evaluations of each project now underway/planned Outputs recorded to date	Target	Actual reported to date
Number of enterprises supported	2,295	1491
• No if individual interventions		2222
New products/services developed by supported enterprises/research centres	266	243
Increase in turnover by supported enterprises (£mn)	23	Evaluation
Number of research networks & collaborations supported	90	42
Number of new products & services developed by supported networks	87	19
Number of renewable energy projects supported	10	8
Number of gross jobs created	22	Evaluation
Number of gross jobs safeguarded	1,034	1047

A full report on final outputs will be provided once the evaluation process has been concluded.

Geographic Coverage



In terms of number of companies supported, all areas have seen a high number of SMEs attending Winning Through Innovation events. The South of Scotland Innovation Initiative represents the majority of participation from the South, with 7% receiving Innovation/R&D Grant support only.

In all other areas uptake of Innovation/R&D grant accounted for between 30-40% of interventions. While the Wellness and Health and Digital Media Initiative uptake falls primarily in the West and East as might be expected given the academic collaboration and sectoral concentration of these initiatives.

While looking at the geographic spread of individual interventions demonstrates that those companies in the South and North East have benefitted from greater levels of intervention (numerically).

This analysis poses some interesting questions which will be explored further in the evaluation process.

4. UPDATE ON COMMERCIALISATION SDB

The Commercialisation SDB is a very different project which includes Proof of Concept and Intermediate Technology Initiative, with a total budget of c. £31m aimed at providing long term intensive support resulting in spin-out, licensing or commercial collaboration for high growth and global commercial opportunities.

Proof of Concept (PoCP) - a development of the previously ERDF funded project which ran under the 2000-2007 programme which resulted in over 100 knowledge-intensive jobs, 40 new high-tech companies, 38 license deals and over £210m post-PoCP investment leveraged.

The PoCP supports the pre-commercialisation of leading-edge technologies emerging from Scotland's universities, research institutes and NHS Boards. It helps researchers to export ideas and inventions from the lab to the global marketplace. Projects are typically awarded funding after advances have been made in curiosity-driven or strategic research and often after a background patent has been filed, but before the following has occurred:

- A full lab-scale demonstration of the technology.
- Any pre-production development/prototyping
- Commercial funds for development have been made available (because of the existing level of technical and market risk).
- The principal or director and the commercialisation office of the institution has endorsed the project

PoCP is not simply another source of research funding. Successful applicants must demonstrate that ideas have originality and true commercial potential to form the basis of either a new high growth business or a license to a Scottish company. The project outcome is the commercialisation of the research. PoCP is a partnership programme with comprehensive support and management to maximise commercial outcomes.

Under the current programme 48 potential enterprises have secured grant awards to the approximate value of £11m, including 5 renewable energy projects.

Intermediate Technology Initiatives – originally the subject of a separate ERDF application but incorporated within the SDB following the recommendation of the Advisory Group and the incorporation of the Technology Institutes within mainstream SE delivery.

ITI Scotland comprises ITI Energy, ITI Life Sciences and ITI Techmedia (digital media and communications) - areas where Scotland has strong economic and business potential. The model was devised to tackle failures in the innovation system in Scotland, with two main objectives:

- To create high growth, high value technology companies in key future markets by maximising the potential of Scotland's unique academic & company strengths.
- To provide broad ranging and long term local (systemic) and international (attractiveness) benefits. To date there are 17 areas of project activity, with 25 licences along with 4 commercial spin out/commercial collaboration opportunities projected to date.

The activity delivered through these two products does not lend itself so easily to statistical or graphic representation, but a brief report outlining the types of activity underway is appended in Annex I and II.

Financial Update

	Number of Projects approved	Number of Projects delivered	Total Eligible Costs	Approved Grant	Declared Expenditure to date – June 2011	Grant paid to date
Supporting Commercialisation	2	2	31,325,541	14,096,493	22,293,617	10,686,751

Given the long term nature of these projects and the fact that the resulting outputs require commercial partners or SMEs to licence new product of services, the economic downturn has had a more direct impact on progress.

However, demand for PoCP has continued to increase beyond that originally anticipated, but the fact that it can take some time from the award of grant until the spin out company is established or licence is granted, means that spend can be protracted.

With ITI the search for commercial partners or licensees has become more challenging in the current economic climate and again spend is slower than originally anticipated.

£1.7mn of the ERDF project budget has been reallocated from ITI to PoC to meet current predicted demand and a new round of PoC has just been launched, it is therefore anticipated that this project will achieve full spend in due course, although a further extension to timescales may be required.

Progress against Target

Long term programmes – interim reports only currently available	Target	Actual reported to date (June 11)
Number of enterprises supported	150	63
Number of new products and services developed by supported enterprises and research centres	70	61
Increase in turnover by supported enterprises (£mn)	1.5	Evaluation
Number of research networks & collaborations supported	110	56
Number of new products & services developed by supported networks	30	11
Number of renewable energy projects supported	16	7
Number of gross jobs created	90	75

Given the long term nature of these projects, and the fact that company support is not counted until a licence, spin-out or partnership arrangement has been concluded, it is encouraging that 75 jobs have been created and 63 companies have already been supported to develop 61 new products or services.

If the current projections in terms of new product development are reached it is likely that this target will be exceeded by the end of the programme period.

Once again, these projects will be externally evaluated as part of SE's ongoing evaluations schedule, when the full impact of support will be available for analysis.

Annex I Proof of Concept Programme (PoCP) ERDF supported projects

Institute	Title	Sector	Outcome
University of Aberdeen	Smart materials that guide new bone formation - novel scaffolds for tissue engineering applications	Life Science	Spinout & Licence
University of Edinburgh	The bijel: a versatile micro-membrane contactor	Chemicals	Seeking licence partners
University of Edinburgh	Scalable development environment for spoken dialogue systems using Information State Update and business process models	DMET*	Seeking licence partners
University of Edinburgh	Development of novel analgesics for chronic neuropathic pain	Life Science	Seeking licence partners
University of Edinburgh	Clean water from Clean Energy	Energy	Closed early
Glasgow Caledonian Univ. Co Ltd	Covert Security Tagging of Paper Products	Chemicals	Seeking licence partners
Glasgow Caledonian Univ. Co Ltd	Particulate Solids Mass Flow Rate Measurement by Thermal Methods	Energy	Seeking licence partners
University of Glasgow	Chipless Smart Labels for Brand Protection	DMET*	Closed early
Greater Glasgow Health Board	Developing a novel diagnostic imaging product for assessing metabolism and its application in stroke	Life Science	Spinout & Licence
University of Strathclyde	Prevention of CO2 Leakage from Underground Geological Storage Sites	Energy	Licence
Heriot -Watt University	Nano-structured Materials for Novel Microlenses	DMET*	Licence
Heriot -Watt University	A device for the presumptive detection of narcotics in saliva	Life Science	Seeking licence partners
Edinburgh Napier University	Thin-Technology Acoustic Isolator for Blockwork Based Apartments (TTAIBBA)	Construction	Licence to Icopal
Edinburgh Napier University	A Software Tool for Sustainable Low-Carbon Business Travel Management	DMET*	Planning to spinout
Edinburgh Napier University	T-S Explorer	DMET*	Seeking licence partners
MacAulay Land Use Research Inst	A novel technology for detection of multiple microbial species	Food and Drink	Planning to spinout
University of Strathclyde	Sunburn Warning Indicators	Life Science	Planning to spinout
University of Strathclyde	Transdermal Patient Monitoring	Life Science	Seeking licence partners
University of St Andrews	Nanoparticles in Criminal Detection	Chemicals	Seeking licence partners
Scottish Crop Research	Additive-free Treatments for Shelf-Life Extension of Minimally Processed Foods	Food and Drink	Planning to spinout
University of Edinburgh	Chemical Based DNA Sequencing and SNP Analysis	Life Science	Spinout & licence
Edinburgh Napier University	Low Cost Manufacture of Anodes for Solid Oxide Fuel Cells	Energy	Planning to spinout
University of Edinburgh	Non-Toxic DNA delivery	Life Science	Spinout & licence
Robert Gordon University	Genesparks - A novel nanotechnology platform for molecular diagnostics	Life Science	Ongoing
University of St Andrews	Novel Calibration Device for Microcantilevers (CALM)	DMET*	Seeking licence partners
University of Strathclyde	Therapeutic Applications of Lipidic Vehicles as Chronotherapeutic Drug Delivery Devices	Life Science	Licence
University of Strathclyde	Development of a novel green technology to improve the aqueous solubility and dispersability of poorly water soluble drugs	Life Science	Technical failure
University of Strathclyde	Highly Accurate Optical Sensory System for Permanent Monitoring of Pressure and Temperature in Oil Wells	Energy	Technical failure

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University of Strathclyde	Improved Electrical Generation Systems for Renewable Energy and Microgeneration	Energy	Licence
University of Aberdeen	Carbon Tolerant Low Temperature fuel cell for energy generation and transport applications	Energy	Planning to spinout
University of Dundee	Microbe mop-up: a novel method for microbial decontamination of building materials	Construction	No commercial outcome
University of Edinburgh	BIOCAD	Life Science	Seeking licence partners
University of Glasgow	"Compostella" – A novel high precision position measurement system	DMET*	Planning to spinout
Edinburgh Napier University	Novel Biologically-Inspired DNA Fingerprinting and Analysis System for Verifiable Digital Forensics	DMET*	Spinout & licence
Edinburgh Napier University	RENEW: Renewable energy from novel environmental waste	Energy	Planning to spinout – under negotiation
University of St Andrews	Membrane materials for next generation proton exchange membrane fuel cells enabling key transport applications	Chemicals	Seeking licence partners
University of St Andrews	Novel Detectors for Terahertz Radiation	DMET*	Seeking licence partners
University of Strathclyde	User-Configurable and Proactive Condition Monitoring	Energy	Spinout & licence
University of Strathclyde	A biological approach for ship ballast water treatment	Shipbuilding	Closed early
Heriot Watt University	Direct Write Integrated Optical Sensors	DMET*	Licence
University of Edinburgh	Low Power Smart Micro Antenna for Wireless Communication Devices	DMET*	Ongoing
University of Strathclyde	Integrated Extracorporeal Perfusion System	Life Science	Ongoing
Moredun Research Inst	Novel Vaccine approach against caseous lymphadenitis in Sheep and Goats	Life Science	Ongoing
University of Edinburgh	Biodegradable Scaffolds for Functional Bone Repair	Life Science	Ongoing
University of Edinburgh	Optical Wireless Data Transceiver Module	DMET*	Ongoing
University of Strathclyde	Intelligent Plastics for Food Packaging	FOOD	Ongoing
University of St Andrews	Multifunctional MOFs	Chemicals	Ongoing
University of Glasgow	Novel Microfluidic Platform for Clinical Diagnosis and Bioanalysis	Life Science	Ongoing
	48 potential enterprises supported		

* DMET – Digital Markets and Enabling Technologies sector

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Annex II - ITI ERDF supported projects

Seaweed Anaerobic Digestion (SAD)

SAD Phase II is focused on innovation in automated cultivation and harvesting of native seaweeds as a source of biomass for energy and high-value chemicals and food ingredients. The project has potential to create platform technologies that could result in multiple licensing opportunities to companies in Scotland. It is due to complete in Feb 2012.

Composite Pipeline Structure Extension – CPS

CPS exists to commercialise the Helipipe technology through the creation of a joint industry project (JIP) to de-risk the technology and gain industry buy-in. The minimum requirements for creating or entering a JIP are anticipated to be a qualified design tool and evidence that the technology can deliver the cost savings upon which it is predicated.

The work to date has set up a comprehensive 3D finite element model of Helipipe and an efficient 2D design tool that enables rib design and materials selection to be analysed for un-bonded helically reinforced pipe for onshore applications as having commercial opportunity.

Intelligent Energy Interface (IEI)

The objective of this programme was to create a commercially viable technology platform that enables a greater level of demand side participation in a smart grid of the future benefiting both the end user and energy suppliers both economically and environmentally.

The funding for the programme was suspended in June 2010 due to lack of clarity on its market potential and ability to create intellectual property to fit the ITI model.

Wind turbine Access system (ORC)

The programme aims to develop an Orangutan system that climbs wind turbines (on shore and offshore) to allow routine and large scale maintenance projects (blade/gearbox replacement) without the need for separate cranes. The current work is to assess the technical feasibility of the final design via computer assisted modelling and to prepare cost predictions for a full scale model to take to manufacture and run to allow a go/no decision to be made.

WTAS - This short project aims to use computer modelling to establish the functional specifications and estimate the production costs of the wind turbine access system (WTAS) assets created from the ITI Energy programme.

Genome Segment Assembly (GSA)

GSA has developed technologies to construct lengths of DNA from component parts. These lengths of DNA can be used to alter biological pathways in plants and microbes, to, for example, increase yields of biofuel per hectare of crop.

The commercial opportunities are broad and include applications in health and medicine, renewable energy, environmental protection and food production. The commercial objectives are to take advantage of the key GSA benefits of speed and enhanced construct complexity to provide a competitive edge in the emerging field of Synthetic Biology. Critically there is an opportunity to build and support the already recognised Scottish Synthetic Biology cluster.

GSA Gold

Maximising the commercial potential of the Genome Segment Assembly (GSA) beyond the original commercial goals. GSA GOLD seeks to create the NewCo by early 2012 and includes a number of supporting activities to further strengthen the investment proposition.

Ubiquitin Proteasome System (UPS)

The 3 year UPS programme aims to create new capabilities in the rapidly expanding area of ubiquitin drug discovery. These are grouped into two areas:

Tools and reagents – to be licensed to existing Scottish-based life science companies offering new market opportunities for them. An initial non-exclusive license is being discussed.

Drug discovery capabilities - these will lead to the creation of a new biotechnology company with ambition to become a Scottish based company of scale. Aim is to collaborate with multiple international Pharmaceutical companies to further develop a portfolio of products.

Chronic Wound Care (CWC)

Delivery of a prototype rapid Point of Care technology platform that can be readily applied to diagnose and monitor wound infection in clinical environments and in the community. This will be taken forward for commercialisation within Scotland. SE is looking to attract a co-investor to take forward the programme.

Explosives Detection Platform (EDP)

EDP is developing an explosive materials detection system, where the sensing platform is remote from the explosive material. The focus is on detecting the vapour and trace associated with people-borne improvised explosive devices (IEDs) for homeland security. The technology platform is also applicable to other sensor markets such as process control, medical diagnostics and environmental monitoring. An SE account-managed company has indicated an interest in commercialising the technology.

Software Integrity Engineering (SIE)

This is an R&D Programme, which aims to develop tools to enable software developers to identify and reduce the levels of critical software errors in mainstream software languages. The programme has now reached a stage of development where the Intellectual Asset can be licensed to facilitate its commercialisation by Scottish companies.

A spin out company will develop and sell software tools for quality assurance of software products used during software development to the investment banking sector. Further work will be done to develop the platform and analysis technologies for other industries.

ITI Business Development projects

This activity relates to the search to find suitable licences/spinouts for ITI programmes.

Business Development DMET

Project	Outcome
Storage of BPO Flat Bed Printer and Courier of BPO lighting to Frankfurt Light+Build Show	Two Licences with 1 enterprise
UWB Business Development Manager	Resulted in licence with 2 enterprises
OGD Business Development Manager	Licence with 1 enterprise
Storage of the BSP Breadboard	Licence with 1 enterprise

Business Development Energy

Project	Outcome
Commercial Support	Licence with enterprise (company now in administration)

Business Development Life Sciences

Project	Outcome
Benchmarking for TSE	Licence with 2 enterprises
Benchmarking for UPS	Licence with 1 enterprise