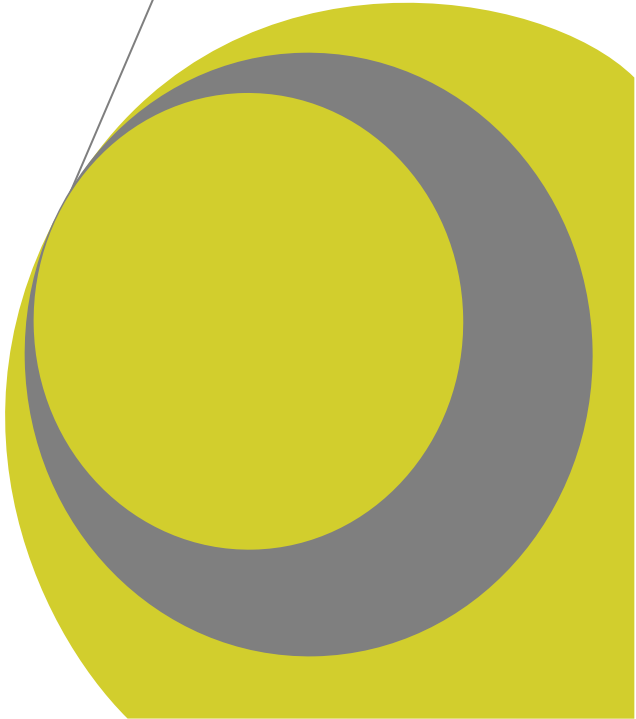


**TECHNICAL DEVELOPMENT INCENTIVE SCHEME
EVALUATION – FINAL**



**Cogent Management Consulting LLP
June 2013**



TECHNICAL DEVELOPMENT INCENTIVE SCHEME

EVALUATION

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List of Abbreviations

Abbreviation	Definition
CEs	Client Executives
EAM	Economic Appraisal Methodology
ERNI	Employers National Insurance Contributions
FTE	Full Time Employees
GB	Great Britain
GTC	Global Technical Compliance
GVA	Gross Value Added
HM	Her Majesty's
HMT's	Her Majesty's Treasury
IAM	Intellectual Asset Management
Invest NI	Invest Northern Ireland
IP	Intellectual Property
NI	Northern Ireland
NIGEAE	Northern Ireland Guide to Expenditure Appraisal and Evaluation
NPV	Net Present Value
PSA	Public Service Agreement
R&D	Research and Development
QMS	Quality Management System
SMART	Specific, Measurable, Achievable, Realistic and Time-bound
SMEs	Small and Medium Sized Enterprises
TAU	Technical Advisory Unit
TDI	Technical Development Incentive
TSP	Technical Service Provider
UK	United Kingdom

EXECUTIVE SUMMARY

Introduction

Invest NI has commissioned Cogent Management Consulting LLP ('Cogent' or the Evaluation Team) to undertake an independent evaluation of the Technical Development Incentive ('TDI') Scheme, covering the period April 2008 to March 2012.

The evaluation has been undertaken in line with national and regional requirements. It is compliant with Central Government guidance including:

- "The Green Book: Appraisal and Evaluation in Central Government", HM Treasury 2003;
- "The Northern Ireland Guide to Expenditure Appraisal and Evaluation (NIGEAE), Current Edition", Department of Finance and Personnel;
- "The Magenta Book: Guidance for Evaluation"; and
- Invest NI Economic Appraisal Methodology (EAM) guidance.

Strategic Context and Rationale

During the period under review, the NI Government (including DETI and Invest NI) had placed a strong emphasis on encouraging NI businesses (particularly SMEs) to engage in R&D&I activities and embed a culture of innovation in order to move them up the value chain and deliver significant benefits to the NI economy. The model of support implemented by the TDI Scheme was aligned to providing support to NI's SMEs to deliver upon these strategic imperatives.

Moving forward, DETI and Invest NI's Corporate Plan continues to place focus on stimulating and embedding R&D&I within NI's business base so that they can realise their true potential, hence there continues to be clear alignment between the aims and objectives of the Scheme and the strategic imperatives of DETI and Invest NI.

In addition to the strategic need, the research suggests that there was a clearly defined market need for Invest NI to provide support to assist NI SMEs to address the technical issues that were inhibiting the achievement of their developmental and growth plans. Specifically, the barriers preventing businesses from engaging in similar business activities, independently from the TDI Scheme included a mixture of market failure (e.g. asymmetric information, risk aversion – suggested in relation to 46% of projects) and non-market failure factors (affordability, especially during the ongoing economic downturn). Based upon the feedback from businesses, the TDI Scheme was successful in responding to the technical and business challenges facing SMEs seeking to compete in global markets.

In terms of demand, the Evaluation Team's analysis suggests that Invest NI provided support to 340 businesses to undertake 447 TDI projects over the four year period. Whilst the vast majority (78% - N=340) of businesses received 1 intervention from the TDI Scheme during the period, just over one-fifth (22% - N=340) of businesses received multiple interventions. The most common focus of the TDI projects was to protect and/or exploit the Intellectual Property (IP) that had been developed by the business (41% - N=447). No further information is available to suggest that the level of latent demand was above that supported through the Scheme.

Operation and Delivery

The Scheme was managed internally within Invest NI (by the TAU) with the availability of support promoted through awareness raising activities by Invest NI staff (i.e. Client Executives, Innovation, Technical and R&D Advisers). Businesses were provided with financial support to avail of the advice and expertise of a Technical Service Provider (TSP) to address the specific technical issue that was inhibiting them for realising their developmental and growth plans.

Based upon the feedback from businesses, we consider that the Scheme was, in general, managed in a proactive and efficient manner by Invest NI, utilising a streamlined application and appraisal process. This enabled support to be channelled in an effective and efficient manner to eligible projects. Similarly, the model of delivery adopted to address business' needs has been fit-for-purpose.

The feedback from businesses in receipt of TDI support during the period under review also suggests that (amongst other things):

- The support that was provided by the TSP was fit-for-purpose in terms of addressing businesses' needs;
- The Scheme was appropriate to address the technical issues facing NI's SME. As such we would conclude that the internal process to refer businesses to the intervention was appropriate;
- There is a high level of complementarity between the support provided through the TDI scheme and other Invest NI supports including the Innovation Voucher Programme. Specifically, the feedback suggests that the TDI Scheme plays a fundamental role in acting as a pump-primer to encourage businesses to avail of innovation support offerings further up the 'Innovation Escalator' which will support them in addressing their specific needs and increase the complexity of the innovation solutions which they embed within their business; and
- The Scheme's characteristics (in terms of the types of businesses supported, the levels and rates of funding, and types of costs eligible for funding) were appropriate.

We note that the 2008 Business Case did not identify any risks that could negatively impact upon the administration of the Scheme during the period under review. However, based on levels of demand for the Scheme, business' high levels of satisfaction with the Scheme and the positive contribution of the Scheme to the NI economy, the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate

The full economic cost of delivering the TDI scheme during the period under review was £1,021,380 (inclusive of all support drawn down by participant businesses, internal Invest NI staff costs and external Evaluation costs). It is the Evaluation Team's view that caution should be expressed in undertaking any comparison of actual and proposed costs. This relates to the fact that anticipated costs were only formally quantified and approved for a three-year period. However, due to ongoing demand for the Scheme's support, an internal decision was taken by Invest NI to extend the Scheme for an additional year (i.e. for a 4 year period). Withstanding this point, actual Scheme drawdown costs (i.e. £750k to date) were substantially in excess (c. three times more) of anticipated costs (£240k).

In terms of improving the management of the Scheme moving forward, the Evaluation Team has made a number of specific recommendations (see Section 7.3) relating to (amongst other things) approval and monitoring procedures, the setting of SMART targets, as well ensuring that an appropriate process is in place to robustly challenge the level of additionality/deadweight associated with providing TDI support at the application stage.

Performance and Impact

The 2008 business case identified two SMART objectives for the TDI Scheme both of which were activity-focused targets (as opposed to outcome-focused). Whilst there is ambiguity with regards to the assumptions underpinning the objectives and they were not amended in light of Scheme's extension (into a fourth year), both targets were nonetheless achieved.

Based on the feedback from businesses in receipt of support, the following key conclusions can be drawn with regards to the monetary and non-monetary economic impact of the TDI Scheme during the period under review:

Monetary impact

- The TDI Scheme contributed £4.6m in gross GVA and £2.1m in net additional GVA (£1.2m of which was in wages and the remainder (c. £900k) was in profits);
- The TDI Scheme directly created 42 jobs, all of which were above the NI median salary level. In addition to the creation of new FTE jobs, the Evaluation Team's analysis suggests that the TDI Scheme directly contributed to safeguarding 107 jobs;
- The derived level of productivity (£49,762) was 29% higher than the average private sector level of productivity (£38,580) for the period under review, suggesting that the Scheme has been successful in contributing to the closing of the productivity gap with the rest of the UK; and
- The Scheme also directly contributed to providing businesses with £594k of cost savings and encouraged business to undertake a further £6.3m in R&D.

Non-monetary impact

- The Evaluation Team notes that 'impact additionality' (63%) is considerably higher than 'activity additionality' (46%) reflecting the fact that whilst some businesses may have undertaken similar development activities irrespective of the TDI Scheme, the support provided through the Scheme has played a vital role in businesses realising the outcomes and impact. Based on the feedback from businesses, it is the Evaluation Team's view that the high level of 'impacts additionality' is likely to reflect the high quality of support that has been delivered through the Scheme. Benchmarking of the Scheme's level of 'impact additionality' with other similar interventions shows that the Programme is performing significantly better than these;
- Levels of 'activity additionality' amongst business respondent's decrease with each additional TDI intervention provided. Specifically, the analysis suggests that activity additionality falls by 19% (i.e. from 48% to 29%) between the first and the third interventions;
- The Evaluation Team's analysis suggests that the displacement factor at the NI level is 27.5%; whilst at the UK level it is 31.9%;
- The feedback from the majority of businesses suggests that they would not have been able to get similar support elsewhere;
- Businesses reported deriving a number of other non-monetary benefits including increased understanding of technology and process development issues and greater awareness of how technology and process development can deliver business benefits. Businesses also suggested that the Scheme had helped their business to access new export markets and had contributed to increasing their business' desire to engage in new/enhanced levels of innovation; and
- The Scheme has contributed to providing the NI economy with a number of other wider (including knowledge transfers and skills development) and regional (including the innovative nature of the project) benefits.

Return-on-investment and Value-for-money

Given the level of net additional GVA (i.e. £2,111,885) that has been provided by the Scheme and the full economic cost of delivering support (i.e. £1,021,380), then the GVA return on investment was £1:£2.07. Given the levels of support provided through the Scheme to businesses and the focus of the support (i.e. at a lower level on the 'Innovation Escalator'), it is the Appraisal Team's view that this return-on-investment level should be viewed positively.

It is the Evaluation Team's view, based upon all available evidence, that the TDI Scheme delivered VFM in respect of the costs incurred, during the period under review.

Equality Considerations

The Evaluation Team has identified no negative equality impacts, and considers the Scheme to be accessible to all Section 75 groupings and people with disabilities.

Recommendations

1. Given the reported positive impacts that the TDI Scheme has had on enabling businesses to address the technical issues inhibiting them from realising their developmental and growth plans, the positive impact that the Scheme has made to the NI economy and evidence of continued need for support, Invest NI should continue to provide support through its TDI Scheme. In doing so all appropriate approvals should be sought in a timely manner to ensure the continuity in the provision of support to NI's business base. Any changes to the budget, through the duration of the Scheme, should be appropriately documented and approved;
2. Given the potential levels of support that would be provided to any future phase of the TDI Scheme, Invest NI should give consideration to undertaking an independent Economic Appraisal of the Scheme in-line with all relevant standards.
3. Allied to Recommendation 2, whilst the Evaluation Team acknowledges that levels of demand outputs, impacts and outcomes from providing TDI support would have been largely unknown at the time of funding (on the basis that it was a new Scheme), the Evaluation Team recommends that emphasis is placed on developing a broader range of activity and output/outcome SMART objectives for any future phase of the Scheme. The nature and quantification of these objectives should be developed based upon the findings of the current Evaluation.
4. Invest NI should continue to robustly challenge the level of additionality/deadweight associated with providing TDI support at the application stage. In order to better inform that investment decision making process, this should include the utilisation of DETI's methodology to calculate the level of activity additionality.
5. Allied to Recommendation 4, given the decrease in levels of 'activity additionality' associated with repeat interventions, Invest NI should give consideration to decreasing levels of support (both on an overall basis and as a percentage of total project costs) for multiple interventions.
6. By way of assisting the effective monitoring of the Scheme and any subsequent Evaluation, Invest NI should undertake a review of its monitoring and information storage procedures. At a minimum, the monitoring information retained should clearly be able to articulate the number of businesses receiving support, levels of support provided, contact details for all recipients and the key focus of the TDI project.

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

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The evaluation has been undertaken in line with national and regional requirements. It is compliant with Central Government guidance including:

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- "The Magenta Book: Guidance for Evaluation"; and
- Invest NI Economic Appraisal Methodology (EAM) guidance.

1.2 The TDI Scheme

1.2.1 Programme Overview

The TDI was introduced, initially as a one-year pilot in April 2007, to provide financial support to small enterprises in respect of technical, process and product development, aiming to solve problems or address those issues preventing companies from fully realising their development plans. The Scheme seeks to support businesses to overcome these technical issues by providing financial support towards the costs of an external Technical Service Provider (TSP).

The Scheme seeks to complement the advisory services of Invest NI's Technical Advisory Unit (TAU) by enabling Invest NI to offer a complete technical solution based package where advice and guidance could be backed up by a tailored financial support scheme.

1.2.2 Eligible and ineligible costs

Specific areas that can be supported (subject to TAU eligibility assessment) include:

- | | |
|--|--|
| <ul style="list-style-type: none"> • Investigating new technologies or processes; • Product & process problem resolution; • Product approval/global technical compliance; • Implementation of process and quality management schemes | <ul style="list-style-type: none"> • Protections and exploitation of Intellectual Property (IP); and • Improved product design & performance |
|--|--|

Costs not eligible for support include:

- | |
|---|
| <ul style="list-style-type: none"> • Testing or consultancy for routine legislative compliance; • Purchase of materials and equipment other than for research (not production/sales) • Areas that were already covered by other Invest NI mainstream support programmes/initiatives; and • Other costs not deemed eligible by the TAU/TDI managers. |
|---|

1.2.3 Business Eligibility

At present the Scheme is open to small and medium sized enterprises (SMEs) i.e. those with less than 250 employees). The businesses must be an Invest NI client or have the potential to become an Invest NI client¹.

1.2.4 Levels of support available

At present², businesses are typically able to claim up to £5,000 (or 50% of project costs, whichever is the lesser) towards a single TSP's costs. Normally projects with a cost of between £1,000 and £15,000 will be considered for support³.

Businesses can normally avail of up to three offers and these projects must be different in nature⁴. No more than 2 projects are normally allowed to operate at any given time. However, if one of the projects is nearing successful completion, support for a third will be considered providing the aforementioned project frequency limit is not exceeded.

1.2.5 The TDI process

Typically, a business will engage in a 6-stage process between applying to Scheme for support and ultimately completing their TDI Project. An overview of each stage of the TDI process is provided below with further information provided in Appendix I.

Table 1.1: Overview of the TDI process	
Stage	Overview of activities undertaken
Stage 1 - Enquiry Initiation	The business discusses the proposed project with an Invest NI Client Executive who then discusses its suitability with the TAU. A Technical Advisor then undertakes a technical appraisal interview at which the project is discussed in more detail to ascertain the suitability of the TDI scheme to meet the company's needs.
Stage 2 - Identification of a TSP and Project Application	If the TDI Scheme is deemed to be an appropriate mechanism to address the business' needs, an application form is issued (support is approved only in principle at this stage). The business is asked to identify a suitable TSP and obtain a written quotation for the work. Invest NI can, at the request of the business, provide a register of NI-based TSPs ⁵ ; however, it is the responsibility of the business to identify and select the TSP best suited to address its needs. Businesses are not restricted to using a TSP from the register.
Stage 3 - Submission of TDI Application	Businesses are required to submit an application form providing the following details: <ul style="list-style-type: none"> • Company details (including company name, contact details, number of employees, details of years trading and company ownership) • Technical supplier details (including TSP name and contact details) • Project details (including project title and outline, area of support the project seeks to address, anticipated benefits, services required from the TSP, assessment of additionality, project timescale and TSP costs)

¹ To qualify as an Invest NI client company, your business must be from the manufacturing or internationally tradable services sectors and be able to demonstrate that currently, or over the next three years, your business will have: total sales of over £100,000 a year; sales outside Northern Ireland worth more than 25 per cent of turnover or greater than £250,000 a year; and the capability and willingness to work with Invest NI.

² As at the September 2012 Invest NI internal review of the TDI Scheme.

³ Up to £10k of support can be provided for businesses embedding an Intellectual Asset Management (IAM) plan or for those seeking Global Technical Compliance (GTC). The Scheme will consider GTC projects where the total project costs are up to £25k and the lower threshold for Intellectual Property related projects is £500.

⁴ If a business is seeking support for a fourth project, the TAU will examine other options to support the business (through another Invest NI programme/initiative).

⁵ This register is not endorsed by Invest NI.

Table 1.1: Overview of the TDI process	
Stage	Overview of activities undertaken
	The business must attach the TSP's written quotation and submit the application to the TAU. (NB. the business is not permitted to engage the TSP on any project work at this stage of the process).
Stage 4 - Technical Appraisal	A Technical Advisor will perform an appraisal of the application submitted to ensure that it conforms to all eligibility criteria and that the TSP's costs are reasonable with regards to the provision of technical services being sought by the business.
Stage 5 - Project delivery	When the casework is approved, Letters of Offer (LoO) are issued to the business. On acceptance of the LoO, the project can then proceed and typically must be completed within a 12 month period. If required, the TAU provides supplementary independent advice to the business during the course of the TDI project.
Stage 5 - Completion of claim and post project evaluation	On completion of the project, the business will submit a claim form along with supporting documentation

1.3 Anticipated benefits

It was intended that the implementation of the TDI scheme would result in the following benefits for businesses:

- First time introduction to the concept and benefits of product or process development;
- Strategically positioning companies to advance to Invest NI product and process development schemes;
- Improvements to manufacturing processes leading to efficiency and output benefits;
- Product verification and enhanced customer confidence leading to improved competitiveness;
- Protection of ideas and products leading to marketplace advantage;
- Improved quality control processes leading to reduced product failures, better traceability and increased efficiency;
- Companies better placed to address product/production failures and implement remedial measures to prevent reoccurrences; and
- Introduction of new technologies leading to improved competitiveness and efficiencies

1.4 Scheme Approval

1.4.1 Scheme funding

Following the completion of the 1 year pilot Scheme, approval was sought and subsequently granted (in April 2008) for a three-year TDI Scheme for the period 2008/09 to 2010/11. A total of £150k was initially allocated to support the completion of 70 TDI projects⁶.

However, in April 2009, formal approval was sought and subsequently granted to increase the level of support to £240k for the three-year period⁷, disaggregated as follows:

Table 1.2: Support allocated to the TDI Scheme			
2008/09	2009/10	2010/11	Total
£40,000	£90,000	£110,000	£240,000

⁶ It was noted that, as part of the pilot scheme, average support costs per project were £1,700. Raising the level of grant support (to 50%) suggested that the average drawdown would be approximately £2,100.

⁷ Approval was sought to increase the Scheme's total funding allocation due to the inclusion of Intellectual Asset Management / IP projects which were expected to stimulate additional demand and require additional support.

The Evaluation Team understands that, due to ongoing demand for the Scheme's support, an internal decision was taken by Invest NI to extend the Scheme for an additional year⁸.

1.4.2 SMART Objectives

The 2008 business case identified two SMART objectives for the TDI Scheme; namely:

1. Uptake of the TDI Scheme by 130 companies over the 3-year period;
2. The TDI Scheme to cover 80% of the following 'project eligibility' areas:
 - Investigating new technologies or processes;
 - Product process problems (failures) – testing, consultancy;
 - Product approval/compliance – testing consultancy;
 - Quality control – raw materials, product testing;
 - Quality management systems;
 - Product (new) design/performance – testing, approval, consultancy; and
 - IPR – patent opinion, application costs

1.5 Invest NI's Requirements

Invest NI requires a review of the TDI Scheme's operation and impact, identifying areas of under/over performance and recommendations relating to the future scope of support to SMEs with technical problems or issues relating to products, and production and process operations.

The overall evaluation objectives are to:

- Assess the appropriateness of the delivery model adopted and identify whether they represented an effective way of supporting clients to tackle technology, IP and process development issues;
- Determine the specific contribution of the Scheme to boosting innovatory capacity and competitiveness amongst participant businesses, alongside other Invest NI products;
- Capture, and quantify as far as possible, the gross and net outputs, outcomes and impacts of the TSDI Scheme;
- To determine the extent to which the programme(s) represent value for money to the public sector and to identify ways in which impact and value for money could be improved; and
- To identify aspects of good practice and lessons learned which can inform Invest NI's support for technology, process development and innovation more widely.

Further details of Invest NI's specific requirements are detailed in full within Appendix II.

1.6 Methodology

In conducting the evaluation, Cogent employed a methodology that included:

- A robust desk-based analysis of pertinent materials relating to the TDI Scheme during the period under review;
- Consultation with the Steering Group that was established for the evaluation. This included representation from Invest NI Technical Advisory Unit (TAU);
- Consultation with 4 Invest NI Technical Advisers;
- Consultation with 2 Invest NI Innovation Advisers;
- Consultation with 2 Invest NI R&D Advisers;

⁸ It should be noted however, the Evaluation Team has not been provided with formal approval documentation confirming the extension of the Scheme or the anticipated costs of delivering the Scheme for the additional year.

- Consultation with 10 external Technical Service Providers⁹; and
- A telephone and online survey with 136 businesses that received support towards the costs of 163 TDI projects.
 - Given the number of unique businesses receiving support (N=340) means that an overall response rate of 40% was achieved. This equates to a confidence level of +/- 6.52%.
 - Given the number of TDI project completed (N=447) means that we received feedback in relation to 36% of the total number of TDI projects. This equates to a confidence level of +/- 6.13%.

Table 1.3: Confidence intervals associated with survey of TDI businesses			
	Total receiving support	Surveyed	Confidence interval
Unique businesses	340	136	+/- 6.52%
TDI Projects	447	163	+/- 6.13%.

⁹ Further details of the consultees that took part in the primary research are provided in Appendix III.

2. STRATEGIC CONTEXT & RATIONALE

2.1 Programme Rationale

The 2008 Business Case for the TDI Scheme suggested that, based on a Scientific Services Review and the experiences within the TAU, a strong need had been identified to support SMEs to access technical expertise to overcome issues that were prohibiting their developmental and growth plans. The Business Case highlighted a number of market failure and non-market failure factors that were preventing businesses from engaging in these types of business development activities. These included:

- Costs associated with accessing testing and specialist consultancy. It was also recognised that there was a requirement for Invest NI to positively respond to the economic downturn and the enhancement of TDI support (at that time) was anticipated to contribute to this response, particularly in the areas of product/process development and improved competitiveness;
- Significant levels of risk (in terms of the uncertainty as to whether or not the support would help the business address their technical issues and support their developmental plans; and
- A lack of understanding amongst businesses with regards to the benefits of implementing a well-planned approach, with the support of a TSP, to overcoming technical difficulties.

In addition to the above, it was suggested that businesses participation in the TDI scheme would act as a stimulus for progression towards the uptake of “formal” Invest NI R&D programmes e.g. Design Development Programme (DDP) and Knowledge Transfer Partnerships (KTP). As such, it was suggested that the TDI Scheme was a low cost method of stimulating businesses engagement in innovation activities with a view to moving them further up the ‘Innovation Escalator’.

2.2 Strategic Context

Subsection 2.2 provides a summary of the operational ‘fit’ of the TDI Scheme with the various Governmental strategies and imperatives that existed (or continue to exist) for the period under review.

2.2.1 NI Programme for Government 2008-2011 (PfG, 2008)

The Programme for Government (PfG) 2008-11 set out the Northern Ireland Executive’s strategic priorities and key plans for the period 2008 - 2011. The overarching aim of the strategy was to:

“Build a peaceful, fair and prosperous society in Northern Ireland, with respect for the rule of law and where everyone can enjoy a better quality of life now and in years to come.”

Programme for Government 2008-2011

Under its ‘Growing a Dynamic Innovative Economy’ Priority (the top priority over the lifetime of the PfG), the Government acknowledged that *“our companies must become more innovative and invest more in research and development”*.

Key PSAs which sought to support the ‘Growing a Dynamic, Innovative Economy Priority’ and were particularly pertinent for the TDI Scheme included:

- **PSA 1: Productivity Growth** - Improve Northern Ireland’s manufacturing and private services productivity; and
- **PSA 3: Increasing Employment** - Subject to economic conditions, increase employment levels and reduce economic inactivity by addressing the barriers to employment and providing effective careers advice at all levels

2.2.2 DETI Corporate Plan 2008-2011

As part of the DETI's 2008-2011 Corporate Plan, the Department's goal is "to grow a dynamic, innovative economy". As part of achieving this goal, DETI is committed to contributing to a number of relevant Public Service Agreements (PSAs), including PSAs 1 and 3, and have established a number of key objectives relating to these. Key relevant objectives, associated with these PSAs, that DETI will be seeking to achieve during the lifetime of the Corporate Plan include:

Table 2.1: Overview of PSA Priorities 1 and 3	
PSA Priority	Relevant DSOs
PSA 1: Productivity Growth - Increase Northern Ireland's manufacturing and private services productivity.	<ul style="list-style-type: none"> • DSO 4: Promote higher value added activity through innovation and the commercial exploitation of R&D;
PSA 3: Increasing Employment – Subject to economic conditions, increase employment levels and reduce economic inactivity by addressing the barriers to employment and providing effective careers advice at all levels.	<ul style="list-style-type: none"> • DSO 3: Increase employment opportunities by attracting high quality inward investment and supporting domestic investment. • DSO 4: Promote business growth.

2.2.3 Invest NI Corporate Plan 2008-2011

Invest NI's Corporate Plan for the period 2008-2011 stated that the priority of the Corporate Plan was to increase business productivity, the means by which wealth can be created for the benefit of the whole community. It was anticipated that this would be achieved by:

- Realising the potential of existing businesses - In realising this objective, the Corporate Plan suggested that this would require businesses to innovate at all levels. As such, Invest NI committed to promoting and embedding an innovation culture in its clients levels of their businesses;
- Shifting the sectoral focus towards higher value-added sectors; and
- Nurturing the development of frontier technologies in our companies and in universities.

In terms of promoting higher value-added activity through innovation and the commercial exploitation of R&D, Invest NI established a target to increase the average annual growth in BERD expenditure by 8 per cent in Invest NI client companies with fewer than 250 employees and increase (by 5%) the average annual growth in BERD expenditure.

2.2.4 'First Report of MATRIX: The Northern Ireland Science Industry Panel' (MATRIX/DETI, 2008)

MATRIX was established as a business-led, market-focused panel of experts to advise government on the development of an approach which, over time, will help NI to become an internationally leading region in terms of the economic exploitation of science, technology and R&D.

The first MATRIX report identified 4 imperatives for Northern Ireland if it is to rise to the challenge of the 21st Century. Of particular relevance to the TDI Scheme, Imperative 1 suggests that "to compete more effectively as a modern knowledge and technology based economy, NI must develop a more innovative culture of collaboration across industry, government and academia. Within this new environment, business must take on an increased leadership role in the innovation agenda, with Government playing a support and facilitation role and with academia working to inspire new heights of innovation through high quality R&D, knowledge creation and workforce preparation".

Furthermore, and of particular importance to the TDI Scheme, the report suggests that "a world class Intellectual Property Business Infrastructure must be created in Northern Ireland. In this there must be a more comprehensive understanding among the business and academic community of the intrinsic

value of IP and how to exploit it and Northern Ireland should also nurture more leading capability within the region's R&D and business community to develop fundamental IP".

2.2.5 Independent Review of Economic Policy (IREP Panel, 2009)

'The Independent Review of Economic Policy' (IREP) aimed to consider the extent to which DETI/Invest NI policy should change in order to stimulate convergence in productivity and ultimately living standards between NI and the rest of the UK.

The central thrust of the report is the need to prioritise Innovation and R&D investments more aggressively, both for existing businesses in NI and also as a means of attracting potential new investors to the region. According to the Review, *"the promotion of Innovation and R&D – including business sophistication and, at the regional level, technology transfer – is the most important long term driver of productivity. This is essential for NI to move up the value chain".*

The Review indicates that, at the regional level, it is export demand and the creation and retention of a viable, quality export base, well embedded in the local economy that is the key to sustained regional growth. It notes that in order to achieve this, developing the capacity to undertake Innovation and R&D is of particular importance. The globalisation of R&D also means that a region's capacity to source new technology globally through effective technology transfer is increasingly important. In part, this also requires regions to ensure they are skilled imitators as well as effective innovators.

2.2.6 NI Programme for Government 2011-15

The NI Programme for Government (PfG) 2011-2015 (published March 2012) sets out that the Executive has taken the important step of making the economy its top priority.

The PfG contains 5 key priorities, one of which is: *"Growing a Sustainable Economy and Investing in the Future"*. The primary purpose of this Priority is to achieve long term economic growth by improving competitiveness and building a larger and more export-driven private sector. To do this, the PfG notes that we must *rebuild* the labour market in the wake of the global economic downturn and *rebalance* the economy to improve the wealth and living standards of everyone.

Two specific objectives that the TDI Scheme offered the potential to contribute to during the period under review included:

- Encouraging innovation and R&D; and
- Growing the private sector.

2.2.7 DETI Corporate Plan 2011-2015

In-line with the NI PfG and Economic Strategy, DETI's current Corporate Plan places focus on creating wealth and employment through a focus on export-led economic growth. In reflection of this, the Department's goal over the life of the Plan is to *"promote the growth of a competitive and export led economy"*.

The Plan highlights the need for the NI Government to place focus on *rebalancing* and *rebuilding* the Northern Ireland economy, i.e. focusing on actions that will deliver the necessary rebalancing of the economy over the longer term, while taking immediate steps to rebuild the local labour market after the recession.

Within the Strategic Framework, a number of key priorities have been identified under the twin themes of rebuilding and rebalancing the economy. The Plan highlights the need to *"stimulate R&D, innovation and creativity"* (e.g. R&D and absorption capacity, wider innovation, businesses to

business etc.). By way of improving the economic competitiveness in NI, the Executive has established the following targets which are of particular relevance to the TDI Scheme during the period under review:

- Support £300m investment by businesses in R&D (by 2014/15);
- Support 500 companies to undertake R&D for the first time; and
- Increase Business Expenditure on Research and Development (BERD) as a percentage of Gross Value Added (GVA).

2.2.8 *DETI Research Agenda 2012-2015*

DETI's Research Agenda sets out the department's commitment to producing high quality economic research on topical issues relating to the local economy. As part of the Agenda, the NI Government highlights that "*innovation is central to growing the local economy and raising company productivity*". The report suggests that NI "*needs to become more innovative to develop into an advanced, knowledge-based economy and allow our firms to be more competitive in international markets.*"

2.2.9 *Invest NI Corporate Plan 2011-15*

In-line with the NI PfG, Invest NI's 2011-2015 Corporate Plan sets out the organisation will contribute to the rebalancing and rebuilding of the NI economy to increase the overall standard of living by driving productivity growth and increasing employment. The Plan states that the support provided will be fully aligned with the drivers of economic growth and its activities will be targeted to increase the size, competitiveness and value of the private sector by **embedding innovation**, growing our local companies to scale, increasing our export base and attracting inward investment.

The Plan highlights the importance of "*stimulating innovation and creativity*" as a key rebalancing measure and driver of economic growth which will help deliver the Executive's agenda of supporting the private sector to grow, creating jobs in our community and increasing wealth in our society.

As part of this driver, the Plan highlights the need to put innovation at the core of enterprise in NI by driving market led innovation within its business base, supporting research, product, process market and organisational development for the earliest stages to the leading edge technologies. Furthermore, Invest NI states support is required to encourage higher levels of collaboration and increased commercial outcomes from knowledge transfer and open innovation activities.

In summary, the preceding analysis suggests that, during the period under review, the NI Government had placed (and continues to place) a strong emphasis on encouraging NI businesses (particularly SMEs) to engage in R&D&I activities and embed a culture of innovation in order to move them up the value chain and deliver significant benefits to the NI economy. The aims of the objectives of the TDI Scheme were fully aligned with these strategic imperatives and, as detailed in Section 5, the Scheme has made a significant contribution to the NI economy.

2.3 **Summary Conclusions**

The preceding analysis suggests that:

- At the time of Scheme's approval, strong need had been identified to support SMEs to access technical expertise to overcome issues that were prohibiting their developmental and growth plans;
- A number of market failure (including risk aversion and asymmetric information) and non-market failure factors (relating to the costs associated with accessing testing and specialist consultancy) were preventing businesses from engaging in these types of business development activities. It

- was also anticipated that participation in the TDI scheme would act as a stimulus for businesses to progress towards the uptake of “formal” Invest NI R&D programmes (e.g. Grant for R&D); and
- There was (at the time of approval), and continues to be, clear alignment between the aims and objectives of the TDI Scheme and the strategic imperatives of the NI Government (including with DETI and Invest NI’s Corporate Plans). Specifically, in line with Government’s strategic focus, the TDI Scheme offers the potential to stimulate and embed R&D, innovation and creativity within NI’s business base and assist them to realise their true potential. As detailed in the succeeding sections of this report, it is the Evaluation Team’s view that the TDI Scheme has been successful in delivering upon these aims and objectives during the period under review.

3. PROGRAMME ACTIVITY

3.1 Introduction

Section 3 provides a summary of the activity that was supported through the TDI Scheme during the period under review.

3.2 Programme Activity

3.2.1 Overview of Activity Supported

The Evaluation Team's analysis, suggests that Invest NI provided support to 340 businesses to undertake 447 TDI projects over the four year period (Tables 3.1 and 3.2).

Table 3.1: Number of TDI Projects supported¹⁰		
2008/09	35	8%
2009/10	116	26%
2010/11	69	15%
2011/12	227	51%
Total	447	100%

Whilst the vast majority (78% - N=340) of business received 1 intervention from the TDI Scheme during the period, just over one-fifth (22% - N=340) of businesses received multiple interventions. Specifically, 16% of businesses received 2 interventions, 3% of businesses received 3 interventions and the same proportion (3%) received 4 interventions.

Table 3.2: Disaggregation of TDI projects			
Number of Interventions	Number of Companies	% of businesses receiving the number of interventions	No. of Projects
1	265	78%	265
2	54	16%	108
3	11	3%	33
4	9	3%	36
5	1	<1%	5
Total	340	100%	447

3.2.2 Focus of the TDI projects supported

As detailed in Section 1, whilst businesses were able to avail of TDI support to assist them to address a range of technical issues, each project was typically overtly focused on one of seven key areas. Table 3.3 provides a summary of the key focus of the TDI projects that were supported during the period under review.

¹⁰ The breakdown of projects across the financial years reflects the time period within which the LoO was made to the business and **not** when the TDI project was completed.

Table 3.3: Focus of the TDI Project		
Focus	No. of projects	% of projects
Protecting and/or exploiting Intellectual Property (IP)	180	41%
Implementing some process and/or quality management schemes (e.g. ISO 9001, 14001, OHSAS 18001)	104	23%
Gaining approval or technical compliance for a product	50	11%
Improving product or process design and performance	50	11%
Development of a prototype	39	9%
Investigating new technologies or processes	20	4%
Resolving a problem relating to some product and/or process	4	1%
Total	447	100%

Analysis of Table 3.3 suggests that the most common focus of the TDI projects was to protect and/or exploit the Intellectual Property (IP) that had been developed by the business (41% - N=447). Just under one-quarter (23% - N=447) of all projects were focused on implementing some process and/or quality management schemes (e.g. ISO 9001, 14001, OHSAS 18001).

3.3 Monitoring procedures

As part of research process, the Evaluation Team faced a number of difficulties in profiling the activity that was supported during the period under review. Specifically, based on the monitoring materials provided by Invest NI, the Evaluation Team had difficulties identifying which projects were provided with support and, in a number of cases, uncertainty existed as to the key focus of the TDI project that was supported¹¹. Whilst the Evaluation Team notes that these issues were more pronounced during the first two years of the Scheme, we would recommend that Invest NI undertakes a review of its monitoring and information storage procedures.

3.4 Risks

The 2008 Business Case did not identify any risks that could negatively impact upon the administration of the Scheme during the period under review. However, based on levels of demand for the Scheme, business' high levels of satisfaction with the Scheme (see Section 4) and the positive contribution of the Scheme to the NI economy (see Section 5), the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate.

3.5 Equality Considerations

Section 75 of the Northern Ireland Act 1998 requires that Invest NI shall, "*in carrying out its function relating to Northern Ireland, have due regard to the need to promote equality of opportunity*" between the following nine Section 75 groups:

- Persons of different religious belief, political opinion, racial group, age, marital status or sexual orientation;
- Men and women generally;
- Persons with a disability and persons without; and
- Persons with dependents and persons without.

In addition and without prejudice to these obligations, in carrying out its functions, Invest NI is also committed to promote good relations between persons of different religious belief, political opinion or racial group.

¹¹ These difficulties are best exemplified by the differences in the Evaluation Team's profiling analysis (which was agreed by Invest NI) and the profiling information included within the Terms of Reference (which suggested that there had been 487 recipients and 419 projects completed).

During May 2008, Invest NI undertook a Section 75 Screening of the TDI Scheme. This exercise concluded that there was no evidence to suggest that:

- There was a potential under-representation of any Section 75 groups;
- People from Section 75 groups were having issues/difficulties/problems with the policy/programme; and
- Further additional action is required to address any under representation or problems associated with the policy/programme.

The Screening also undertook a Human Rights Impact Assessment which concluded that there was no risk for the policy/programme to infringe on the Human Right's Articles and Protocols identified¹². The Screening also concluded that Invest NI did not feel that there were other ways in which the Organisation might be able to improve the TDI Scheme in terms of improving the equality of opportunity.

Building on the conclusions of the Screening, the Evaluation Team's review of TDI Scheme activity, monitoring information provided during the evaluation process and our discussions with TDI Scheme recipients has identified:

- No evidence of higher or lower participation or uptake of different groups;
- No evidence to indicate that different groups had different needs, experiences, issues and priorities in relation to TDI Scheme activity;
- No opportunities to better promote equality of opportunity or better community relations by altering the work of TDI Scheme;
- No accessibility issues that might run contrary to the Disability Discrimination Act 1995.

On this basis, the Evaluation Team would conclude that whilst the TDI Scheme was not specifically targeted at any specific Section 75 categories, it does not appear to have had an adverse impact on any Section 75 group.

3.6 Progress towards the SMART Targets

As detailed in Section 1, the 2008 business case identified two SMART objectives for the TDI Scheme. Table 3.3 provides a summary of the progress that was made towards each of these targets.

Table 3.4: Focus of the TDI Project	
SMART target	Progress made towards SMART target
1. Uptake of the TDI Scheme by 130 companies over the 3-year period;	<p>Target Achieved</p> <p>The Evaluation Team would note the following in relation to this SMART target:</p> <ul style="list-style-type: none"> • Based upon the support that was requested, and subsequently approved, for the TDI Scheme as part of the original 2008 business case¹³, the Evaluation Team is unclear as to why it was envisaged that 130 businesses would be supported during the initial 3-year period of the Scheme; and • No amendment was made to the target number of projects following the provision of additional funding (of £90k) over the three year period nor was a target established to include the fourth year of the project. <p>Withstanding these points, the Evaluation Team notes that uptake of the</p>

¹² Articles 2 to 14 and Protocols 1 and 2.

¹³ I.e. £150k for 70 TDI projects @ £2.1k per project

Table 3.4: Focus of the TDI Project	
SMART target	Progress made towards SMART target
	Scheme during the first three years was significantly in excess (c. twice as many) of the 130 businesses initially envisaged.
2. The TDI Scheme to cover 80% of the 'project eligibility' areas.	<p>Target Achieved</p> <p>Based on the monitoring information provided to the Evaluation Team and the feedback from business respondents, support was provided by TDPs across all (100%) of the project eligibility areas identified.</p>

Whilst the Evaluation Team acknowledges that levels of demand outputs, impacts and outcomes from providing TDI support would have been largely unknown at the time of funding (on the basis that it was a new Scheme), the Evaluation Team would recommend that emphasis is placed on developing a broader range of activity and output/outcome SMART objectives for any future phase of the Scheme. The nature and quantification of these objectives should be developed based upon the findings of the current Evaluation.

3.7 Summary Conclusions

Salient points to note with regards to the Evaluation Team's review of Scheme activity include:

- Invest NI provided support to 340 businesses to undertake 447 TDI projects over the four year period. Whilst the vast majority (78% - N=340) of business received 1 intervention from the TDI Scheme during the period, just over one-fifth (22% - N=340) of businesses received multiple interventions;
- The most common focus of the TDI projects was to protect and/or exploit the Intellectual Property (IP) that had been developed by the business (41% - N=447);
- Whilst the Evaluation Team is broadly content that the two objectives that were established for the TDI Scheme were achieved, we would recommend that emphasis is placed on developing a broader range of activity and output/outcome SMART objectives for any future phase of the Scheme;
- The Evaluation Team faced a number of difficulties in profiling the activity that was supported during the period under review and would recommend that Invest NI undertakes a review of its procedures for monitoring the Scheme;
- Based on levels of demand for the Scheme, business' high levels of satisfaction with the Scheme and the positive contribution of the Scheme to the NI economy, the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate; and
- In relation to equality consideration, the Evaluation Team would conclude that whilst the TDI Scheme was not specifically targeted at any specific Section 75 categories, it does not appear to have had an adverse impact on any Section 75 group.

4. STAKEHOLDERS’ SATISFACTION WITH, & VIEWS OF, THE TDI SCHEME

4.1 Introduction

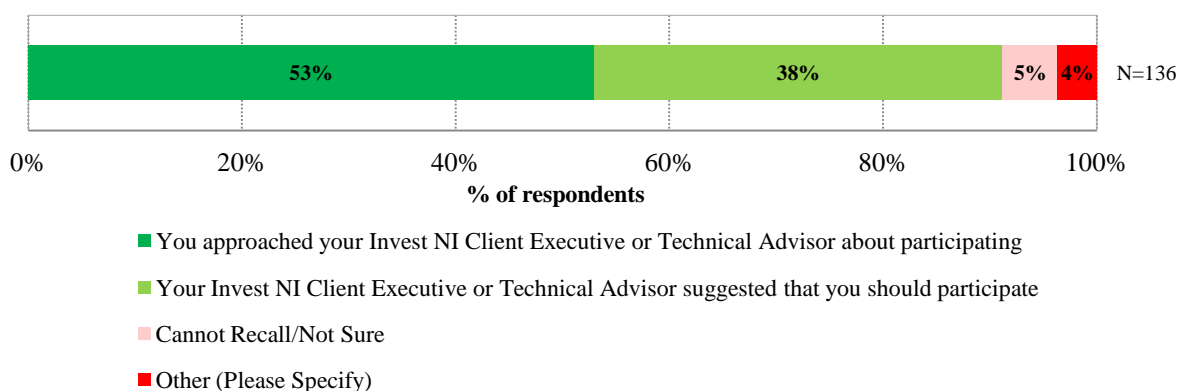
Section 3 provides a detailed analysis of the key findings, emerging from the primary research with businesses in receipt of TDI Scheme support, in terms of their satisfaction with, and views of the Scheme.

4.2 Programme Promotion

As part of the TDI Scheme, the availability of support was promoted through a mix of awareness raising by Client Executives and Innovation Advisers amongst existing Invest NI clients.

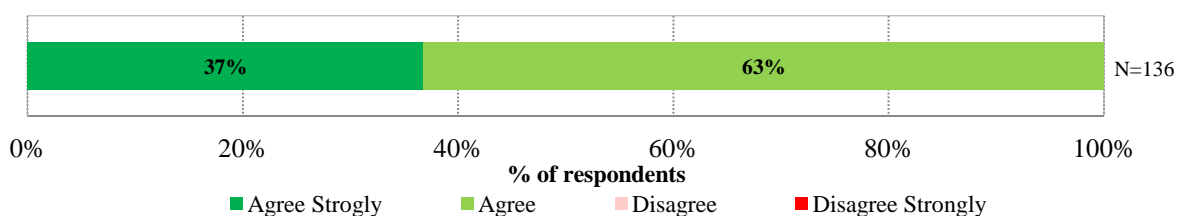
Just over half (53%, N=136 businesses) of all respondents suggested that they had approached Invest NI about participating on the TDI scheme, whilst almost two-fifths (38%, N=136 businesses) were directed to the Scheme through their Client Executive or Technical Advisor.

Figure 4.1: Awareness of the TDI Scheme (unique businesses)



Positively, all respondents ‘strongly agreed’ (37%) or ‘agreed’ (63%) that TDI Scheme was an appropriate solution to address their business needs at that time. This sentiment was shared by Invest NI Technical, Innovation and R&D Advisers who suggested that the effective promotion of the Scheme was reflected in the high levels of demand for support.

Figure 4.2: Degree to which the TDI Scheme was an appropriate solution to address businesses needs (unique businesses)



“Our Client Executive suggested that the TDI Scheme could help us overcome technical difficulties that we were facing and the support was ultimately exactly what we needed”

“Our company received help at the right time with the right advice; I could say it was 100% perfect.”

“We had an idea about what we need to do but without Invest NI support there was no way it would have happened.”

“It would have been extremely difficult to achieve what we wanted without TDI Scheme.”

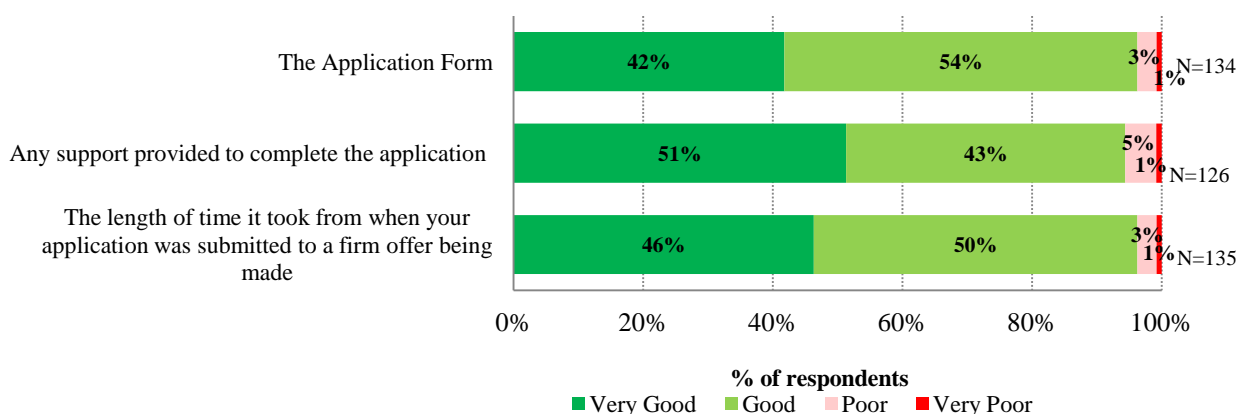
TDI Recipients

4.3 Application Process

Overall, the vast majority of the respondents (88%+) were satisfied with the TDI application process. Specifically:

- 96% (N=134 businesses) of businesses suggested that the application form was straight forward to complete;
- 94% (N=126 businesses) indicated that in the that any support that they received from Invest NI’s Client Executives or Technical Advisors was ‘very good’ or ‘good’; and
- 95% (N=135 businesses) of businesses were in agreement that the length of time from when an application was submitted to a firm offer being made from Invest NI was ‘very good’ or ‘good’.

Figure 4.3: Satisfaction with the TDI Scheme application process (unique businesses)



These views were also confirmed by Invest NI’s Advisers and TSPs who suggested that the model of administration was streamlined and efficient with businesses only having to wait a short number of days on a firm offer of support once they had submitted their application.

However, it was the view of a small number of businesses that the application process was overly bureaucratic. Specifically, these businesses suggested that:

- The application form was not as user friendly as it could be and took too long to complete; and
- Communication from the Client Executive or Technical Advisor was, on occasions, poor (both in terms of the quality of the information provided and its timeliness).

A small number of respondents recommended that Invest NI should provide clearer guidance to applicants as to how to complete that Scheme’s application form and how the support can be used by businesses to overcome specific difficulties facing their business. A small number Advisers and TSPs suggested that, as part of any future Scheme, support should also be provided to the wider business base and not just Invest NI client businesses.

“I would say it was the most straightforward scheme that I have participated on. Everything ran smoothly and in a timely manner.”

“I wasn’t sure about how to complete some aspects of the application form. However, I was able to sort these out with a short phone call to my Client Executive.”

“I was notified just a day or two later that my application to the Scheme had been successful. This really helped my business planning decisions.”

“I asked my Client Executive for some guidance on the TDI application process. However, it appeared that they weren’t too sure and it took them a week to come back to me to address the issue.”

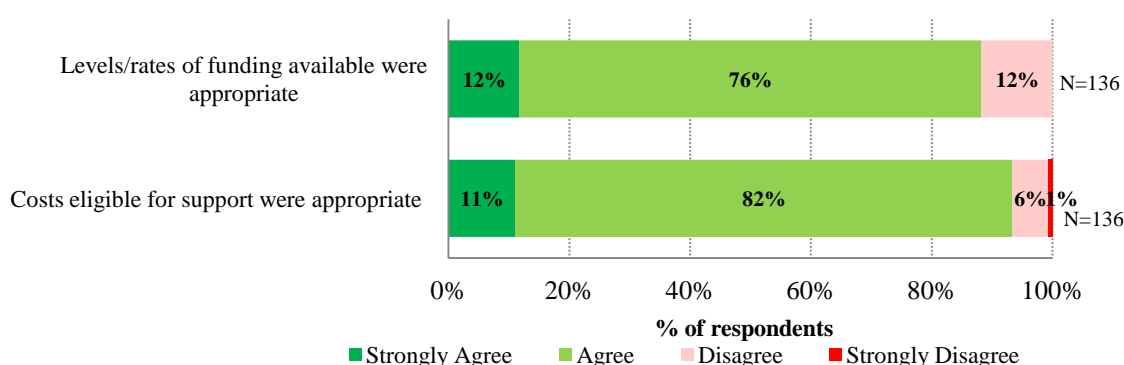
TDI Recipients

4.4 Project Funding

As detailed in Section 1, businesses were typically able to receive up to £5k in funding (or 50% of project costs, whichever was the lesser) from Invest NI to support eligible project costs.

More than four-fifths of respondents (88% - N=136 businesses) were in agreement that the levels and rates of funding, that were available to address their business' technical needs, were appropriate. Furthermore, 93% (N=136 businesses) 'strongly agreed' (11%) or 'agreed' (82%) that costs eligible for support were appropriate.

Figure 4.4: Satisfaction with the levels of funding provided (unique businesses)



Of the small proportion of business (12% - N=136 businesses) respondents who felt that the levels and/or rates of support were not appropriate, these businesses suggested that the ongoing economic downturn was having an adverse impact on their trading conditions, making it more difficult to derive the match funding required to contribute towards the cost of their respective TDI project(s). Given this difficulty, these businesses suggested that they would welcome a higher level of contribution from the Scheme both in monetary terms and as a proportion of overall project costs.

Whilst a small number of Invest NI Advisers and TSP suggested that consideration should be given to increasing the amount of support available to businesses, a number of Advisers expressed concern that the increase could lead to the displacement of other Invest NI programmes/initiatives e.g. Grant for R&D.

"I feel that the levels of funding provided through the Scheme were wholly appropriate to address the technical issues that were preventing my business from developing a new product."

"Yes, the level of support was enough to help us embed the Quality Management System that we needed. The Scheme also supported a good range of costs."

"For what we wanted to do, the support was just right. I was also informed by Invest NI Client Executive that other forms of support were available through the organisation for bigger and more complex projects."

"Things are really tough at the moment. As a small business I found it really hard to come up with the money required to contribute towards the cost of the project."

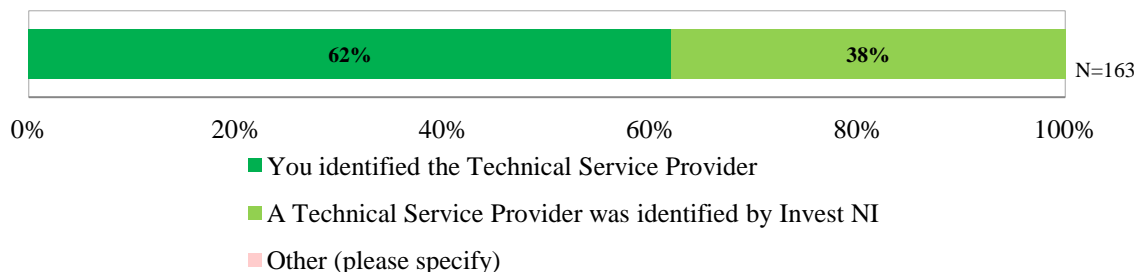
TDI Recipients

4.5 Role of the Technical Service Provider

As detailed in Section 1, as part of the TDI Scheme, businesses received support from a TSP to assist them to address technical problems or issues relating to product development, production and process operations.

For the majority (62% - N=163 projects) of projects that were taken forward, the business was responsible for identifying the TSP that they used. For many of the remaining projects (38% - N=163 projects), participant businesses typically received support from Invest NI to identify a TSP that could potentially address their needs¹⁴.

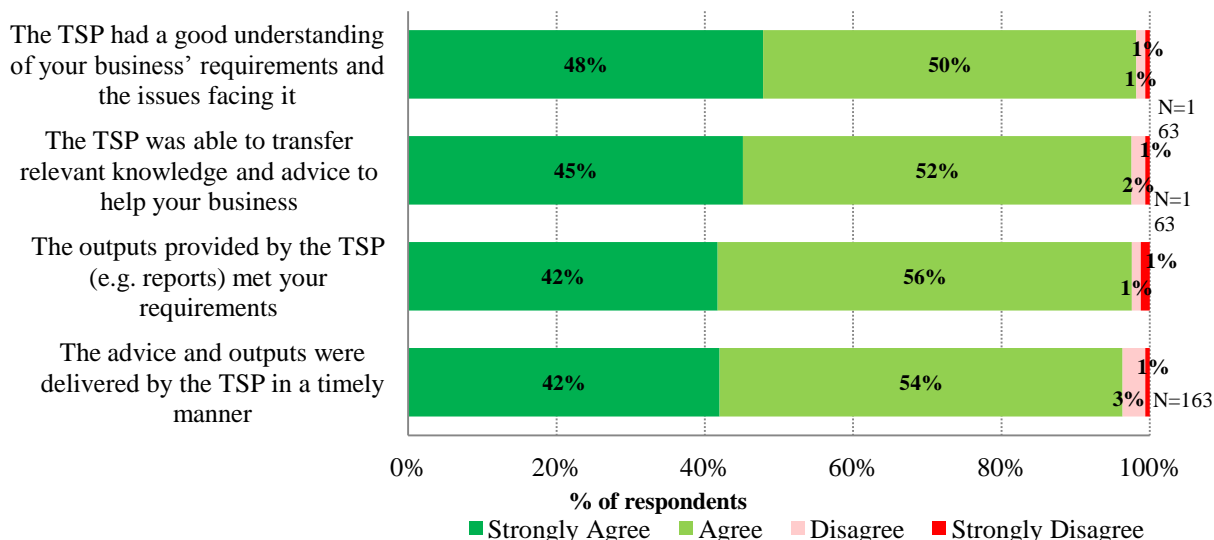
Figure 4.5: Method of identifying a TSP (Individual TDI projects)



Encouragingly, the vast majority of respondents indicated that they were satisfied with the support that was provided by their TSP for their TDI projects. Specifically, in relation to the TDI projects supported, respondents were in agreement that the:

- TSP had a good understanding of their business’ requirements and the issues facing it (98% - N=163 projects);
- TSP was able to transfer relevant knowledge and advice to help their business address the specific technical issue(s) that was preventing it from realising its development plans (97% - N=163 projects);
- The outputs provided by the TSP (e.g. reports) met business’ requirements (98% - N=163 projects); and
- The advice and outputs were delivered by the TSP in a timely manner (96% - N=163 projects).

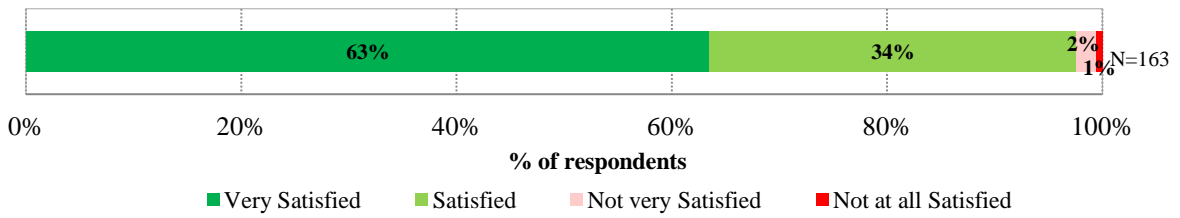
Figure 4.6: Satisfaction with elements of the support provided by the TSP (Individual TDI Projects)



On an overall basis, businesses suggested that they were ‘very satisfied’ or ‘satisfied’ with the support that had been provided by the TSP to complete the vast majority (97% - N=163 projects) of projects.

¹⁴ Please note, whilst Invest NI identified potential TSPs that could be used by participating businesses, it was ultimately the business’ decision as to which TSP was selected.

Figure 4.7: Overall satisfaction with the support provided by the external TSP (Individual TDI Projects)



“The TSP that we used was able to provide us with good advice about how to protect and exploit our IP.”

“The advice was delivered in a straightforward and timely manner. Without the expertise we wouldn’t have been able to overcome the technical difficulties we were facing.”

“He (the TSP) was able to get up the curve very quickly in relation to the issues facing our business and provided sound advice and expertise which has enhanced our product offering within the marketplace.”

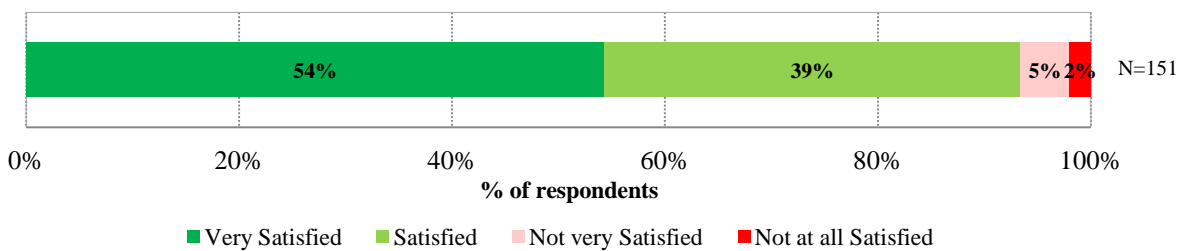
TDI Recipients

Invest NI Advisors also reflected similar sentiments with regards to the overall quality of support and advice provided by the TSPs throughout the TDI process.

4.6 Satisfaction with other support provided by Invest NI

Business also highlighted a high level of satisfaction with any technical support that had been provided by Invest NI (through its TAU) during the course of the TDI project(s). Specifically, business suggested that they were ‘very satisfied’ or ‘satisfied’ with the technical advice provided (e.g. the TAU) in relation to 93% (N=151 projects) of TDI projects.

Figure 4.8: To what extent were you satisfied with any technical advice provided by Invest NI personnel associated with your TDI projects? (Individual TDI Projects)



The small number of businesses who were not satisfied with the support provided by Invest NI during the process of their TDI projects (7% - N=151 projects) suggested that there were delays in receiving information relating to specific technical issues and/or the advice being provided was not of the quality that was expected.

“All of the staff from Invest NI were excellent, providing useful support and advice.”

“It was very useful for the business to get a different take on the project and gain a different view from credible people.”

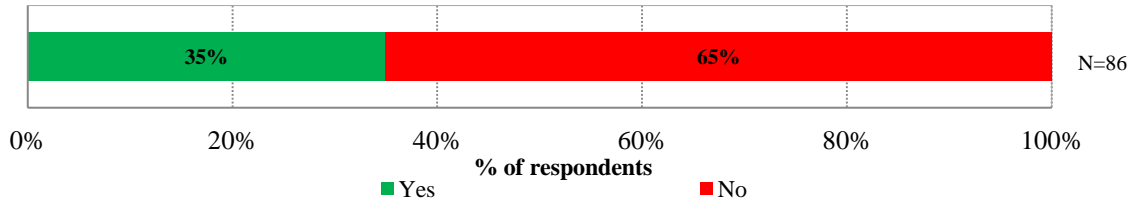
“The TAU personnel were very helpful and efficient with any queries our company had.”

“I asked Invest NI to provide its viewpoint on something my technical advisor (TSP) had told me. However, it took them over two weeks to come back to me and the advice was ambiguous.”

TDI Recipients

Just over one-third (35%, N=86 businesses¹⁵) of respondents indicated that they had received other support from Invest NI during the period of their TDI project.

Figure 4.9: Receipt of other support during the period of the TDI project (Individual TDI Projects)

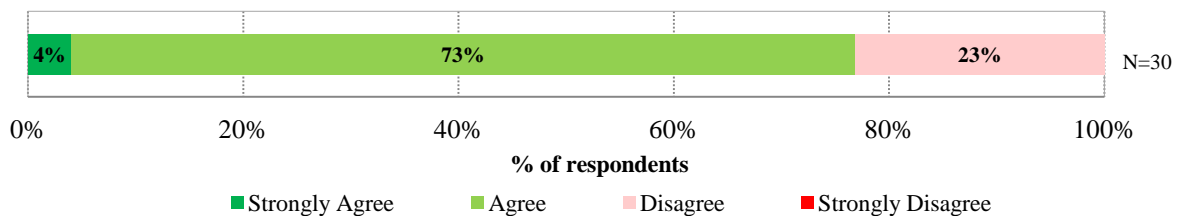


Examples of support received, included:

- Marketing support grant (12 businesses);
- Growth Accelerator Programme (GAP) support (6 businesses);
- Grant for R&D support (6 businesses);
- Propel Programme (3 businesses); and
- Innovation Vouchers (3 businesses).

It was the view of just over three-quarters of these business (77% - N=30) that the other support from Invest NI complemented the support that they had received through the TDI scheme.

Figure 4.10: Degree of complementarity with other support interventions (Individual TDI Projects)



Nearly a quarter (23%, N=30) of recipients disagreed suggesting that TDI assistance was for specific project and that the other sources of support was not related to that project.

“All the help we received was like a big jigsaw coming together in order to achieve one goal.”

“The different types of support encouraged us to learn more about the business and helped us to market the product better.”

“TDI support for our project was very specific, more like stand-alone thing.”

“No, I could not say that the other support complemented our TDI project because it was completely two different programs.”

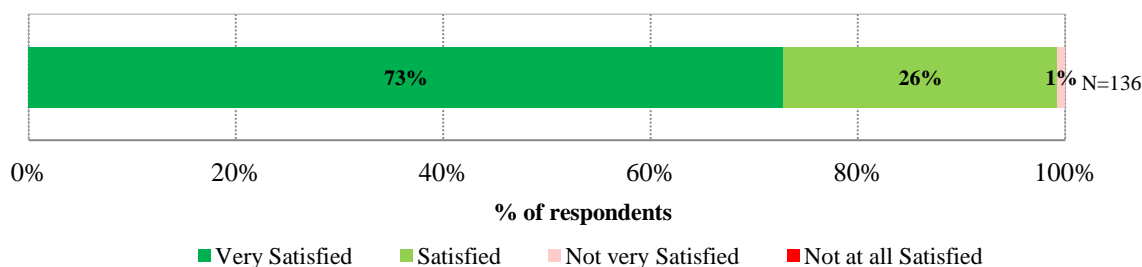
TDI Recipients

¹⁵ Please note that this question was not asked in the online survey and relates only to the 86 businesses from the telephone survey.

4.7 Overall Satisfaction and business' recommendation for improvement

Almost all (99% - N=136) businesses stated that they were 'very satisfied' (73%) or 'satisfied' (26%) with the support that was provided through the TDI Scheme.

Figure 4.11: Overall satisfaction with the support provided through the TDI Scheme (Unique businesses)



"This is an excellent scheme. Minimal bureaucracy and straightforward process that delivers measurable results...businesses need more support like this."

"The support does what it says on the tin. The people involved were very helpful and the process was made easy and transparent. I would have no problem recommending the support to other businesses that are facing similar technical difficulties."

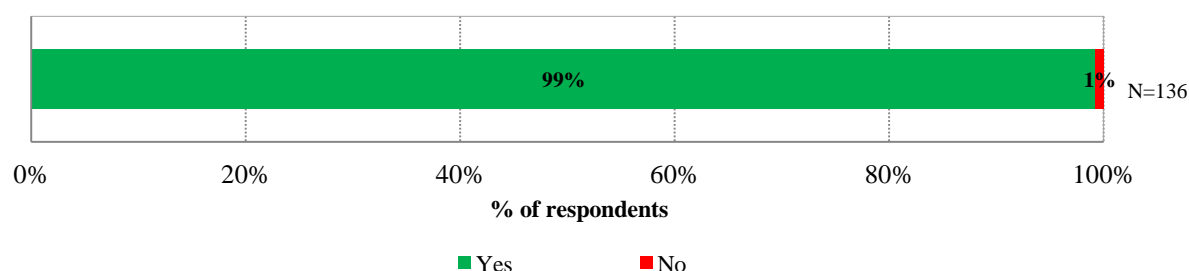
"I'm very satisfied with the scheme. It enabled me to get quality support to address technical issues preventing me from bringing a product to market. As a result of the support, I've increased my customer base and, importantly, my bottom line."

"Knowledge gained from the scheme has been invaluable. I have been able to pass this advice on to clients which contributes to helping the overall NI business community. It is a very important scheme which needs to be continued."

TDI Recipients

Aligned to the high level of overall satisfaction with the Programme, almost all businesses (99% - N=136 businesses) stated that they would recommend the TDI Scheme to other businesses who are in need of support to address technical issues preventing them from achieving their development plans.

Figure 4.12: Willingness to recommend the scheme (Unique businesses)



Given the reported high levels of satisfaction, a small number (less than 10) of businesses made a small number of recommendations to improve the Scheme. These recommendations included:

- Increasing the public sector contribution towards project costs (i.e. more than 50%), so that lower levels of match funding have to be provided by businesses. It was suggested that this was particularly important given the ongoing economic downturn and associated unfavourable trading conditions for businesses; and
- Improve the promotion and marketing of the scheme.

“Given the economic climate, it’s really hard to find the cash to contribute towards project costs. It would be great if consideration could be given to lowering this or, even better, removing it all together.”

“It would be great if Invest NI paid more towards the cost of the project.”

“I only heard of the scheme after talking to my Client Executive and had never really seen it being advertised in the wider businesses community. I’m sure that more business would like to avail of support like this if they knew it was available.”

TDI Recipients

Whilst a small number of businesses recommended that consideration should be given to Invest NI providing a higher level of contribution towards project costs, the Evaluation Team would not advocate any change in the current maximum level of contribution (i.e. 50%) from Invest NI on the basis that:

- The level of contribution is likely to encourage greater levels of business commitment towards the completion of a project than might otherwise be the case if businesses were required to contribute a lower level of match funding;
- The levels of support do not appear to have had a negative impact on the demand for the programme; and
- Related to the previous point, a reduction in the levels of private sector contribution may adversely affect levels of activity additionality.

4.8 Summary Conclusions

The preceding analysis suggests that businesses are, on the whole, highly satisfied with the support provided through the TDI Scheme. Specifically, the feedback from businesses in receipt of TDI support during the period under review suggests that (amongst other things):

- The Scheme has been appropriately managed and administered by Invest NI (in terms of Scheme promotion, the application and appraisal process and any ongoing support that was provided during the TDI process);
- The support that was provided by the TSP was fit-for-purpose in terms of addressing businesses’ needs;
- There is a high level of complementarity between the support provided through the TDI scheme and other Invest NI supports; and
- The levels and rates of funding, that were available to address their business’ technical needs, were appropriate.

5. IMPACT OF THE TDI SCHEME

This Section considers the impact that the receipt of TDI Scheme support had on recipient businesses.

5.1 Nature of Activity Supported

Table 5.1 provides a summary of the main focus of the projects that were taken forward by the businesses that the Evaluation Team consulted with during the primary research process.

Table 5.1: Focus of the TDI project		
Focus of the Project	TDI Projects	TDI Project %
Protecting and/or exploiting Intellectual Property (IP)	73	45%
Implementing some process and/or quality management schemes e.g. ISO 9001, 14001, OHSAS 18001	24	15%
Development of a prototype	23	14%
Investigating new technologies or processes	16	10%
Gaining approval or technical compliance for a product	17	10%
Improving product or process design and performance	9	5%
Resolving a problem relating to some product and/or process	0	0%
Other (New package design)	1	1%
Total	163	100%

Salient points to note include:

- Just under half (45% - N=163 projects) of the projects were focused on protecting and/or exploiting Intellectual Property (IP);
- 15% (N=163 projects) of the projects were focused on implementing some process and/or quality management schemes;
- 14% (N=163 projects) of projects were focused on the development of a prototype.

5.2 Activity Deadweight/Additionality

The net impact of Invest NI's TDI Scheme support (i.e. it's additionality) relating to companies' decision to undertake the business development activities, or where relevant, to have undertaken the activity to a similar scale and/or within a similar timescale, can only be measured after making allowances for what would have happened in the absence of the support from TDI Screen. That is, the support must allow for deadweight. 'Deadweight' refers to activity that would have occurred without the intervention i.e. the TDI Scheme.

Appendix IV provides a detailed overview of the Evaluation Team's deadweight/additionality calculations. However, in summary, we have calculated levels of activity deadweight using a 'participant self-assessment' methodology. The methodology utilises a series of questions¹⁶ within the participant survey and assigns weightings (provided by DETI's Economist Team) to the individual responses. Then outcomes of the analysis are provided below:

Table 5.2: Activity Additionality/deadweight	
	% of projects
Fully Additional	28%
Partially additional	61%
Not additional	11%
Overall level of additionality	46%

¹⁶ In-line with DETI guidance, these questions focused on identifying the likelihood that the business would have undertaken similar activities to address the specific technical issues they were facing, what proportion of the impact would have occurred in the absence of support and (if relevant) how much later would the activity have been undertaken (if relevant).

The results of this analysis suggests that 46% of the business development activities that were ultimately taken forward would not have gone ahead (or would not have gone ahead in the same timescale and/or manner) without the support provided through the TDI Scheme. The remainder of the activity (54%) would have gone ahead or would have gone ahead in a different timescale and/or manner.

The level of ‘activity additionality’ (at 46%) is unsurprising as it would be expected that businesses would seek to engage in activities that would address technical issues being faced, independently of any support that would be provided (i.e. through the TDI Scheme). However, what is of greater relevance in the context of the TDI Scheme is the degree which the support provided through the Scheme contributed to businesses achieving any outcomes (i.e. impact deadweight/additionality). This is discussed in further detail in Section 5.5.2. Withstanding this point, Invest NI should continue to robustly challenge the level of additionality/deadweight associated with providing TDI support at the application stage. In order to better inform that investment decision making process, this should include the utilisation of DETI’s methodology to calculate the level of activity additionality.

Given the fact that (as detailed in Section 3) just over one-fifth (22% - N=340) of businesses received multiple interventions, the Evaluation Team examined levels of activity additionality associated with those businesses that had received multiple interventions. The outcomes of this analysis is provided in Appendix V and summarised below:

Table 5.3: Additionality associated with business undertaking multiple TDI projects		
	Deadweight	Additionality
Intervention 1 (N=136 projects)	52%	48%
Intervention 2 (N=20 projects)	64%	36%
Intervention 3 (N=7 projects)	71%	29%

As detailed in Table 5.3, levels of ‘activity additionality’ amongst business respondents decrease with each additional TDI intervention provided. Specifically, the analysis suggests that activity additionality falls by 19% (i.e. from 48% to 29%) between the first and the third interventions. This decrease in ‘activity additionality’ is likely to be explained by the fact that the influence of market failures¹⁷, on business’ decision not to independently undertake the business development activities, will diminish as they see the benefits of engaging in the activity and gain a better understanding of the methods to address the technical issues facing their business.

Given the decrease in levels of ‘activity additionality’ associated with repeat interventions, Invest NI should give consideration to decreasing levels of support (both on an overall basis and as a percentage of total project costs) for multiple interventions¹⁸.

5.3 Nature and Extent of Market Failure

Subsection 5.3 examines the factors that would have prevented businesses from undertaking the business development activities or undertaking them in the same manner (i.e. at the same scale or in the same timescale) independent of the support provided through the TDI Scheme. In doing so the analysis utilises a methodology agreed in conjunction with DETI and Invest NI to quantify the nature and extent of market failure¹⁹.

¹⁷ Such as asymmetric information, risk aversion etc.

¹⁸ Please note that, based on the feedback from businesses, there is no evidence to suggest that repeat interventions generate disproportionality more or less benefits vis-à-vis the first intervention.

¹⁹ Given the fact that the analysis seeks to examine the factors that would have prevented businesses from undertaking the business development activities or undertaking them in the same manner (i.e. at the same scale or in the same timescale) independent of the support provided through the TDI Scheme, the analysis is intrinsically linked to the activity additionality/deadweight analysis detailed in subsection 5.2.

Based on the feedback, the factors that would have prevented businesses from undertaking the business development activities or undertaking them in the same manner included:

Table 5.4: Factors preventing businesses from undertaking the business development activities that were supported through the TDI Scheme, or undertaking them in the same manner (Individual TDI Projects)	
Need for support	% of projects
The company could not afford to employ an external Technical Service Provider without financial support (not a market failure)	77%
The company lacked the knowledge required to develop and implement the business development activities (market failure - asymmetric information)	23%
Project was too risky to take on without financial support (market failure - risk aversion)	20%
The company lacked access to information required to develop and implement the business development activities (market failure - asymmetric information)	14%
Without knowing more about the potential benefits, the business would not have considered undertaking the business development activities (market failure - asymmetric information)	8%
The company was not aware of any external Technical Service Providers that could offer the support required to address your business needs (market failure - asymmetric information)	3%
Other (please specify)	0%
N =	146²⁰

"It was difficult enough to get the 50% match funding that was required and it would have been impossible to fund the project ourselves"

"The main obstacles are trying to finance the project ourselves and concerns that the project wouldn't work out. With Invest NI's support we had the confidence and financial backing to take the risk."

"We would not have been able to undertake the project without the guidance and advice and financial backing provided through the TDI scheme support."

TDI Recipients

Based on these findings, the Evaluation Team was able to undertake an analysis of the degree to which market failure played a role in companies' decision to undertake the TDI Projects. This analysis involved categorising a company's motives for participation based on:

- **No Market failure** – The participant felt that the activity 'definitely would have happened anyway' or stated that they would not have undertaken the activity in the absence of the TDI scheme due to the fact that the company would not be able to afford to employ an external TSP without financial support.
- **Partial Market failure** - The participant's decision to participate was due to **both** non-market failure and market failure factors. That is to say, they would not have started their business or developed it in the same manner, because they:

- Could not afford to employ an external Technical Service Provider without financial support (not a market failure); **and**
- Project was too risky to take on without financial support (market failure – risk aversion due to asymmetric information) and/or
- Without knowing more about the potential benefits, the business would not have considered undertaking the business development activities (market failure – asymmetric information) and/or
- The company lacked the knowledge required to develop and implement the business development

²⁰ N=146 projects. Whilst the primary research examined business feedback in relation to 163 projects, business suggested that they would have been undertaken the activity associated with 17 projects without the support of the TDI scheme.

activities (market failure – asymmetric information); and/or

- The company lacked access to information required to develop and implement the business development activities (market failure – asymmetric information); and/or
- The company was not aware of any external Technical Service Providers that could offer the support required to address your business needs (market failure – asymmetric information).

- **Full Market Failure** - The company’s decision to participate was solely due to market failure factors (asymmetric information) i.e.:

- Project was too risky to take on without financial support (market failure - asymmetric information) and/or
- Without knowing more about the potential benefits, the business would not have considered undertaking the business development activities (market failure - asymmetric information) and/or
- The company lacked the knowledge required to develop and implement the business development activities (market failure - asymmetric information); and/or
- The company lacked access to information required to develop and implement the business development activities (market failure - asymmetric information); and/or
- The company was not aware of any external Technical Service Providers that could offer the support required to address your business needs (market failure – asymmetric information).

The results of this analysis are presented in the table below:

Table 5.5: Impact of market failure on TDI Projects	
	% of TDI Projects
No Market Failure	54%
Partial Market Failure	24%
Full Market Failure	22%
Total (N=163 projects)	100%

In summary, businesses suggested that 46% of projects would not have been taken forward due to either full or partial market failure factors (relating to market failure). Advisers and TSPs were in also in agreement that the key factors preventing businesses from engaging in activities of this nature were risk aversion, asymmetric information and affordability constraints i.e. a mixture of market and non-market failure factors.

It is the Evaluation Team’s view that the significant proportion (54%) of businesses who reported that market failure played no role in companies’ decision to undertake the TDI Projects reflects the fact that:

- It would be expected that businesses would seek to engage in activities that would address technical issues being faced (as suggested by the reported level of ‘activity additionality’);
- The ongoing economic downturn, and its associated negative impact on trading conditions, is likely to have impeded the ability of businesses to take forward activity of this nature independently of receiving support (as suggested by the 77% of businesses who suggested that they could not afford to employ an external Technical Service Provider without financial support); and
- The analysis will include the views of those businesses that had received multiple interventions. The Evaluation Team would suggest that a business is less likely to cite ‘asymmetric information’ (e.g. lack of information about the benefits of engaging in the innovation activities, lack of awareness of the TSPs they could potentially use etc.) as the main factor as to why they would not have engage in the activity on the basis that this market failure is likely to have been addressed following the receipt of support through their first TDI intervention²¹.

²¹ Albeit the Evaluation Team notes that, if the nature of project differs between interventions, then the level (and nature) of the asymmetric information may be the same.

5.4 Achievement of Outputs

Businesses reported achieving a range of project-specific outputs as a result of the TDI project that was taken forward, as detailed in Table 5.6.

Output	% of TDI Projects
Protection of Intellectual Property (IP)	48%
Exploitation of Intellectual Property (IP)	25%
Development of a prototype	17%
Development of new products or services	17%
Development of integrated and/or quality management systems	16%
Product approval/global technical compliance	13%
Improved product design and performance	12%
Investigation of new technologies or processes	11%
Resolution of product and/or process problems	5%
Development of new processes	4%
Adaption of existing products or services	3%
Adaption of existing processes	1%
Other (please specify)	0%
N=	161²²

Salient points to note include:

- Just under half of all projects (48% - N=161 projects) had protected IP, whilst one quarter (25% - N=161 projects) had exploited IP;
- Almost one-fifth (17% - N=161 projects) of projects had resulted in the development of a prototype and/or a new product or service; and
- Other outputs achieved included the development of integrated and/or quality management systems (17% - N=161 projects) and/or achievement of product approval/global technical compliance (16% - N=161 projects) and/or improved product design and performance (13% - N=161 projects).

In addition to this:

- 59% of businesses (N=136 businesses) suggested that the support had increase their access to new export markets; and
- 64% of businesses (N=136 businesses) were in agreement that the support had increased their range of products and/or services.

“Due to the protection of Intellectual Property that was gained as a result of TDI scheme the business has now started a franchise.”

“Money and advice from the TDI support helped me to implement new software processes leading to better management of my business.”

“We were able to develop a prototype which we could bring to prospective customers to demonstrate our business’ abilities. This subsequently results in new sales for our business.”

“The financial support from Invest NI and the expertise of the external service providers allowed me to investigate how to improve my products and make them more attractive to a wider market.”

TDI Recipients

²² N=161 as 2 of the 163 projects stated that no output was achieved as a result of the TDI scheme therefore this question did not apply

5.5 Achievement of Outcomes

5.5.1 Overview of impacts/outcomes achieved

Businesses suggested that almost three-quarters (74% - N=163 projects) of TDI projects had delivered impacts/outcomes. Businesses stated that they anticipated a further 15% of projects (N=163 projects) would derive impact/outcomes but it was too early to quantify the extent of these impacts/outcomes. Businesses were of the view that the remaining projects (11% - N=163 projects) had not or would not deliver impacts/outcomes.

Figure 5.1: Projects delivering impacts /outcomes (Individual TDI Projects)

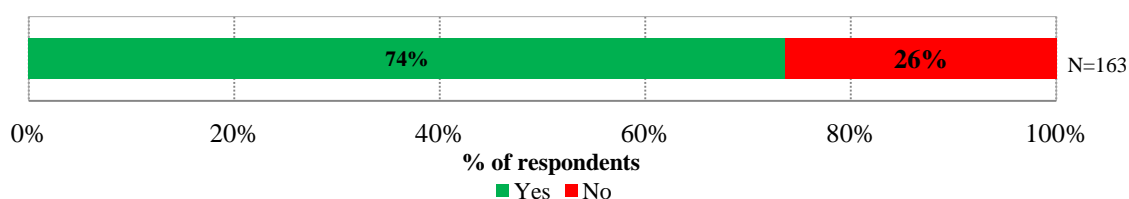


Table 5.7: Projects delivering specific impacts/outcomes (Individual TDI Projects)

Impact/outcome	% of projects deriving the impact/outcome
Increased sales in NI market	39%
Increased sales in GB market	33%
Increased sales in export markets (outside UK)	38%
Reduction in costs	19%
Increased expenditure on R&D	29%
Increased employment (FTEs) within your business	14%
Employment Safeguarded/Retained	26%
Entry into new geographic markets	23%
Improved the skills of your workforce	46%
Increased competitiveness	61%
Impact on your business' survival	33%
Other	3%
N=	120²³

Of the projects (N=120 projects) that had delivered a measureable impact/outcome, businesses suggested that (amongst other things):

- Just over three-fifths of projects (61% - N=120 projects) supported by the Scheme had had a positive impact on the business' competitiveness;
- Nearly half (46% - N=120 projects) of the TDI project had helped to improve the skills of businesses workforce;
- One third of projects (33% - N=120 projects) had had a positive impact upon businesses survival;
- One-third or more of projects (33%+- N=120 projects) had had a direct impact on business' sales in NI and/or GB and/or non-UK markets;
- Almost one-quarter of projects (23% - N=120 projects) had helped businesses enter into new geographical markets;
- Almost one-fifth of projects (19%, N=120 projects) indicated the TDI scheme led to a reduction in the business' costs; and
- 14% (N=120) of projects had contributed to creating new employment within businesses and just over one-quarter (26% - N=120) of projects had contributed to the safeguarding/retaining of employment.

²³ N=120 as 43 projects had no tangible impacts upon the respondent's business therefore this question was not applicable.

5.5.2 Assessment of sales and GVA impacts

Gross Sales derived

During consultation businesses suggested that their TDI projects had contributed c. £3.35m of sales of which

- 79% (or c. £2.65m) was NI sales;
- 7% (or c. £240k) was external GB sales; and
- 14% (or £46k) was export sales (i.e. outside the UK).

Table 5.8: Businesses quantification of sales achieved		
Location of sales	No of projects able to quantify impact	Value (£)
NI Sales	14	£2,651,500 ²⁴
GB Sales	8	£239,499
Outside UK Sales	15	£460,499
Total sales	-	£3,351,498

However, a number of businesses that had suggested their TDI project had provided them with further sales were not able to directly quantify the level of sales that had been generated. As such, the Evaluation Team has grossed-up²⁵ the levels of sales that were derived by those businesses able to quantify the sales to reflect the potential sales of all projects stating that they had achieved further sales within the project examined (i.e. the 163 TDI projects examined). The result of this analysis is provided below.

Table 5.9: Pro-rata of sales achieved for survey sample (N=163 projects)		
Location of sales	No of projects reporting deriving further sales	Value (£)
NI Sales	46	£2,140,643 ²⁶
GB Sales	40	£1,197,495
Outside UK Sales	45	£1,381,497
Total sales	-	£4,719,635

To examine the overall impact of the Scheme on businesses sales the results were then grossed-up²⁷ across to reflect the potential impact of all TDI projects. This analysis suggests that TDI Scheme potentially contributed to delivering c. £15m of further sales to NI businesses.

Table 5.10: Pro-rata of sales achieved for all TDI projects (N=447 projects)	
Location of sales	Value (£)
NI Sales	£7,893,375 ²⁸
GB Sales	£3,283,928
Outside UK Sales	£3,788,522
Total sales	£14,965,825

²⁴ It should be noted that this figure is heavily skewed by 1 TDI project which derived £2m of sales. During consultation, the business that took forward the TDI project suggested that the support had enabled them to embed a quality management system that had directly contributed to the business winning a significant NI-based contract.

²⁵ Analysis involving dividing the value of sales by the number of projects able to quantify the impact and multiplying this by the total number of projects reporting deriving further sales. See Appendix IV for further details.

²⁶ Please note, for prudence, the Evaluation Team excluded the TDI project deriving £2m of sales from the grossing up analysis. See Appendix IV for further details.

²⁷ Analysis involved dividing the value of sales calculated by the sample of TDI projects examined during the primary research process (i.e. 163) and multiplying this by the total number of TDI projects (i.e.447). See Appendix IV for further details.

²⁸ Analysis involved dividing the value of sales calculated by the sample of TDI projects examined during the primary research process excluding the outlier (i.e. 162) and multiplying this by the total number of TDI projects (i.e.446 – excluding the outlier). The outlier value was then added to estimate the total impact. See Appendix IV for further details.

Gross GVA derived

Given the breadth of businesses that availed of TDI support, we have applied the NI average level of GVA²⁹ (i.e. 31%) to the estimate the level of gross GVA. This analysis suggests that the 447 projects potentially contributed c. £4.6m in gross GVA.

Table 5.11: Goss GVA for all TDI projects (N=447 projects)	
	Gross GVA
NI	£2,446,946
GB	£1,018,018
Outside UK	£1,174,442
Total sales	£4,639,406

In order to estimate the gross GVA impact on profits and wages/salaries (in the absence of actual wage/salary information), we have determined the split of GVA across profits and wages through the use of figures from the ONS Regional Accounts (December 2012) which sets out GVA in terms of “gross operating surplus” (i.e. profits) and “compensation of employees” (i.e. wages/salaries).

Table 5.12: GVA of Northern Ireland for 2011 (£ million)		
GVA Breakdown	2011	% of total
Gross operating surplus (GOS) – profits	£12,139	41%
Compensation of employees – wages/salaries	£17,731	59%
Total NI GVA	£29,870	100%

Using this information, we can estimate the Scheme’s gross GVA impact on:

- Additional profits arising from projects assisted;
- Additional wages/salaries arising from projects assisted.

Table 5.13 – Disaggregation of Gross GVA	
GVA Breakdown	Value (£)
Gross operating surplus (GOS) – profits	£1,902,156
Compensation of employees – wages/salaries	£2,737,250
Total Gross GVA	£4,639,406

Net additional GVA derived (including impact additionality and displacement considerations)

By way of calculating the net additional GVA contributed by the 447 TDI projects, it is important to take account of two further considerations; namely:

- Impact deadweight/additionality;
- Displacement.

5.5.3 Impact additionality

The net impact of the TDI support (i.e. its additionality) on recipients businesses’ sales, employment or other outturns can only be measured after making allowances for what would have happened in the absence of the intervention. That is, the impact must allow for deadweight. ‘Deadweight’ refers to outcomes that would have occurred without their support.

Please note that given that most evaluations are undertaken some time after an activity is implemented, the Evaluation Team does not consider it appropriate to apply ‘activity additionality’ to impact measures. The reason being that, in the intervening period any variety of factors (and support

²⁹ Source: Northern Ireland Annual Business Inquiry 2010 (DFP 21 December 2011).

interventions) may have had an impact on a business. Therefore, this measure ascertains the level of deadweight/additionality relating to business outturns.

The analysis of individual survey responses and application of the same ‘participant self-assessment’ methodology used to assess ‘activity additionality’, results in the following levels of ‘impact deadweight and additionality’³⁰:

Table 5.14: Impact Additionality/deadweight	
Deadweight	Additionality
37%	63%

The Evaluation Team notes that ‘impact additionality’ (63%) is considerably higher than ‘activity additionality’ (46%) reflecting the fact that whilst some businesses may have undertaken similar development activities irrespective of the TDI Scheme, the support provided through the Scheme has played a vital role in businesses realising the outcomes and impact. Based on the feedback from businesses, it is the Evaluation Team’s view that the high level of ‘impacts additionality’ is likely to reflect the high quality of support that has been delivered through the Scheme.

Positively, as detailed in the Table 5.15, the Evaluation Team’s benchmarking of the Scheme’s level of ‘impact additionality’ with other similar interventions shows that the Programme is performing significantly better than these. For example, the level of TDI impact additionality is 12.1 percentage points higher than for ‘Promotion & development of science, R&D and innovation infrastructure’ interventions across the UK regions (where it is 50.9%). Similarly, the level of impact additionality is higher than for all types of interventions and programme interventions.

Table 5.15: Benchmarking of impact additionality/deadweight³¹			
Location	Nature of interventions	Mean Additionality	Mean Deadweight
UK Regional	All interventions	57.0%	43.0%
	Programme interventions only	56.2%	43.8%
	Promotion & development of science, R&D and innovation infrastructure interventions	50.9%	49.1%
NI	TDI Scheme	63.0%	37.0%

5.5.4 Displacement

The Evaluation Team has also considered the potential displacement that might be created by the impact of the TDI support. To assess this, we have again utilised a series of questions; the answers to which are assigned a ‘displacement factor’ in both the NI market and the broader UK market.

We have calculated displacement based on two factors:

1. The proportions of the businesses that participants compete with that are based in NI/UK, keeping in mind the markets which their company sells into.
2. Whether, in the participants’ area of business, market conditions have improved over the period since receiving support.

On an overall level, the Evaluation Team’s analysis suggests that that the displacement factor at the NI level is 27.5%; whilst at the UK level it is 31.9%.

³⁰ See Appendix IV for further details.

³¹ Source: *Research to Improve the Assessment of Additionality (BIS, 2009)*

5.5.5 Calculation of net additional GVA

The application of the outturns of the impact additionality and NI displacement analysis suggests that the TDI Scheme contributed c. £2.1m in net additional GVA, c. £1.2m of which was in wages and the remainder (c. £900k) was in profits.

Table 5.16: Net additional GVA for all TDI projects (N=447 projects)				
	Sales Achieved	Removal of Impacts Deadweight' (@37.2%)	Net additional sales (removal of NI displacement @27.5%)	Net additional GVA (@31%)
NI	£7,893,375	£4,957,050	£3,593,111	£1,113,864
GB	£3,283,928	£2,062,311	£1,494,863	£463,408
Outside UK	£3,788,522	£2,379,197	£1,724,558	£534,613
Total sales	£14,965,825	£9,398,559	£6,812,531	£2,111,885

Table 5.17: Disaggregation of Net additional GVA	
GVA Breakdown	Value (£)
Gross operating surplus (GOS) – profits	£865,873
Compensation of employees – wages/salaries	£1,246,012
Total Net Additional GVA	£2,111,885

5.5.6 Assessment of gross and net additional employment impacts

New Employment (full-time equivalents)

During consultation business suggested that 10 projects had supported the creation of 34 new full-time equivalent (FTE) jobs³², all of which were above the NI median salary level (i.e. £18,876 per annum). Grossing this up to reflect the total number of TDI project (N=447) and taking allowances for the calculated levels of ‘impact additionality’ and NI displacement suggests that the TDI Scheme directly created 42 jobs, all of which were above the NI median salary level.

Table 5.18 - Net additional FTE jobs created	
	No of FTE jobs
FTE jobs created - survey sample (N=163 projects)	34
Gross FTE jobs created - all TDI projects (N=447 projects)	93
Removal of ‘Impacts Deadweight’ (@37.2%)	59
Net additional FTE jobs created (following the removal of NI displacement @27.5%)	42

Employment retained safeguarded

In addition to the creation of new FTE jobs, the Evaluation Team’s analysis suggests that the TDI Scheme directly contributed to safeguarding 107 jobs.

Table 5.19 - Net additional jobs safeguarded	
	No of jobs safeguarded
Jobs safeguarded - survey sample (N=163 projects)	62
Gross jobs safeguarded - all TDI projects (N=447 projects)	170
Net additional jobs safeguarded (following the removal of ‘Impacts Deadweight’ @37.2%)³³	107

³² Based on the feedback, this increase in employment was, in part, linked to increases in levels of sales within the businesses.

³³ Please note that displacement impacts do not need to be considered as the analysis related to jobs safeguarded, rather than job created i.e. the activity could not displace jobs that were already in existence.

5.5.7 Assessment of productivity impacts

Based on the calculated level of gross and net additional GVA and employment impacts, the Evaluation Team's analysis suggests that the gross and net additional productivity derived is £49,762.

Table 5.20 – Gross and net additional productivity		
	Gross productivity	Net additional productivity
Gross / Net GVA	£4,639,406	£2,111,885
Gross / Net FTE employment created	93.24	42.44
Gross / net additional productivity	£49,762	£49,762

Positively, the level of productivity (£49,762) was 29% higher than the average private sector level of productivity (£38,580³⁴) for the period under review, suggesting that the Scheme has been successful in contributing to the closing of the productivity gap with the rest of the UK.

5.5.8 Assessment of other monetary impacts

In addition to the impact of the Scheme on the aforementioned metrics, the Evaluation Team's analysis suggests that the Scheme also directly contributed to providing businesses with £594k of cost savings and encouraged business to undertake a further £6.3m in R&D.

Table 5.21 – Impact on cost savings and expenditure on R&D		
	Cost savings	Expenditure on R&D
Survey sample (N=163 projects)	£345,000	£3,663,333
All TDI projects (N=447 projects)	£946,104	£10,046,074
Net additional impact (following the removal of 'Impacts Deadweight' @37.2%)³⁵	£594,155	£6,308,948

5.5.9 Achievement of other impacts/outcomes

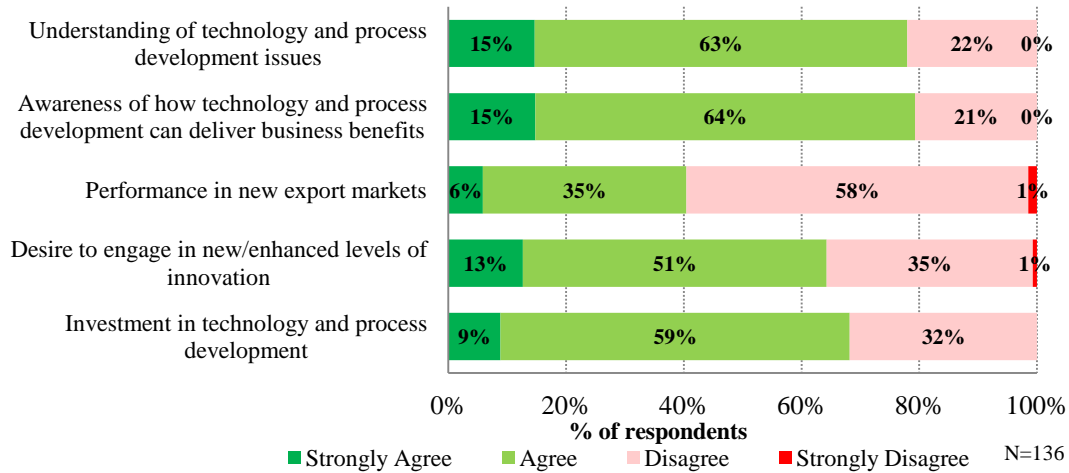
Positively, businesses reported deriving a number of other key benefits. Specifically:

- 78% (N=136 businesses) of businesses agreed that the TDI support increased their business' understanding of technology and process development issues;
- Four-fifths (79% - N=136 businesses) were in agreement that the support has increased their awareness of how technology and process development can deliver business benefits;
- Almost three-fifths (59% - N=136 businesses) believed that the TDI scheme helped their business to access new export markets; and
- Almost two-thirds (64% - N=136 businesses) feel that the TDI scheme has helped to increase their business' desire to engage in new/enhanced levels of innovation.

³⁴ Figure reflects the average level of private sector productivity from 2008-2012.

³⁵ Please note that displacement impacts do not need to be considered as the analysis related to jobs safeguarded, rather than job created i.e. the activity could not displace jobs that were already in existence.

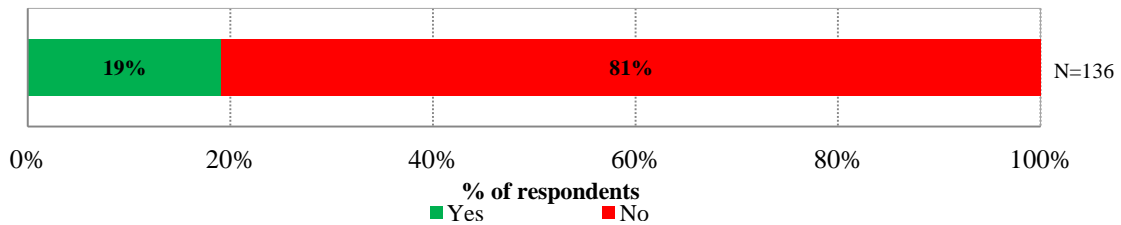
Figure 5.2: Projects delivering impacts /outcomes (Individual TDI Projects)



5.6 Unexpected Impacts

One-fifth (19%, N=136) of respondents indicated that they had received unexpected impacts or benefits as a result of the TDI support that they received. Specifically, these businesses cited the support had helped them access new markets, diversify their product range and increase their knowledge of how to address technical issues.

Figure 5.3: Did the receipt of TDI support lead to any other benefits or unexpected impacts/benefits for you or your business that have not already been discussed? (Unique businesses)



“Being able to secure the patent protection makes the business more attractive to investors.”

“As a result of gaining the TDI support we are looking at more sectors for our product and diversifying. New markets were also opened due to the patent.”

“The knowledge provided through the expertise of the external technical service providers is invaluable.”

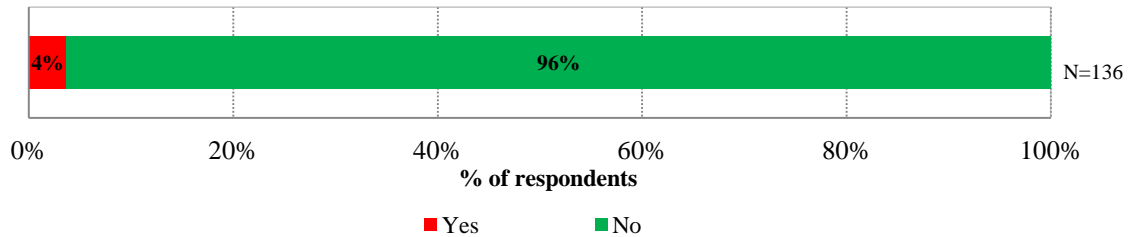
“There was a cross pollination of research ideas to other products helping us to be more innovative.”

TDI Recipients

5.7 Duplication and Complementarity

Nearly all (96 - N=136 businesses) respondents indicates that, in the absence of the TDI Scheme, they would not have been able to get the same or similar support elsewhere.

Figure 5.4: Ability of businesses to get the same or similar support elsewhere? (Unique businesses)



The 5 respondents who suggested they may have got similar support from elsewhere suggested that this would have been in the form of a bank loan or private investor, rather than grant support.

“I think that the business could have got a bank loan but the interest rates would have been exorbitant.”

“Maybe an Angel or Private Investor would have been able to offer similar support, however I would not have wanted to go down that path.”

TDI Recipients

During consultation, Invest NI Advisers suggested that the Scheme also plays a fundamental role in acting as a pump-primer to encourage businesses to avail of innovation support offerings further up the ‘Innovation Escalator’ which will support them in addressing their specific needs and increase the complexity of the innovation solutions which they embed within their business. It is anticipated that the application of measures of support at the top end of the escalator will encourage businesses to engage in a process of ‘open’ (rather than ‘closed’) innovation to generate ideas and bring them to market.

The importance of the Scheme as a pump primer in encouraging businesses to engage in other supports further up the Innovation Escalator is also confirmed by monitoring information retained by Invest NI, which suggests that a number of businesses that availed of TDI support went on to avail of support through other Invest NI programmes that enable them to engage in more substantive R&D&I activities e.g. Grant for R&D.

5.8 Wider and Regional Benefits

Based on the feedback from businesses the table below provides an overview of the contribution of the Scheme to delivering wider and regional benefits

Table 5.22: Contribution of the TDI Scheme to wider and regional benefits	
Wider benefits	
Knowledge transfers	The TDI Scheme has supported the transfer of knowledge between TSPs and 340 unique businesses with regards to the most appropriate means to address technical issues that are inhibiting them from realising their developmental and growth plans. Specific areas in which knowledge has been transferred to business include, but are not limited to: protecting and/or exploiting IP, implementing some process and/or quality management schemes, gaining approval or technical compliance for a product, improving product or process design and performance and resolving a problem relating to some product and/or process.

Table 5.22: Contribution of the TDI Scheme to wider and regional benefits	
Skills development	Allied to the previous point, businesses suggested that the transfer of knowledge and increase in the skills of their workforce has provided them with the knowledge and capability to address similar technical issues in the future.
Regional benefits	
Innovative nature of the project	<p>The TDI Scheme, by its very nature, is a Scheme that seeks to provide NI businesses with the opportunity to address technical issues inhibiting their growth with the support of a TSP.</p> <p>As detailed previously, the Scheme also plays a fundamental role in acting as a pump-primer to encourage businesses to avail of innovation support offerings further up the ‘Innovation Escalator’ which will support them in addressing their specific needs and increase the complexity of the innovation solutions which they embed within their business. It is anticipated that the application of measures of support at the top end of the escalator will encourage businesses to engage in a process of ‘open’ (rather than ‘closed’) innovation to generate ideas and bring them to market. As such, the TDI Scheme forms a vital initial ‘building block’ in the construction and development of NI’s ‘Innovation Ecosystem’.</p>

5.9 Summary Conclusions

Based on the feedback from businesses in receipt of support, the following key conclusions can be drawn with regards to the monetary and non-monetary economic impact of the TDI Scheme during the period under review:

Monetary impact

- The TDI Scheme contributed £4.6m in gross GVA and £2.1m in net additional GVA (£1.2m of which was in wages and the remainder (c. £900k) was in profits);
- The TDI Scheme directly created 42 jobs, all of which were above the NI median salary level. In addition to the creation of new FTE jobs, the Evaluation Team’s analysis suggests that the TDI Scheme directly contributed to safeguarding 107 jobs;
- The derived level of productivity (£49,762) was 29% higher than the average private sector level of productivity (£38,580³⁶) for the period under review, suggesting that the Scheme has been successful in contributing to the closing of the productivity gap with the rest of the UK; and
- The Scheme also directly contributed to providing businesses with £594k of cost savings and encouraged businesses to undertake a further £6.3m in R&D.

Non-monetary impact

- The Evaluation Team notes that ‘impact additionality’ (63%) is considerably higher than ‘activity additionality’ (46%) reflecting the fact that whilst some businesses may have undertaken similar development activities irrespective of the TDI Scheme, the support provided through the Scheme has played a vital role in businesses realising the outcomes and impact. Based on the feedback from businesses, it is the Evaluation Team’s view that the high level of ‘impacts additionality’ is likely to reflect the high quality of support that has been delivered through the Scheme. Benchmarking of the Scheme’s level of ‘impact additionality’ with other similar interventions shows that the Programme is performing significantly better than these;

³⁶ Figure reflects the average level of private sector productivity from 2008-2012.

- Levels of ‘activity additionality’ amongst business respondents decrease with each additional TDI intervention provided. Specifically, the analysis suggests that activity additionality falls by 19% (i.e. from 48% to 29%) between the first and the third interventions;
- The Evaluation Team’s analysis suggests that that the displacement factor at the NI level is 27.5%; whilst at the UK level it is 31.9%;
- The feedback from the majority of businesses suggests that they would not have been able to get similar support elsewhere;
- Positively, the feedback suggests that the TDI Scheme also plays a fundamental role in acting as a pump-primer to encourage businesses to avail of innovation support offerings further up the ‘Innovation Escalator’ which will support them in addressing their specific needs and increase the complexity of the innovation solutions which they embed within their business;
- Businesses reported deriving a number of other non-monetary benefits including increased understanding of technology and process development issues and greater awareness of how technology and process development can deliver business benefits. Businesses also suggested that the Scheme had helped their business to access new export markets and had contributed to increasing their business’ desire to engage in new/enhanced levels of innovation; and
- The Scheme has contributed to providing the NI economy with a number of other wider (including knowledge transfers and skills development) and regional (including the innovative nature of the project) benefits.

6. PROGRAMME FINANCE

6.1 Introduction

Section 6 examines the costs associated with administering the TDI Scheme over the period under review. In doing so, the Section also examines the return-on-investment that has been delivered by the Scheme to date.

6.2 Financial Awards and Drawdown

In total, c. £1.3m of TDI support was offered to 465 businesses to undertake 655 projects. The level of support offered represented 44% of the total cost of these TDI projects.

Table 6.1: TDI assistance offered			
No. of unique businesses	No. of projects	Total project costs (£)	Total Assistance Offered (£)
465	655	£2,874,436	£1,276,129

340 businesses accepted c. £990k of support towards the completion of 447 projects. The level of support offered represented 45% of the total cost of these TDI projects. **To date, c. £750k (76%) of funding has been subsequently drawn down by these businesses.** Average drawdown per project that had wholly or partially claimed TDI support equated to £1,871³⁷.

Table 6.2: TDI assistance accepted and drawdown					
No. of unique businesses	No. of projects	Total project costs	Total Assistance Offered (£)	Total Drawn Down (£)	% Drawn Down
340	447	£2,200,975	£989,881	£750,288	76%

Given the difference (22% or £286,248) between the levels of support offered through the Scheme to all businesses (as per the LoO offered - £1,276,129) and the level of support that was accepted (as per the LoO accepted - £989,881), the Evaluation Team sought to ascertain the reason why businesses (N=10) who were provided with a LoO, did not accept the support that was on offer. Key factors cited by these businesses included:

- 5 businesses suggested that the downturn in the economy, and its associated adverse impact on business trading conditions, had meant that they were unable to afford to contribute towards the completion of the TDI project and hence the project did not proceed;
- 3 businesses suggested that, due to other business priorities, there were delays in taking the TDI project forward. These businesses suggested that, by the time they were able to prioritise the project, there was little/no time to claim the support within the stipulated timescales. As a result, the projects were not taken forward;
- 1 businesses suggested that the key employee that was responsible for developing the project, and would have ultimately been responsible for its implementation, had left the business and hence the project did not proceed;
- 1 business stopped trading and hence the project did not proceed; and
- In all cases, the activities being proposed as part of the TDI project were not taken forward by the businesses.

³⁷ Please note, at the time of analysis, businesses had drawn down funding (either partially or wholly) in relation to 401 of the 447 TDI projects (i.e. 90% of total project), with the remaining 46 projects (i.e. 10%) having not drawn down any support (but still eligible to). The final average draw down per project value may be higher following the completion of TDI projects and subsequent drawdown of all eligible funding relating to these projects.

6.3 Other Scheme Costs

In addition to the £750,288 that was drawn down by the 340 TDI recipients (towards the 447 projects), two further costs³⁸ were incurred in implementing the Scheme. They included:

1. Invest NI staff time.
2. Evaluation costs;

Invest NI Staff Costs

An estimate of Invest NI staff time (by staff grade and FTE days) required to implement the TDI Scheme has been provided by Invest NI.

The Evaluation Team has used the estimated staff time provided and calculated the full economic cost of the staff time including ERNI plus Superannuation, and loadings. These costs are based on the DETI Ready Reckoner of Staff Costs, the 2008/09 salary costs have been uplifted to 2009/10 prices by applying 3.03% and 2010/11 prices by applying a further 3%. The superannuation and loadings have been uplifted using HMT's GDP deflators. An overview of the full economic staffing costs is provided below:

Staff Grade	Annual staff costs				% of time apportioned to Programme ³⁹				TDI Scheme Cost (£)				
	08-09	09-10	10-11	11-12	08-09	09-10	10-11	11-12	08-09	09-10	10-11	11-12	Total
Deputy Principal	£60,521	£62,001	£63,854	£65,631	15%	20%	25%	35%	£9,078	£12,400	£15,964	£22,971	£60,413
Deputy Principal ⁴⁰	£60,521	£62,001	£63,854	£65,631	15%	20%	25%	30%	£9,078	£12,400	£15,964	£19,689	£57,131
Staff Officer	£50,607	£51,806	£53,353	£54,844	15%	15%	45%	55%	£7,591	£7,771	£24,009	£30,164	£69,535
Executive Officer II	£39,501	£40,388	£41,593	£42,762	15%	25%	40%	70%	£5,925	£10,097	£16,637	£29,933	£62,593
Administrative Officer	£37,826	£38,665	£39,818	£40,939	2%	3%	5%	12%	£757	£1,160	£1,991	£4,913	£8,820
Total internal 'fully loaded' staff costs									£32,429	£43,828	£74,564	£107,670	£258,492

The total staff cost associated with delivering the TDI Scheme was c. £258,492 over the four-year period.

³⁸ During consultation Invest NI confirmed that that no marketing costs (external or internal) were incurred during the period under review.

³⁹ Costs are calculated based on a proportion of an average of 216 working days per annum.

⁴⁰ Time input relates to the combined support provided by 4 Technical Advisers to, amongst other things, negotiate and appraise potential TDI projects.

Evaluation Costs

The cost of undertaking the current Evaluation of the TDI scheme is £12,600 (inclusive of VAT).

6.4 Full Economic Costs

The **full economic cost of delivering the TDI scheme during the period under review was £1,021,380** (inclusive of all support drawn down by participant businesses, internal Invest NI staff costs and external Evaluation costs).

6.5 Comparison of actual and anticipated costs

It is the Evaluation Team's view that caution should be expressed in undertaking and comparison of actual and proposed costs. This relates to the fact that, as detailed in Section 1, anticipated costs were only formally quantified and approved for a three-year period. However, as detailed previously, due to ongoing demand for the Scheme's support, an internal decision was taken by Invest NI to extend the Scheme for an additional year (i.e. for a 4 year period).

Withstanding this concern, it is clear that actual Scheme drawdown costs (i.e. £750k to date) were substantially in excess (c. three times more) of anticipated costs (£240k).

6.6 GVA Return-on-investment

Given the level of net additional GVA (i.e. £2,111,885) that has been provided by the Scheme and the full economic cost of delivering support (i.e. £1,021,380), then **the GVA return on investment was £1:£2.07**. Given the levels of support provided through the Scheme to businesses and the focus of the support (i.e. at a lower level on the 'Innovation Escalator'), it is the Appraisal Team's view that this return-on-investment level should be viewed positively.

6.7 Cost Effectiveness

Indicators of cost effectiveness include:

- Cost per TDI project supported is £2,285; and
- Cost per net additional job created is £24,318.

6.8 Value-for-Money

Based on the preceding analysis, it is the Evaluation Team's view that the TDI Scheme delivered value-for-money during the period under review. More specifically, this view is based on each of the following related factors.

Table 6.4: Summary of Value for Money	
VFM Indicator	Conclusion
Strategic Fit	During the period under review, the NI Government had placed (and continues to place) a strong emphasis on encouraging NI businesses (particularly SMEs) to engage in R&D&I activities and embed a culture of innovation in order to move them up the value chain and deliver significant benefits to the NI economy. The model of support implemented by the TDI Scheme was aligned to providing support to NI's SMEs to deliver upon these strategic imperatives and, as detailed in Section 5, the Scheme has made a significant contribution to the NI economy.
Need & Market Failure	The research suggests that there was a clearly defined need for Invest NI to provide support to assist NI SMEs to address the technical issues that were inhibiting the achievement of their developmental and growth plans. Specifically, the barriers preventing businesses from engaging in similar business activities, independently from the

Table 6.4: Summary of Value for Money

Table 6.4: Summary of Value for Money							
VFM Indicator	Conclusion						
	TDI Scheme included a mixture of market failure (e.g. asymmetric information, risk aversion) and non-market failure factors (affordability, especially during the ongoing economic downturn).						
Additionality	<p>The results of this analysis suggests that 46% of the business development activities (i.e. activity additionality) that were ultimately taken forward would not have gone ahead (or would not have gone ahead in the same timescale and/or manner) without the support provided through the TDI Scheme.</p> <p>The Evaluation Team notes that ‘impact additionality’ (63%) is considerably higher than ‘activity additionality’ (46%) reflecting the fact that whilst some businesses may have undertaken similar development activities irrespective of the TDI Scheme, the support provided through the Scheme has played a vital role in businesses realising the outcomes and impacts. Based on the feedback from businesses, it is the Evaluation Team’s view that the high level of impacts additionality is likely to reflect the high quality of support that has been delivered through the Scheme.</p> <p>Positively, the Evaluation Team’s benchmarking of the Scheme’s level of ‘impact additionality’ with other similar interventions shows that the Programme is performing significantly better than these. For example, the level of TDI impact additionality is 12.1 percentage points higher than for ‘Promotion & development of science, R&D and innovation infrastructure’ interventions across the UK regions (where it is 50.9%).</p>						
Duplication and complementarity	<p>Nearly all respondents were in agreement that, in the absence of the TDI Scheme, they would not have been able to get the same or similar support elsewhere.</p> <p>It was the view of stakeholders, and shared by the Evaluation Team, that the Scheme also plays a fundamental role in acting as a pump-primer to encourage businesses to avail of innovation support offerings further up the ‘Innovation Escalator’ which will support them in addressing their specific needs and increase the complexity of the innovation solutions which they embed within their business. It is anticipated that the application of measures of support at the top end of the escalator will encourage businesses to engage in a process of ‘open’ (rather than ‘closed’) innovation to generate ideas and bring them to market. As such, the TDI Scheme complements other Invest NI programmes/initiatives and forms a vital initial ‘building block’ in the construction and development of NI’s ‘Innovation Ecosystem’.</p>						
Economy Efficiency and Effectiveness	<table border="1"> <thead> <tr> <th>Indicator</th> <th>Evaluation Team’s Commentary</th> </tr> </thead> <tbody> <tr> <td>Economy measures are concerned with showing that the appropriate inputs (i.e. the resources used in carrying out the project) have been obtained at least cost</td> <td> <p>As detailed in Section 1, Invest NI has implemented a robust application and appraisal process to assess, amongst other things, the need for support and the reasonableness of support being requested. Invest NI will also ensure that only the minimum level of support is provided to enable to project to proceed to the scale and within the timescales required by the business.</p> <p>As such, it is the Evaluation Team’s view that Invest NI has made appropriate efforts to ensure that projects were obtained at least cost to NI.</p> </td> </tr> <tr> <td>Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs</td> <td> <p>As noted above, the individual projects that were funded through TDI Scheme were subject to a robust application and appraisal process. Both processes sought to ensure that projects were obtained at least cost, but also maximum benefit, to NI.</p> <p>Therefore, we consider that Invest NI has achieved the maximum output from a given set of inputs.</p> </td> </tr> </tbody> </table>	Indicator	Evaluation Team’s Commentary	Economy measures are concerned with showing that the appropriate inputs (i.e. the resources used in carrying out the project) have been obtained at least cost	<p>As detailed in Section 1, Invest NI has implemented a robust application and appraisal process to assess, amongst other things, the need for support and the reasonableness of support being requested. Invest NI will also ensure that only the minimum level of support is provided to enable to project to proceed to the scale and within the timescales required by the business.</p> <p>As such, it is the Evaluation Team’s view that Invest NI has made appropriate efforts to ensure that projects were obtained at least cost to NI.</p>	Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs	<p>As noted above, the individual projects that were funded through TDI Scheme were subject to a robust application and appraisal process. Both processes sought to ensure that projects were obtained at least cost, but also maximum benefit, to NI.</p> <p>Therefore, we consider that Invest NI has achieved the maximum output from a given set of inputs.</p>
Indicator	Evaluation Team’s Commentary						
Economy measures are concerned with showing that the appropriate inputs (i.e. the resources used in carrying out the project) have been obtained at least cost	<p>As detailed in Section 1, Invest NI has implemented a robust application and appraisal process to assess, amongst other things, the need for support and the reasonableness of support being requested. Invest NI will also ensure that only the minimum level of support is provided to enable to project to proceed to the scale and within the timescales required by the business.</p> <p>As such, it is the Evaluation Team’s view that Invest NI has made appropriate efforts to ensure that projects were obtained at least cost to NI.</p>						
Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs	<p>As noted above, the individual projects that were funded through TDI Scheme were subject to a robust application and appraisal process. Both processes sought to ensure that projects were obtained at least cost, but also maximum benefit, to NI.</p> <p>Therefore, we consider that Invest NI has achieved the maximum output from a given set of inputs.</p>						

Table 6.4: Summary of Value for Money

VFM Indicator	Conclusion	
	<p>Effectiveness measures are concerned with showing the extent to which aims, objectives and targets of the project are being achieved</p>	<p>As detailed previously, both SMART objectives that were established for the Scheme were achieved, thus the effectiveness measure of VFM was achieved.</p>
<p>Cost effectiveness</p>	<p>Anticipated cost effectiveness indicators were not provided within the Business Cases for the TDI Scheme. However actual indicators of cost effectiveness include:</p> <ul style="list-style-type: none"> • Cost per TDI project supported is £2,285; and • Cost per net additional job created is £24,318. <p>Given the level of net additional GVA (i.e. £2,111,885) that has been provided by the Scheme and the full economic cost of delivering support (i.e. £1,021,380), then the GVA return on investment was £1:£2.07.</p>	
<p>Economic Efficiency test results</p>	<p>The Evaluation Team’s analysis suggests that the TDI Scheme has made a marked contribution to supporting businesses to address the technical issues that were inhibiting their growth plans. In doing do, the Scheme has made a positive contribution to their growth and competitiveness. More specifically, the analysis suggests that the Scheme has contributed to:</p> <ul style="list-style-type: none"> • Delivering £2,111,885 in net additional GVA to the NI economy; • Delivering £49,762 in net additional productivity gains; • Creating 42 net additional jobs; and • Safeguarding 107 jobs <p>In addition to this, the Scheme has delivered a range of other wider (e.g. Knowledge transfers and skills development) and regional benefits (e.g. Innovative nature of the projects) to the NI economy.</p>	

7. CONCLUSIONS & RECOMMENDATIONS

7.1 Introduction

The section presents the Evaluation Team's key conclusions and recommendations arising from the evaluation process.

7.2 Conclusions

7.2.1 *Strategic Context and Rationale (TOR Points 15b and 15c)*

During the period under review, the NI Government (including DETI and Invest NI) had placed a strong emphasis on encouraging NI businesses (particularly SMEs) to engage in R&D&I activities and embed a culture of innovation in order to move them up the value chain and deliver significant benefits to the NI economy. The model of support implemented by the TDI Scheme was aligned to providing support to NI's SMEs to deliver upon these strategic imperatives.

Moving forward, DETI and Invest NI's Corporate Plan continues to place focus on stimulating and embedding R&D&I within NI's business base so that they can realise their true potential, hence there continues to be clear alignment between the aims and objectives of the Scheme and the strategic imperatives of DETI and Invest NI.

In addition to the strategic need, the research suggests that there was a clearly defined market need for Invest NI to provide support to assist NI SMEs to address the technical issues that were inhibiting the achievement of their developmental and growth plans. Specifically, the barriers preventing businesses from engaging in similar business activities, independently from the TDI Scheme included a mixture of market failure (e.g. asymmetric information, risk aversion – suggested in relation to 46% of projects) and non-market failure factors (affordability, especially during the ongoing economic downturn). Based upon the feedback from businesses, the TDI Scheme was successful in responding to the technical and business challenges facing SMEs seeking to compete in global markets.

In terms of demand, the Evaluation Team's analysis suggests that Invest NI provided support to 340 businesses to undertake 447 TDI projects over the four year period. Whilst the vast majority (78% - N=340) of businesses received 1 intervention from the TDI Scheme during the period, just over one-fifth (22% - N=340) of businesses received multiple interventions. The most common focus of the TDI projects was to protect and/or exploit the Intellectual Property (IP) that had been developed by the business (41% - N=447). No further information is available to suggest that the level of latent demand was above that supported through the Scheme.

7.2.2 *Operation and Delivery (TOR Points 15d-15h)*

The Scheme was managed internally within Invest NI (by the TAU) with the availability of support promoted through awareness raising activities by Invest NI staff (i.e. Client Executives, Innovation, Technical and R&D Advisers). Businesses were provided with financial support to avail of the advice and expertise of a TSP to address the specific technical issue that was inhibiting them for realising their developmental and growth plans.

Based upon the feedback from businesses, we consider that the Scheme was, in general, managed in a proactive and efficient manner by Invest NI, utilising a streamlined application and appraisal process. This enabled support to be channelled in an effective and efficient manner to eligible projects. Similarly, the model of delivery adopted to address business' needs has been fit-for-purpose.

The feedback from businesses in receipt of TDI support during the period under review also suggests that (amongst other things):

- The support that was provided by the TSP was fit-for-purpose in terms of addressing businesses' needs;
- The Scheme was appropriate to address the technical issues facing NI's SME. As such we would conclude that the internal process to refer businesses to the intervention was appropriate;
- There is a high level of complementarity between the support provided through the TDI scheme and other Invest NI supports including the Innovation Voucher Programme. Specifically, the feedback suggests that the TDI Scheme plays a fundamental role in acting as a pump-primer to encourage businesses to avail of innovation support offerings further up the 'Innovation Escalator' which will support them in addressing their specific needs and increase the complexity of the innovation solutions which they embed within their business; and
- The Scheme's characteristics (in terms of the types of businesses supported, the levels and rates of funding, and types of costs eligible for funding) were appropriate.

We note that the 2008 Business Case did not identify any risks that could negatively impact upon the administration of the Scheme during the period under review. However, based on levels of demand for the Scheme, business' high levels of satisfaction with the Scheme and the positive contribution of the Scheme to the NI economy, the Evaluation Team would suggest that Invest NI's overall approach to risk management was robust and proportionate.

The full economic cost of delivering the TDI scheme during the period under review was £1,021,380 (inclusive of all support drawn down by participant businesses, internal Invest NI staff costs and external Evaluation costs). It is the Evaluation Team's view that caution should be expressed in undertaking any comparison of actual and proposed costs. This relates to the fact that anticipated costs were only formally quantified and approved for a three-year period. However, due to ongoing demand for the Scheme's support, an internal decision was taken by Invest NI to extend the Scheme for an additional year (i.e. for a 4 year period). Withstanding this point, actual Scheme drawdown costs (i.e. £750k to date) were substantially in excess (c. three times more) of anticipated costs (£240k).

In terms of improving the management of the Scheme moving forward, the Evaluation Team has made a number of specific recommendations (see Section 7.3) relating to (amongst other things) approval and monitoring procedures, the setting of SMART targets, as well ensuring that an appropriate process is in place to robustly challenge the level of additionality/deadweight associated with providing TDI support at the application stage.

7.2.3 *Performance and Impact (TOR Points 15i-15k)*

The 2008 business case identified two SMART objectives for the TDI Scheme both of which were activity-focused targets (as opposed to outcome-focused). Whilst there is ambiguity with regards to the assumptions underpinning the objectives and they were not amended in light of Scheme's extension (into a fourth year), both targets were nonetheless achieved.

Based on the feedback from businesses in receipt of support, the following key conclusions can be drawn with regards to the monetary and non-monetary economic impact of the TDI Scheme during the period under review:

Monetary impact

- The TDI Scheme contributed £4.6m in gross GVA and £2.1m in net additional GVA (£1.2m of which was in wages and the remainder (c. £900k) was in profits);
- The TDI Scheme directly created 42 jobs, all of which were above the NI median salary level. In addition to the creation of new FTE jobs, the Evaluation Team's analysis suggests that the TDI Scheme directly contributed to safeguarding 107 jobs;

- The derived level of productivity (£49,762) was 29% higher than the average private sector level of productivity (£38,580) for the period under review, suggesting that the Scheme has been successful in contributing to the closing of the productivity gap with the rest of the UK; and
- The Scheme also directly contributed to providing businesses with £594k of cost savings and encouraged business to undertake a further £6.3m in R&D.

Non-monetary impact

- The Evaluation Team notes that ‘impact additionality’ (63%) is considerably higher than ‘activity additionality’ (46%) reflecting the fact that whilst some businesses may have undertaken similar development activities irrespective of the TDI Scheme, the support provided through the Scheme has played a vital role in businesses realising the outcomes and impact. Based on the feedback from businesses, it is the Evaluation Team’s view that the high level of ‘impacts additionality’ is likely to reflect the high quality of support that has been delivered through the Scheme. Benchmarking of the Scheme’s level of ‘impact additionality’ with other similar interventions shows that the Programme is performing significantly better than these;
- Levels of ‘activity additionality’ amongst business respondent’s decrease with each additional TDI intervention provided. Specifically, the analysis suggests that activity additionality falls by 19% (i.e. from 48% to 29%) between the first and the third interventions;
- The Evaluation Team’s analysis suggests that the displacement factor at the NI level is 27.5%; whilst at the UK level it is 31.9%;
- The feedback from the majority of businesses suggests that they would not have been able to get similar support elsewhere;
- Businesses reported deriving a number of other non-monetary benefits including increased understanding of technology and process development issues and greater awareness of how technology and process development can deliver business benefits. Businesses also suggested that the Scheme had helped their business to access new export markets and had contributed to increasing their business’ desire to engage in new/enhanced levels of innovation; and
- The Scheme has contributed to providing the NI economy with a number of other wider (including knowledge transfers and skills development) and regional (including the innovative nature of the project) benefits.

7.2.4 Return-on-investment and Value-for-money (TOR Points 15l-15m)

Given the level of net additional GVA (i.e. £2,111,885) that has been provided by the Scheme and the full economic cost of delivering support (i.e. £1,021,380), then the GVA return on investment was £1:£2.07. Given the levels of support provided through the Scheme to businesses and the focus of the support (i.e. at a lower level on the ‘Innovation Escalator’), it is the Appraisal Team’s view that this return-on-investment level should be viewed positively.

It is the Evaluation Team’s view, based upon all available evidence, that the TDI Scheme delivered VFM in respect of the costs incurred, during the period under review.

7.2.5 Equality Considerations (TOR Points 15n)

The Evaluation Team has identified no negative equality impacts, and considers the Scheme to be accessible to all Section 75 groupings and people with disabilities.

7.3 Recommendations

1. Given the reported positive impacts that the TDI Scheme has had on enabling businesses to address the technical issues inhibiting them from realising their developmental and growth plans, the positive impact that the Scheme has made to the NI economy and evidence of continued need for support, Invest NI should continue to provide support through its TDI Scheme. In doing so all appropriate approvals should be sought in a timely manner to ensure the continuity in the provision of support to NI's business base. Any changes to the budget, through the duration of the Scheme, should be appropriately documented and approved.
2. Given the potential levels of support that would be provided to any future phase of the TDI Scheme, Invest NI should give consideration to undertaking an independent Economic Appraisal of the Scheme in-line with all relevant standards⁴¹.
3. Allied to Recommendation 2, whilst the Evaluation Team acknowledges that levels of demand outputs, impacts and outcomes from providing TDI support would have been largely unknown at the time of funding (on the basis that it was a new Scheme), the Evaluation Team recommends that emphasis is placed on developing a broader range of activity and output/outcome SMART objectives for any future phase of the Scheme. The nature and quantification of these objectives should be developed based upon the findings of the current Evaluation.
4. Invest NI should continue to robustly challenge the level of additionality/deadweight associated with providing TDI support at the application stage. In order to better inform that investment decision making process, this should include the utilisation of DETI's methodology to calculate the level of activity additionality.
5. Allied to Recommendation 4, given the decrease in levels of 'activity additionality' associated with repeat interventions, Invest NI should give consideration to decreasing levels of support (both on an overall basis and as a percentage of total project costs) for multiple interventions.
6. By way of assisting the effective monitoring of the Scheme and any subsequent Evaluation, Invest NI should undertake a review of its monitoring and information storage procedures. At a minimum, the monitoring information retained should clearly be able to articulate the number of businesses receiving support, levels of support provided, contact details for all recipients and the key focus of the TDI project.

⁴¹ I.e. Treasury Guidance "Appraisal and Evaluations in Central Government" (the 'Green Book' requirements), the Northern Ireland Guide to Expenditure Appraisal and Evaluation (NIGEAE) and Invest NI's Economic Appraisal Methodology (EAM).