TECHSTART FUNDS EVALUATION & NISPO IMPACT ASSESSMENT

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CONTENTS

Page

APPENDICES

List of Abbreviations

Abbreviation	Definition
ADV	Accelerated Digital Ventures
AML	Anti-Money Laundering
BIS	Department for Business, Innovation and Skills
BERD	Business Expenditure R&D
BF	Business Fund
BVCA	British Private Equity & Venture Capital Association
CEO	Chief Executive Officer
CSF	Competitive Start Fund
CSIT	Centre for Secure Information Technologies
DETI	Department of Enterprise, Trade and Investment
DFP	Department of Finance and Personnel
DfE	Department for the Economy
EA	Economic Appraisal
EAM	Economic Appraisal Methodology
EBITDA	Earnings Before Interest, Taxes, Depreciation and Amortization
ECFs	Enterprise Capital Funds
EIRs	Internal Entrepreneur in Residence’
FCA	Financial Conduct Authority
FSA	Financial Services Authority
FSMA	Financial Services and Markets Act
FTE	Full Time Equivalent
GBER	General Block Exemption Regulation
GP	General Partner
GB	Great Britain
GVA	Gross Value Added
IAP	Investment Awareness Programme
ICURe	Innovation to Commercialisation of University Research
IGF	Invest Growth Fund
ILPA	Institutional Limited Partners Association
IP	Intellectual Property
IPEG	International Private Equity Guidelines
IPEU	Intellectual Property Exploitation Unit
Invest NI	Invest Northern Ireland
HPSU	High Potential Start-Up
IRP	Investment Readiness Programme
KPIs	Key Performance Indicator
LLP	Lean LaunchPad
LPA	Limited Partnership Agreements
MO	modus operandi
NICs	National Insurance Contributions
NISPO	Northern Ireland Spin Outs
NI	Northern Ireland
NPV	Net Present Value
OJEU	Official Journal of the European Union
POC	Proof of Concept
PVLLP	Pentech Ventures Limited Liability Partnership
QUB	Queen’s University Belfast
QUBIF	Queen’s University Belfast Innovation Fund
R&D	Research and Development
R&D&I	Research and Development and Innovation
RDA	Regional Development Agencies
RoI	Republic of Ireland
SME	Small Medium Enterprise
SPUR	Support Programme for University Research
TOR	Terms of Reference
TSF	Technology Seed Fund
TVPI	Total Value to Paid In’ ratio
TVLLP	Techstart Venture Limited Liability Partnership
UIF	Ulster Innovation Fund
UU	Ulster University
VAT	Value Added Tax
VC	Venture Capital
WIP	Work in Progress

EXECUTIVE SUMMARY

Introduction

Invest Northern Ireland (Invest NI) has commissioned Cogent Management Consulting LLP ('Cogent' or the Evaluation Team) to undertake an interim evaluation of the Techstart NI funds ('Techstart') for the period July 2014 to June 2017 and an impact assessment of the Northern Ireland Spin Outs (NISPO) initiative (which operated between its launch in April 2009 to January 2017).

NISPO

Launched in 2009, the overarching objective of NISPO was to address the gap in funding and support for start-up and early-stage technology-based businesses which could demonstrate high growth potential and which were based in Northern Ireland. NISPO provided a suite of support initiatives to support these companies under what was known as an 'Enterprise Escalator'. In summary, NISPO comprised:

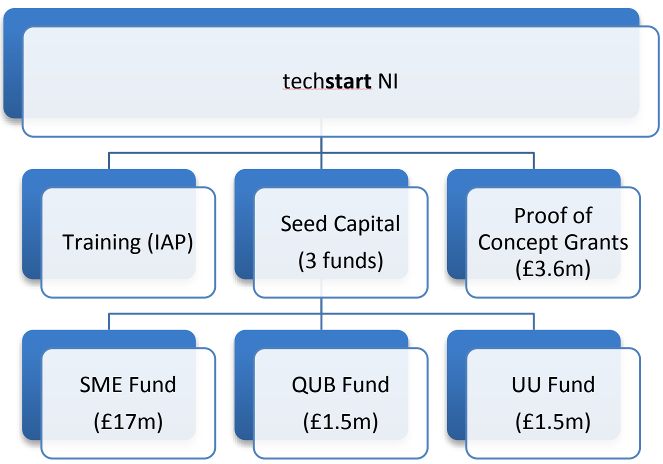
- A 5-year 'Investment Readiness Programme';
- A 5-year Proof of Concept grant fund (£5m);
- Three 10-year equity investment funds:
    - Invest Growth Fund (£7m);
    - QUBIF (£1m); and
    - UIF (£1m).
- An Intellectual Property Exploitation Unit (IPEU)

Fees paid to the Fund Manager in respect of the three equity funds and PoC fund amounted to £3.9m to the end of January 2017 when the agreements terminated.

Techstart

Similar to the NISPO funds, the Techstart programme, which was launched in July 2014, operates an 'Enterprise Escalator' suite of interrelated equity and grant funds with capability and business support initiatives for SMEs located within NI that are in the seed and early-stage of development. It forms a key component of Invest NI's Access to Finance Strategy approach and specifically its support for the stimulation and development of a 'venture capital' market within NI.

A schematic of the 5 Techstart NI programme elements is featured below.



Following a competitive tendering process conducted through the Official Journal of the European Union (OJEU), where 11 applications were received, Invest NI and the two universities selected Pentech to manage and operate the suite of Techstart funds. As Fund Managers, Pentech has responsibility for all aspects of the Funds including:

- The establishment of 10-year limited partnerships (subject to extension in accordance with the LPA constituting the limited partnership) as the funding vehicles for the three equity funds.
- The investment cycle including identifying, making, managing and realising investments. Individual investment decisions and funding structures are at the sole discretion of the Fund Manager (subject to compliance with the Investment Policy and legal requirements outlined within the LPAs).
- Managing the funds on a fully commercial basis with equity subscription percentages to be at a level that appropriately reflects the risk profile.
- Monitoring/reporting on the funds as required by the limited partners at intervals as set out in the LPA.
- Managing and delivering the Proof of Concept Fund and Investment Awareness Programme in accordance with the respective legal agreements.

Whilst there is a more comprehensive suite of Fund Investment Policies, some of the most pertinent features are noted below:

Key aspects of the Fund's Investment Policy		
	SME	**UU/QUB**
Focus of the Fund	The general focus of the Partnership is on technology but there is considerable flexibility built into the criteria which it is anticipated the Manager will use to assess investment opportunities. Notwithstanding this flexibility, the Partnership has a special focus on technology-based and innovative products and services with high growth potential. However, the Manager's priority in assessing opportunities remains on locating good seed and early stage investments which may lead to series 'A' investment deals - subscription rounds with the participation of commercial venture capital investors.	The primary focus of the Partnership will be investment in the developments of post-research (post-proof of concept) spin-out/spin in companies, particularly in the technology sectors in all cases relating to Ulster University/QUB (as appropriate) research base. Investment opportunities will be at seed stage and will show potential for commercialisation, the potential for market opportunity and for export-led growth. The Manager shall consult with Ulster University/QUB as to potential Investments and Follow-On Investments but shall make any such Investments and Follow-On Investments at its absolute discretion.
Key Investment Criteria	• Although the Manager will have absolute discretion with regard to investment decisions, the Manager will seek to: – invest in businesses with a product or service with one or more unique aspects (with a strong Intellectual Property base); – identify investments with early sales or demonstrable customer traction; – back experienced, if not complete, management teams; – identify investments with a scalable business model and the potential to generate high returns which also represent manageable risks; and – identify investments with export/global growth prospects. • Investment opportunities are likely to be from outside the university environment but may have originated from a university or other academic institution. • A typical candidate will have some commercial experience and will have partially developed their product or service using their own sources of finance and/or grants and will be looking for equity	• Although the Manager will have absolute discretion with regard to investment decisions, the Manager will seek to: – invest in businesses with a product or service with one or more novel aspects (this may extend to a strong Intellectual Property base); – identify seed Investments with market opportunities; – identify Investments with a potentially scalable business model; and – identify Investments with the potential for export. • Following the making of each investment, the Manager will use all reasonable endeavours to seek to: – proactively manage each Investment in order to ensure that each Portfolio Company is positioned to maximise onward growth; – assist the implementation by each Portfolio Company of its business plan in order to optimise the potential for achievement of agreed milestones; and – assist and implement an appropriate exit strategy/Follow-On Investment for each

Key aspects of the Fund's Investment Policy		
	SME	**UU/QUB**
	investment - either in their own start-up company or in a corporate spin-out. • Compliance with Article 21 (Risk finance aid) and Article 22 (Aid for Start-ups) of the GBER. • The Manager recognises the benefit of private matched funding being secured for all Portfolio Companies. • **The Manager must not:** – Permit the Partnership to make Investments in one or more tranches of less than £50,000 or more than £250,000 in any Portfolio Company; nor – Permit the aggregate investment by way of Investment and Follow-on Investment **in excess of £750,000** in the securities of any single Portfolio Company and its Associates (excluding, for the avoidance of doubt, the amount of any co-investment in a Portfolio Company) based on the subscription value of the securities at the time the investment is made without the prior written consent of the Advisory Board but in no circumstances can any such Investments in the securities of any single Portfolio Company and its Associates by the Partnership exceed £1,000,000 in aggregate	Portfolio Company in order to maximise value for the Limited Partners. • **The Manager must not:** – Permit the Partnership to make Investments in one or more tranches of less than £50,000 or more than £250,000 in any Portfolio Company; nor – Permit the aggregate investment by way of Investment and Follow-on Investment in excess of £300,000 in the securities of any single Portfolio Company and its Associates (excluding, for the avoidance of doubt, the amount of *any* co-investment in a Portfolio Company) based on the subscription value of the securities at the time the investment is made.

Techstart's Objectives and Targets

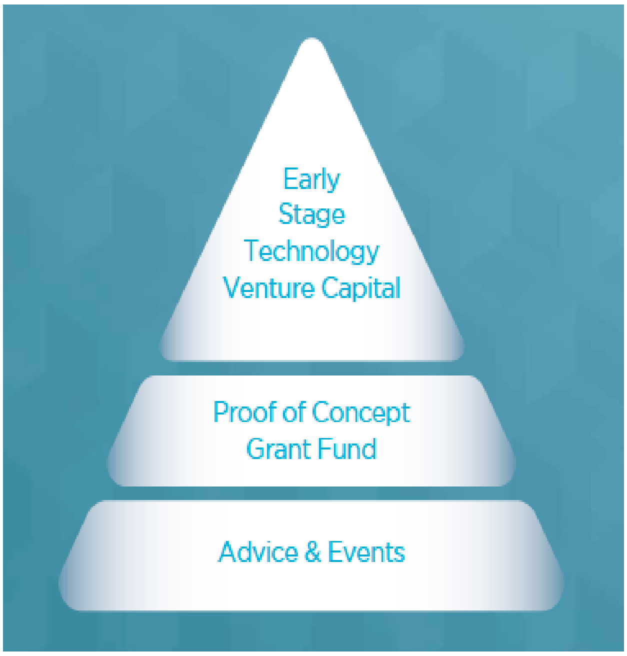
It is noted that following a period of fund activity between July 2014 and August 2015, Invest NI agreed to a number changes to the PoC grant fund, the Investor Awareness Programme and the SME Equity Fund, including most notably an amendment that moved £4m from the PoC grant fund to the SME Equity fund. A high-level overview of the revised objectives and targets is detailed below:

Aim	Inputs	Activity/Outputs	Impacts	Outcomes
Invest in seed and early-stage businesses with high growth potential and the prospect of exporting.	Invest NI funding towards: • POC grants; • Equity funds for University and non-University projects; • IAP programme costs; • Fund management costs; • Invest NI staff and overheads; and • External evaluation. Private sector match funding at least at the levels required by Articles 21 and 22 of GBER 2014	• Support the pull-through of a minimum of 60 projects through POC in year one and 32-44 projects per annum thereafter (222 in total); • Approving £3.6m of POC grant commitments across the 5-year period; • For IAP see Section 1.4.6; • Approving a minimum of 40 investments with non-university companies between April 2014 and March 2019 with an average investment, including follow-on investments of between £340k and £425k per company; • Support the investment of £17m through the SME Equity Fund across the 10-year period (including follow-on investments); • Approve a minimum of 15 investments in spin-out companies from QUB and UU across the 5-year investment period (at least 3 investments per annum across the two Universities) with an average deal size of £200,000 (including follow-on investments).	At least: • 10% of POC recipients progressing to the equity funds; • 7% of IAP participants progressing to the equity funds; • 50% of POC recipients participating in the IAP; • 15 of the businesses supported by equity funds, progressing to later stage investment; • 75% of IAP participants self-reporting that they are 'investor aware'.	• Enhance employment in high growth businesses by creating 916 gross jobs (313 net jobs) across the investment portfolio; • Enhance productivity in NI by creating £87.7m of additional net GVA (£52.7m of net discounted GVA); • Create R&D spillover effects in NI of at least £1.7m (central scenario of £4.7m); • Create wider and regional impacts including entrepreneurship, innovation, University/industry linkages and real option values.

Programme Activity

The diagram below provides a snapshot of Techstart activity at September 2017.

techstart NI Enterprise Escalator



New Investments (companies):	31[1]
Follow on Investments:	18
Techstart Invested:	£7.5m
Co-funders:	£9.6m
Co-funders from Outside NI:	45%
1st Time CEOs:	28

Applications:	471
Granted:	165
Granted:	£2.8m

Events:	180
Participants:	> 1000

Key points to note, which are explored in more detail in the subsequent sub-sections include:

- Techstart has participated in c.180 IAP events, and engaged with over 1,000 individuals through this channel;
- 471 applications for PoC Grants have been received, with 165 awarded funding;
- 31 'new' companies have received equity investment, with 18 businesses receiving follow-on investments.

Participants' Satisfaction With, & Views Of, Techstart

At an overall level, almost all (92%, N=86) respondents (across all of the strands of support) reported that they were either satisfied (40%) or 'very satisfied' (52%) with the support provided through the Techstart Programme. At the individual programme level, the following is noted:

IAP	• Almost all (98%, N=45) IAP participants indicated that they were either 'satisfied' (65%) or 'very satisfied' (33%) with the events and seminars that they attended, in the context of what they had hoped to get from their participation or attendance at them. • A majority (69%, N=45) of IAP participants were in agreement that their attendance at the Techstart event or seminar had helped them to address 'live and critical' issues that they were facing in growing their business. • Similarly, a majority (60%, N=45) of IAP participants agreed that the Techstart event or seminar that they attended had helped prepare them for investment raising and/or had informed them of some of the available options for their next stage of funding. • Encouragingly, almost all (96%, N=45) IAP respondents would recommend a Techstart IAP event or seminar to other businesses at a similar stage of development.

[1] Across the three equity funds.

Techstart PoC Grant	• Almost all (92%, N=64) of the POC recipients indicated that they were 'satisfied' (37%) or 'very satisfied' (55%) with the processes surrounding applying for the POC grant and any feedback received on their application. • Almost all (94%, N=64) of the POC grant recipients indicated that they were satisfied (44%) or very satisfied (50%) with the level of funding that they had received through the POC grant. • The majority (at least 53%) of respondents agreed that the receipt of the POC grant had the following impacts on them or their business/business idea: - It helped them to better scope and define their business idea/business model (97%, N=64); - It helped them better understand the market potential that their business idea had (90%, N=64); - It helped them to develop innovative intellectual property (60%, N=64); - It helped develop their business idea to a stage where they could licence the intellectual property or incorporate a company (53%, N=64); - Upon finishing the activities that they used the grant for, they had a clear sense of direction of how to move their business idea forward (94%, N=64); - The grant prepared their business for investment (67%, N=64); - It helped develop their business idea to a point where they could apply for conventional seed or other venture capital funding (58%, N=64); and - The grant improved their business' chances of receiving funding (70%, N=64).
Techstart equity investment	• Most (87%, N=23) recipients agreed that participation in the financing process challenged them to think about their business idea in ways that they otherwise would not have done. • Furthermore, the majority (at least 61%) of the recipients of Techstart equity finance agreed that: - The mentoring support offered through the Programme was of a high standard e.g. the mentor(s) was able to transfer relevant knowledge, experience, contacts and advice to the business (80%, N=23); - The mentor that they were matched with had experience or skills of specific relevance to their business (78%, N=23); - Pentech and/or the mentor was able to assist them to improve their business model or sales strategy (83%, N=23); - Pentech and/or the mentor adopted a collaborative approach with the equity investment recipient to identify the key management requirements and skill gaps within their business and then helped put that team in place (87%, N=23); - Pentech and/or the mentor was able to help them identify and secure private match funding (61%, N=23); - Pentech and/or the mentor was able to assist them to develop robust financial projections for their business (83%, N=23); - The action plan that was developed provided a practical course of action for their business (83%, N=23).

Techstart's Impact

The Evaluation Team estimates, based on primary research with Techstart recipients, that

- Techstart supported businesses have generated £7.3m of net additional sales (68% for Equity recipients and 32% for POC recipients) as of October 2017. Based on company forecasts, the net additional sales impacts will total £39m by 2019.
- The sales impacts have largely been achieved in external markets (where £0.7m, £1.8m and £4.9m of sales have been reported as having been achieved in NI, GB and export markets, respectively);
- Calculating the net additional GVA impact of Techstart using the ICT Sector (which the majority of Techstart participants were operating within) average of 50.8% provides a figure of c.£3.7m.
- Using this net additional GVA calculations, we have estimated Techstart's return on investment (as of circa October 2017), as being £0.42 for every £1 invested (excluding fund management, internal INI resource costs and any other external co-funding). It should be noted that a negative return should be fully anticipated at this juncture in the life of a fund such as Techstart (given the stage of development of the target beneficiaries).
- The programme has directly created 185 net additional FTE jobs.

Whilst the preceding assessment of sales/turnover generated by businesses in receipt of Techstart support provides a foundation to assess potential levels of gross and net additional GVA (through the application of sectoral levels of GVA), accounts information provided by the Fund Manager for recipients of equity investment (through the SME and/or UU and QUB equity funds) has facilitated an alternative assessment of the impacts derived.

Using the accounts information approach, the Evaluation Team has estimated:

- a loss on every Techstart £1[2] invested of £1.01 (this is based on an assumption that all (or the vast majority) of Techstart investment has been used to support salary costs which are a key component of GVA, and as such the Techstart investment is excluded from the GVA value reported in the accounts); or
- a loss of £0.01 for every techstart £1 invested (this option does not exclude the Techstart investment from the GVA values reported in the accounts).

Actual Programme Costs

The table below summarises the actual Techstart Programme costs aster 3 years (i.e. at 30th June 2017) and compares with the full (10-year) programme costs projected within the Economic Appraisal's Option 3a and those subsequently agreed with the Fund Manager.

Summary of Monetary Costs (Projected Full Programme Costs v Actual Costs after 3 Years)				
		Option 3 (A) (£)	**Budget (following Amendments)**	**Actual Cost (to 30th June 2017)**
Invest NI Fund / Equity Costs	POC	7,600,000	3,600,000	2,812,950
	SME	13,000,000	17,000,000	5,077,703
	Ulster	1,500,000	1,500,000	299,833
	QUB	1,500,000	1,500,000	595,177
	IAP	1,038,000	600,000	375,000
	Sub-Total	**24,638,000**	**24,200,000**	**9,160,663**
Fund Management Costs (less IAP)		6,929,500	£6,758,000	2,754,000
Internal Invest NI Resource Costs		£685,929	£685,929	317,228
Evaluation Costs		72,000	72,000	29,500
Total Costs (incl. VAT)		**£32,325,429**	**£31,715,929**	**£12,261,391**

Based on our review of all information received, the Evaluation Team considers that Programme Management costs are broadly in line with their projected position. However, as outlined in Section 6.3, where a risk of divergence may occur over time relates to the quantum of equity funds disbursed.

[2] Excluding fund management, internal INI resource costs and any other external co-funding

Conclusions

Overarching Conclusion

On an overall basis, the Evaluation Team considers that Techstart has successfully embedded itself within both the access to finance and business start-up ecosystems within NI. Our consultations with beneficiaries and stakeholders indicate that it straddles both. We note this given that the primary aim of Techstart is its 'investment' role[3], and much of its KPIs relate to the number and quantum of investments made, and whilst we consider that the fund is successfully meeting that aim and, for the most part, its stated KPIs at this interim juncture, such targets may not fully reflect the value or 'added value' that Techstart is delivering (to date). That is, and not to negate later conclusions and recommendations for improvements, it is evident that Techstart, through the auspices of its Fund Manager, is playing a role within NI that goes beyond simply investing in suitable prospects, and is providing considerable added value to those prospective businesses/businesses through amongst other means:

- Providing a supportive environment for prospective/early-stage entrepreneurs to validate the need for their suggested product/service and potential market demand and to develop a plan to grow their business, whilst maintaining a commercial focus on the fund's ultimate goals;
- General commercial advice and signposting, facilitating beneficiaries to navigate the many and varied uncertainties and unknowns that are encountered at the seed and early stages, including advising on management skills requirements, supporting Board and management team building, supporting the introduction of appropriate governance procedures and structures;
- Specific technical advice and knowledge sharing including through the use of specialist supports, contacts and role models, and through a variety of channels;
- Facilitating access to a wide network of supports (including other funds), organisations and knowledgeable individuals.

We note that our many conversations with Techstart beneficiaries indicate a very substantial number of instances where bespoke and specific advice has been provided by the Fund Manager, and the very positive feedback from many recipients as to the impact that such engagement with the Fund Manager has had upon their businesses and indeed upon the beneficiaries as individuals (i.e. how they now go about running their businesses or addressing businesses issues)

Achievement of Objectives

Techstart is a 10-year programme of activity and it is anticipated that its economic value/impact is anticipated (per the Economic Appraisal) to extend for up to 3 years beyond that period. This evaluation has been conducted at an interim stage, 3 years into the programme's rollout. Nonetheless, at this early juncture, evidence collated indicates that the programme is successfully meeting (or has strong potential to) its stated aims and objectives and the various KPIs that have been established. For example, in October 2017, the Evaluation Team estimates that Techstart participants have created 185 net additional FTE jobs, compared with a 13-year programme level target of 313 net jobs.

In relation to the programme's KPIs, the one area of activity that is behind target is the value of investments. Whilst it is recognised that the funds should work on a commercial basis, and investment should only be made within the fund's investment criteria, this metric will require constant monitoring over the life of the investment period and appropriate corrective actions taken where appropriate. It should, however, be noted that the acceleration of follow-on activity as the portfolio grows should go some way to addressing this issue.

[3] Specifically, Techstart's stated aim is to "invest in seed and early stage businesses with high growth potential and the prospect of exporting".

The Integrated Fund Model

All evidence indicates that the integrated fund model works well in theory, and for the most part in practice. That is, some aspects of the programme's operations might need minor alteration to ensure that they fully address the programme's needs (see Section 11.1.4). Encouragingly, there is clear evidence that the theoretical 'enterprise escalator' has worked well in practice with individuals/businesses availing of multiple strands of support (e.g. IAP and/or PoC grant and/or equity fund and/or other external support) with each contributing in different ways to the advancement of a business idea or business development and growth.

The Delivery Model

For the most part, the delivery model (including the amended investment parameters) implemented by Invest NI and the Techstart Fund Manager appear to be robust and appropriate, with the Fund Manager implementing effective management and operating structures, including:

- The application and appraisal processes;
- Engagement with participating businesses and Invest NI;
- Financial management and output monitoring arrangements (which are of a high standard).
- Risk management (which have a number of safeguards in place);
- The management/delivery of the European Regional Development Funding (ERDF) elements (e.g. the administrative arrangements including vouching requirements and expenditure eligibility).

However, some areas that might need attention include:

- The funding limits associated with the university funds;
- The Fund Manager's engagement with the university sector (recognising that changes may be required both by the Fund Manager and the two universities, to ensure that the available support is maximised and further recognising that steps have been taken to address this is the latter half of 2017);
- Ensuring that appropriate technical expertise is available to ensure that all technological business propositions are given appropriate consideration;
- Addressing any perceptions that the fund does not treat all groupings of applicants in the same manner (save within the boundaries of the funds' investment criteria).

Impacts Generated

As noted within Section 11.1.1, the Evaluation Team considers that it would be remiss to focus solely on Techstart's monetary economic impacts (certainly at this interim stage) given the very positive feedback from beneficiaries relating to the impact that the support has had upon them and their businesses. Nonetheless, at the time of writing, whilst many of the businesses supported are beginning to achieve market traction, the Techstart programme (on an overall basis) has not yet begun to generate a positive return. This, however, is typical of funds of this nature at its stage of development, with positive returns not typically seen until after 3 years. However, given the importance of the GVA metric to the programme's overall success, it may be prudent for Invest NI to conduct a short review on an annual basis that considers the annual sales generated by portfolio businesses and the GVA results from accounts information (over and above the value of investment made) to ensure that both are on a strong growth trajectory. It is noted that the fund manager does collect this information and provide it to Invest NI as part of its annual reporting requirements.

We note that our review of the NISPO funded businesses indicates that a very small number of the portfolio businesses might ultimately generate the majority of any economic GVA impacts.

In addition to generated economic impacts, in the medium to long-term, there is potential for the equity investments to yield positive financial returns to Invest NI, reducing the financial cost of the intervention to Invest NI.

Economy, Efficiency & Effectiveness

Whilst it is very early in Techstart's implementation to fully determine its economy, efficiency and effectiveness, we have provided below a viewpoint at this interim stage:

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.	In relation to the funds, the original composition of the Techstart Fund was determined based upon market need and demand as assessed through demand for the legacy NISPO funds and other consultations undertaken by the Economic Appraisal Team. It was later rescoped with the aim of providing even better economy (i.e. it was considered that the objectives of the PoC fund could be met utilising smaller grants) and effectiveness (i.e. it was considered that the aims & objectives of the fund could be better met through the introduction of more equity finance). In relation to the fund manager, the contract was publicly and extensively promoted, with Invest NI selecting the bidder that was determined to have the potential to provide the best 'value for money' (i.e. the best combination of both qualitative considerations, methodology/experience, and costs). In relation to both the fund and its management, it appears that appropriate inputs have been obtained at least cost.
Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs.	Notwithstanding the reduction in the PoC grant budget, our discussions with Invest NI and the Fund Manager indicates that all applications for both PoC grant funding and Techstart equity finance are robustly assessed so as to ensure that all monies provided are necessary and not surplus to essential requirements. In this regard, it is the Evaluation Team's view that Techstart is achieving the maximum output from a given set of inputs.
Effectiveness measures are concerned with showing the extent to which aims, objectives and targets of the project are being achieved.	The extent to which Techstart will be 'effective' will only truly be known after many years (10-13) have passed. However, the Evaluation Team considers that the fund is making positive progress towards meetings its aims and objectives.

Compliance with GBER

The monitoring materials maintained by the Fund Manager indicate that the Fund is fully compliant with Articles 21 and 22 of GBER 2014.

Lessons from Elsewhere

Benchmarking evidence suggests that publicly supported grant and equity funds (that require private-sector match funding) for seed and early-stage businesses are commonplace in the UK, EU and other similar regions, albeit Invest NI's integrated fund model (under the management of a single Fund Manager was somewhat unique amongst the benchmarks). Specific funds that were considered in GB and RoI were found to be broadly comparable to the Techstart suite of funds in terms of offering finance of between £10,000 and £250,000 to businesses with high-growth potential, perhaps reflecting a consistent market failure relating to finance for such businesses throughout the UK and Ireland within this investment range and nature of business. Albeit, Invest NI is the only body (considered as part of the benchmarking review) that provides a 100% contribution towards the equivalent grant or equity offer. Whilst the level of private sector match funding is relatively minimal in some cases (e.g. a €5k contribution towards the €50k CSF offer), it was noted by consultees that the requirement for at least some private sector investment can provide an early indication of the market viability of the proposition.

Of particular note:

- There are some indications that the average level of initial investment in the Republic of Ireland regularly exceeds the £250k limit that is a feature of the Techstart funds. Given feedback relating to the limitations of such a limit (i.e. that such an amount does not allow a company sufficient time to develop without

needing to source additional monies if it has a team, premises etc. in place, which puts the business under pressure at an early juncture);
- Enterprise Ireland has further segmented its CSF to encourage entrepreneurs from target groups (e.g. female, international or experienced entrepreneurs and start-ups from particular sectors) to establish HPSUs. Such segmentation or perhaps additional supports for specific groups might warrant exploration by Invest NI, particularly given the feedback from some groupings of beneficiaries e.g. women.

NISPO's Impact

The Evaluation Team understands that 262 unique businesses received support across the various funds that comprised NISPO. The NISPO POC and equity investment provided totalled £14m, plus Fund Manager costs of £3.9m (excluding any other finance raised at the same time i.e. co-investment, as well as IRP, IPEU, and Invest NI staff costs).

Of the 262 unique businesses, 44 received an equity investment. Our research indicates that half (22 of 44) of the businesses that received an equity investment through NISPO are no longer trading or never reached a position of trading. Three of the NISPO equity recipients and 7 NISPO PoC grant recipients did, however, go on to receive a further equity investment through Techstart.

Excluding those NISPO (equity investment or PoC grant recipients) that went on to receive Techstart equity investments (whose impacts have been captured under the Techstart impact assessment), our findings indicate that:

- The receipt of NISPO support has directly contributed to the creation of between £30.6m and £45m of net additional sales between 2010 and 2017, with a further minimum[4] of £14.8m expected to be achieved per annum over the next two years (to 2019).
- Given that the majority of respondents within the survey sample are in the ICT sector, the net additional GVA impact of NISPO has been calculated using the ICT (Information and Communication) sector GVA average of 50.8%, which suggests a net additional GVA impact of between £15.6m and £22.8m between 2010 and 2017. This is expected to increase to a minimum of between £30.6m and £37.8 by 2019.
- To date between 47% and 64% of GVA benefits have been concentrated in one POC recipient company.
- The receipt of NISPO support has directly contributed to the creation of between 134 and 206 of net additional FTEs of whom 23 have salaries above the NI Private Sector Median.

Of note, as a potential indicator of Techstart's future performance, it is noted that the Economic Appraisal of Techstart had applied the following assumptions relating to the future performance of the equity recipients:

- 30% of companies would 'fail' (resulting in no employees after two years);
- 30% of companies would 'survive' (resulting in six employees after two years which remains constant throughout the 6 year period prior to exit);
- 30% of companies would 'thrive' (resulting in increasing employees each year throughout the 6 year period prior to exit with 28 employees by Year 6); and
- 10% of companies would 'excel' (resulting in increasing employees each year throughout the 6 year period prior to exit with 60 employees by Year 6).

[4] Only 58% of respondents were able to provide a forecast. Therefore actual sales are likely to be greater, if projected sales levels are achieved.

The Economic Appraisal indicated that these estimates were based on the actual performance, at that time, of NISPO I companies. Our review of the performance of NISPO businesses in October 2017 provides the following profile:

Profile of NISPO Equity Recipients (using definitions presented in the EA)		
No. of Employees	**Definition per Techstart EA**	**% of NISPO Equity Recipients**
0	Fail	50%
1-5	Between Fail and Survive	22%
6-27	Between Survive and Thrive	25%
28-59	Between Thrive and Excel	3%
60+	Excel	0%

This indicates that a smaller proportion than originally forecast may be responsible for generating the majority of benefits.

Recommendations

The Evaluation Team's recommendations are:

1. Based upon our review of the prevailing strategic context, stakeholders' view and beneficiary feedback relating to the level of market failure, the current level of demand (including pipeline) for the support, as well as other interventions (both public and private) in the space, Invest NI should continue to implement similar interventions going forward.

2. Consider augmenting some elements of the programme's delivery model, including:

   (i) Increase the quantum of equity funding available through Techstart (for individual deals/investments) so as to ensure that a business will have sufficient financial resources to fund the business for long enough to assemble and embed a high-quality team and to seek out and secure follow-on funding, particularly Series A funding;
   (ii) Increasing the funding limits (and perhaps the fund size) associated with the university funds. Albeit, it might be prudent to firstly further consider why the prospective pipeline suggested by the university stakeholders is not presently coming through the Techstart programme;
   (iii) Ensure that appropriate technical expertise is available to ensure that all technological business propositions are given appropriate consideration;
   (iv) Providing greater flexibility relating to the available size of the PoC award on a case-by-case basis.
   (v) Introduce more frequent call for PoC application (e.g. quarterly).
   (vi) Assess whether steps can be introduced to ensure that potentially strong business ideas are not stymied by having to meet costs upfront before claiming back PoC funding.

3. There is evidently a difference of opinion between the university stakeholders and the Fund Manager as to the extent of the Fund Manager's degree of proactivity in engaging with the university sector and also relating to the relative strength of the Fund Manager knowledge of the technology sector. In relation to this, there would be merit in both parties more fully articulating their expectations of the other over the remaining fund period;

4. Address (perhaps through a proactive communication campaign) any perceptions that the fund does not treat all groupings of applicants in the same manner (save within the boundaries of the funds' investment criteria). In addition, and whilst perhaps beyond the scope of Techstart in isolation, Invest NI should ensure that appropriate steps are being taken to facilitate access to finance and support to all prospective client groupings, including female-led enterprises (potentially looking to the activity being introduced by Enterprise Ireland in this regard).

1. INTRODUCTION AND BACKGROUND

1.1 Introduction

Invest Northern Ireland (Invest NI) has commissioned Cogent Management Consulting LLP ('Cogent' or the Evaluation Team) to undertake an interim evaluation of the Techstart NI funds ('Techstart') for the period July 2014 to June 2017 and an impact assessment of the Northern Ireland Spin Outs (NISPO) initiative (which operated between its launch in April 2009 to January 2017).

The Terms of Reference for the Evaluation are presented in Appendix 1.

1.2 Background to NISPO & Techstart

Invest NI is committed to actively stimulating and encouraging early stage, high growth businesses in order to develop a world-class, knowledge-based economy. Its Access to Finance Strategy promotes a continuum of funding and a deal flow chain of which NISPO formerly and Techstart currently forms an integral part.

Both Techstart and its predecessor NISPO were developed by Invest NI in response to market failures in the provision of funding and support to seed/early stage growth businesses in Northern Ireland.

The origin of both funds dates back to February 2007, when Invest NI commissioned a Business Case[5] to consider options for funding a seed capital fund (NISPO) comprising funding for university and corporate spin-outs. The Business Case identified that Northern Ireland (NI) was continuing to lag behind Great Britain (GB) and the Republic of Ireland (RoI) in terms of early-stage technology spin-out activity. In addition, the recent (at that time) evaluations of the NITech fund and the Invest NI Proof of Concept Fund had suggested that despite progress being made, NI would need to experience considerable growth in its level of spin-out activity from both universities and companies, if it was to catch up with some of the more 'aspirational' regions of the UK.

The Business Case indicated that as government policy was moving away from direct intervention and as the quality of research from NI universities and corporate sectors continued to improve, it was necessary to examine ways of enhancing the range of finance products available to support technology spin-outs. It was noted that the absence of cash flow and the risk profile of these early-stage businesses meant that it was usually equity rather than debt finance which was the most appropriate form of funding.

To this end, Invest NI sought to consider options to launch new sources of seed capital to replace NITech and the University Challenge Fund, both of which were almost fully invested (in February 2007). It was anticipated that the funding would address deficiencies in the supply of seed capital funds in the range of £50k -£250k.

In addition, it was considered that an important part of the appointed fund manager's role would include helping investee companies to prepare themselves for later-stage funding (i.e. to become 'investor ready') from the commercial venture capital firms such as Viridian, Crescent and Enterprise Equity.

Invest NI's subsequent Casework Submission[6] to the Invest NI Board noted that the NISPO Funds were anticipated to *'invest in seed and early-stage businesses, including spin-outs emerging from the two Universities'* and that the new fund would *'have a technology focus, but its remit will be much wider than the original NITech Fund and will include life sciences, digital content and other manufacturing and tradable services sectors across NI'.* It was further stated that the potential for rapid growth, and *'to progress to investment rounds with commercial venture capital and business angel investors'* would drive the selection of seed/early stage business opportunities to participate in the programme.

5 Business Case for the Seed Capital Fund in Northern Ireland (Bearing Point, June 2007)

6 Northern Ireland Spin Out Funds: submission to Invest NI Board, August 2008

1.3 NISPO

Invest NI subsequently secured approval for an investment of up to £16.2m in the delivery and management of the NISPO Funds, including £10 million of equity investment/grant with the remaining funds of up to £6.2m to deliver business support programmes and to cover fund management and other fees. Board approval was also secured to enter into an OJEU tender process to appoint an FSA regulated, independent fund manager. The London-based firm E-Synergy was identified as the preferred bidder following an extensive tender process and Invest NI secured Board approval for their appointment in October 2008, with final Ministerial approval secured during March 2009.

Launched in 2009, the overarching objective of NISPO was to address the gap in funding and support for start-up and early-stage technology-based businesses which could demonstrate high growth potential and which were based in Northern Ireland. NISPO provided a suite of support initiatives to support these companies under what was known as an 'Enterprise Escalator'. In summary, NISPO comprised:

- A 5-year 'Investment Readiness Programme';
- A 5-year Proof of Concept grant fund (£5m);
- Three 10-year equity investment funds:
  - Invest Growth Fund (£7m);
  - QUBIF (£1m); and
  - UIF (£1m).
- An Intellectual Property Exploitation Unit (IPEU)

Each of these is described further overleaf.

The contracts for the Proof of Concept Grant Fund, the Investment Readiness Programme and Intellectual Property Exploitation Unit ended in 2015 or earlier.

By mutual agreement between Invest NI and E-Synergy, the NISPO equity contracts were terminated in January 2017, more than two years ahead of the scheduled closure of the funds. The legacy IGF portfolio has been transferred to Invest NI and the legacy university portfolios have been transferred to the universities and Invest NI, reflecting the existing partnership shares. Invest NI will monitor the legacy portfolio going forward.

Fees paid to the Fund Manager in respect of the three equity funds and PoC fund amounted to £3.9m to the end of January 2017 when the agreements terminated.

Table 1.1: Overview of NISPO initiatives		
Initiative	**Description**	**Budget £**[7]
Invest Growth Fund (IGF)	The IGF provided equity funding ranging from £50,000 to £250,000 to non-University businesses at seed/ early-stage growth stage. The fund focused on businesses which had a unique product or Intellectual Property base, early sales or customer traction, an experienced, if not complete, management team and a scalable business model with export potential. The fund aimed to be the first institutional investor after 'founders, friends and family'.	£7m
QUBIF and UIF	Two seed and early-stage investment funds for University spin-out companies (one for each University of £1m each). The aim of the funds was to invest in the development of post-research (post-proof of concept) spin-out companies, particularly in the technology sectors strongly related to each University's research base. Each fund offered seed and early-stage investment in the range of £50k to £200k, with an average investment in portfolio companies of £200k, including follow-on investments.	£2m
Proof of Concept (PoC) Grant Fund	A grant fund that provided funding for individuals, start-ups, microenterprises and SMEs to establish the technical feasibility and commercial potential of ideas for new products and services. Two types of grant support were available: 1. **Mini-grants for up to £10,000** to focus on 'proof of market' (e.g. market research and testing, competitor analysis and developing IP strategies) and initial 'proof of concept' activities (e.g. feasibility studies and related concept development work). The outputs were typically market research reports, business cases and concept plans; and 2. **Standard grants for up to £40,000** for more complex or later stage proof of concept activities including prototyping, specialist testing and intellectual property (IP) protection. The output was typically a business plan or action plan. Both mini-grants and standard grants covered third-party costs (often consultancy) to progress market/ concept development work. Salary or other overhead costs were ineligible. Applicants were able to progress from a mini-grant to a standard grant.	£5m
Investment Readiness Programme (IRP)	A range of seminars and workshops to assist individuals and companies to become investor ready. The IRP was a key element of the Enterprise Escalator approach and provided the owners of high-growth firms with an understanding of the equity investment process and the criteria which venture capitalists and business angels use in assessing investment prospects; how to prepare for investment and how to optimise the use of investment funds. IRP events also allowed companies to develop and practice their 'pitch' to potential investors.	
Intellectual Property Exploitation Unit (IPEU)	The IPEU aimed to provide advice and mentoring to individuals and companies with Intellectual Property (IP) that had the potential for commercial exploitation. The delivery of the IPEU had a focus on licensing support for non-University businesses[8].	
Fund Manager Fees		£3.9m (actual for Equity and POC)

[7] The funding depicted is inclusive of monies secured as part of the agreed 'NISPO I Extension'. That is, during November 2012, Invest NI prepared a casework submission for the Invest NI Board seeking an extension of the following elements of NISPO I: an additional £2m for the IGF in order to provide an additional 10 investments from January 2013 up to March 2014, along with £557,500 for fund management fees for the remaining 6 years and 3 months; and an additional £2m towards grant assistance for the POC schemes in order to provide an additional 95 grants to be awarded from January 2013 to March 2014, along with £188,000 for management fees for an additional year to March 2015 (for management of the projects at that time). Please note that throughout this Evaluation report, NISPO I and the NISPO I Extension are collectively referred to as 'NISPO I'.

[8] During May 2011, Invest NI and E-Synergy mutually agreed to suspend operation of the IPEU as a result of the need to fully establish the commercialisation benefits of the initiative.

1.4 Techstart

1.4.1 Background & Rationale

Following the completion of an independent interim evaluation of NISPO I[9], Invest NI commissioned an Economic Appraisal[10] to consider options relating to a 'NISPO II' (later rebranded as Techstart and called Techstart throughout this document) suite of interrelated equity and grant funds with capability and business support initiatives for Small and Medium Enterprises (SMEs) located within NI that are in the seed[11] and early-stage[12] of development.

The rationale for Techstart was premised upon its potential to contribute to 'rebuilding and rebalancing' the NI economy and a significant market failure in the supply of finance (and particularly private equity finance[13]) within NI when compared to the other regions of the UK. Reasons for this market failure were cited as including, but not limited to, the availability of Government grants and the peripheral nature of the region.

In order to address the identified market failure, the Economic Appraisal recommended the implementation of Techstart which incorporates a suite of seed and early-stage funds comprising three equity funds and a grant fund together with a capability programme to promote potential investee awareness and investment readiness. The specific need for each of Techstart's components was identified as follows:

Table 1.2: The Specific Need for each of Techstart's components

Component	Suggested Need (per the 2013 Economic Appraisal)
Proof of Concept (POC) grant	Research had emphasised a need for a strong deal flow of attractive high-potential portfolio companies in order to develop a strong venture capital market[14]. It was therefore considered that there was a need to provide finance to individuals and start-up companies to prove their business concept and to provide the deal-flow for later-stage funds.
Investment Awareness Programme (IAP)	Research had highlighted that high-growth and potential high-growth businesses experience several barriers to growth of relevance to the IAP component, including[15]: • Shortage of skills; • Shortage of managerial skills/expertise; and • Obtaining finance.
SME Equity Fund	Research had indicated a need for early-stage venture capital funds in the UK of a sufficient scale and managerial competence to make initial and follow-on investments and grow portfolio firms until attractive exit opportunities are identified[16].

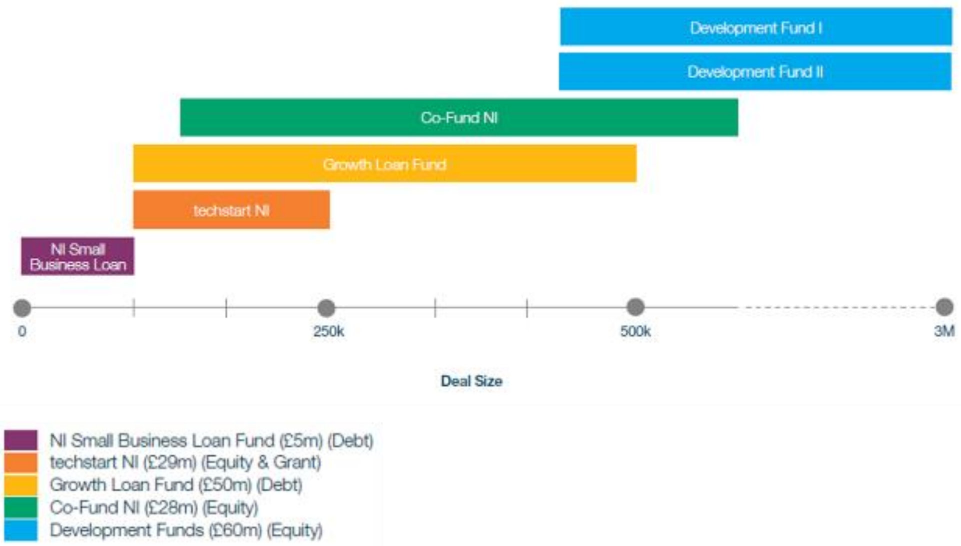
[9] Urbis Regeneration - Interim evaluation of the Northern Ireland Spin Out Funds (completed in 2011 and signed off by DETI in April 2012)
[10] Economic Appraisal of the Proposed NISPO II (KPMG, June 2013)
[11] The BVCA defines seed investment as "Financing that allows a business concept to be developed, perhaps involving the production of a business plan, prototypes and additional research, prior to bringing a product to market and commencing largescale manufacturing" (BVCA Report on Investment Activity 2010).
[12] The BVCA defines other early stage investment as "Financing provided to companies that have completed the product development stage and require further funds to initiate commercial manufacturing and sales. They may not yet be generating profits" (BVCA Report on Investment Activity 2010).
[13] The British Venture Capital Association (BVCA) defines private equity as "equity investments in unquoted companies, often accompanied by the provision of loans and other capital bearing an equity-type risk". The BVCA states that the term is generally used for to cover the industry as a whole, including both buyouts and venture capital (BVCA Report on Investment Activity 2010).
[14] 'From Funding Gaps to Thin Markets. UK Government Support for Early Stage Venture Capital' (NESTA and the BVCA, (2009).
[15] 'Barriers to Growth: The Views of High-Growth and Potential High-Growth Businesses' (NESTA, 2011)
[16] 'From Funding Gaps to Thin Markets. UK Government Support for Early Stage Venture Capital' (NESTA and the BVCA, 2009).

Table 1.2: The Specific Need for each of Techstart's components	
Component	**Suggested Need (per the 2013 Economic Appraisal)**
	Furthermore, research had highlighted that co-investments between the public and private sector were becoming increasingly common and were the dominant form of venture capital investment[17].
2 University Equity Funds	NESTA had stated that using research and university funding, along with planning policy would encourage strong and wide-ranging networks between researchers and businesses and would encourage the flow of knowledge and information. It was suggested that this, in turn, would promote innovation and growth and should be a priority for economic policymakers[18].

1.4.2 *Market Context & Ecosystem*

As discussed, Techstart was anticipated to be a key component of Invest NI's Access to Finance Strategy approach and specifically its support for the stimulation and development of a 'venture capital'[19] market within NI. The diagram below depicts Techstart's current position within Invest NI's suite of Access to Finance initiatives.

Figure 1.1: Invest NI's Access to Finance Initiatives



The Techstart EA emphasised the importance of NI's 'access to finance' ecosystem to both the performance of Techstart and its anticipated importance to downstream activities and initiatives.

In relation to this, the EA anticipated that a number of initiatives/ programmes would provide a pipeline of demand and investment opportunities for Techstart's equity funds. After *"allowing for adjustments for displacement, duplication and unsuccessful applicants and using information provided by the Invest NI Access to Finance team (based on Invest NI actual performance data and knowledge of the local market) and supplemented by consultations with the Programme Managers for the specific initiatives / programmes"*, the EA provided the following anticipated demand projections alongside an anticipated average deal size of £200,000[20]:

[17] Shifting Sands: The Changing Nature of the Early-Stage Venture Capital Market in the UK' (NESTA, 2008)
[18] 'Vital Growth: The Importance of High-Growth Businesses to the Recovery' (NESTA, 2011)
[19] Venture capital is defined as a sub-category of private equity covering the start-up to expansion stages of investment (BVCA Report on Investment Activity 2010).
[20] Which was noted as being per the original Business Case/ Invest NI Board Casework for the NISPO I Extension **and** included follow on investments.

Table 1.3: Economic Appraisal's Anticipated Equity Fund Demand Analysis			
Techstart Funds	**Pipeline Initiatives/Programmes**	**Per Annum**	**Over 5 Years**
SME Equity Fund	NISPO I POC	2.4	12
	Techstart POC	3	15
	Invest NI High-Potential Start-Up (HPSU) assistance	3	15
	Invest NI Propel Programme	5	25
	NISP Connect (i.e. Springboard, £25k Awards and Co-Founders Wanted)	3	15
	Halo Business Angels Northern Ireland	3.5	17.5
University Funds	QUB/ QUBIF and UU/ Innovation Ulster Limited	3	15
Gross Businesses (University and non-University Companies)		**23**	**115**
Net Businesses (net of a 31% adjustment for Duplication and Displacement)		**16**	**80**
Total Equity Funds required (assuming average investment size of £200,000)		**£3,200,000**	**£16,000,000**

In turn, the EA indicated that it was anticipated that circa 16 (c20% over 5 years) Techstart investee businesses would serve as a pipeline for 'later stage funds' such as the Co-Investment Fund and the Development Funds.

1.4.3 *EA's Preferred Option*

The Economic Appraisal's Preferred Option (Option 3b)[21] consisted of a similar content and structure as NISPO I with the following key amendments:

- The removal of the Intellectual Property Exploitation Unit (IPEU) element;
- Two fund managers. One to manage for POC, IAP and SME Equity Fund and a separate fund manager for the two University Funds. This development aimed to address a perceived underperformance in the University funds under NISPO I by providing dedicated fund management resources for the University funds in order to encourage spin-out activity from QUB and UU. It was envisaged that the fund manager appointed for the University funds would be able to demonstrate sufficient relevant experience in University spin-out companies; and
- An increased quantum under the equity funds[22].

However, subsequent to the completion of the Economic Appraisal process, a decision was taken during the approvals process to adopt the Economic Appraisal's Option 3a as the option to proceed with. Option 3a was similar to Option 3b but featured only one Fund Manager for all NISPO II components. The merits of this option were suggested[23] to include:

- Reducing fund management cost by c£1.1m from those anticipated under Option 3b;
- Whilst it continued to be recognised that setting up separately managed university funds may improve some aspects of the performance of the funds, it was considered that the university funds taken in isolation might be subscale (in terms of management).
- Consequently, it was considered that there might be scope to gain sufficient comfort with one fund manager providing fund management services to all three funds, but that it would be essential that such an arrangement provided for a named university manager, who would have appropriate

[21] Option 3b: Increased Quantum of Equity Funds (One Fund Manager for POC, IAP and SME Equity Fund and a Separate Fund Manager for the University Funds).
[22] Based on the Economic Appraisal's review of NISPO's performance to March 2014, the latent demand analysis and stakeholder consultations.
[23] Source: Paper entitled "DETI Casework – NISPO II - 3 September 2013 - Update on university discussions/negotiations".

experience of dealing with university spinouts, and that the named manager would work exclusively on the university funds.

- It was anticipated that this could be tested through the procurement process and would be a pass/fail criterion.

Option 3a recommended £24.6m of funds (excluding management fees[24]) split as follows:

Table 1.4: Option 3a: Targets and Funding				
Component	**Quantum of Funding (£)**	**Activity / Output Targets**		
		Per Annum	**Over 5 Years**	**Over 10 Years**
POC	£7.6m	68 (minimum per annum)	340 (minimum)	
IAP	£1m	Support at least 15 IAP events per annum to at least 75 attendees from at least 68 companies	Support at least 75 IAP events to at least 375 attendees from at least 340 companies	
SME Equity Fund	£13m	Approve a minimum of 13 investments in non-University companies[25].	Approve a minimum of 65 investments in non-University companies[26]	Support the investment of £13m through the SME Equity Fund across the 10-year investment and realisation period (including follow-on investments).
QUBIF / UIF	£3m (£1.5m each)	Approve a minimum of 3 investments in spin-out companies from QUB and UU per annum[27].	Approve a minimum of 15 investments in spin-out companies from QUB and UU	
Total	**£24.6m**			

The 2013 Casework sought to implement lessons learned from NISPO where there had been a number of operational matters which needed to be addressed, including:

- Key investment executives to be located in Northern Ireland;
- The charging of deal fees by the fund manager to be disallowed and tighter control in respect of monitoring fees charged to portfolio companies;
- Robust contract termination clauses to be included in the legal agreements;
- Effective clauses to enable the withholding of management fees in the event of poor fund manager performance; and
- A clearer focus on post-investment support for portfolio companies by the fund manager.

The changes above were deemed necessary to ensure that Techstart would have improved prospects of delivering value for money[28].

[24] See Table 6.3 for total Techstart costs
[25] with an average deal size of £200,000 (including follow-on investments)
[26] NB Discussion with Invest NI has confirmed that this target relates to investments in 65 unique businesses, as opposed to 65 investments in a potentially smaller number of businesses (if follow-on investments were counted as being 'an investment).
[27] with an average deal size of £200,000 (including follow-on investments)
[28] NB There is no evidence that NISPO was not correctly developed from a strategic perspective; rather there were concerns around implementation by the fund manager. By mutual agreement, the NISPO fund manager resigned in early 2017.

1.4.4 *Appointment of a Fund Manager*

Following a competitive tendering process conducted through the Official Journal of the European Union (OJEU), where 11 applications were received, Invest NI and the two universities selected Pentech[29] to manage and operate the suite of Techstart funds.

As part of their contract Pentech act as:

- 'General Partner' to provide investment services through a partnership arrangement;
- 'Manager' to provide:
    - Grant management services in connection with the making of grants to fund proof of concept stage investment proposals; and
    - Investment awareness services.

Techstart was subsequently launched in July 2014.

The Funds' Investment Policies are detailed in Appendix 3, with key points summarised overleaf. NB this information is drawn from:

- Original Agreements of 9th July 2014; and
- Deeds of Variation (to the original agreements) of 5th August 2015 (NB Key changes from the original agreements are noted).

[29] As, active venture capital investors for over a decade, and with three of the Partners' former technology company CEOs, Pentech has extensive experience in company formation, all forms of finance, team building and development, financial modelling, selling companies, and all operational aspects of companies. For specific domain knowledge, Pentech calls on specific members of its broad network to participate.

Table 1.5: Key aspects of the Fund's Investment Policy		
	SME	**UU/QUB**
Focus of the Fund	The general focus of the Partnership is on technology but there is considerable flexibility built into the criteria which it is anticipated the Manager will use to assess investment opportunities. Notwithstanding this flexibility, the Partnership has a special focus on technology-based and innovative products and services with high growth potential. However, the Manager's priority in assessing opportunities remains on locating good seed and early stage investments which may lead to series 'A' investment deals - subscription rounds with the participation of commercial venture capital investors.	The primary focus of the Partnership will be investment in the developments of post-research (post-proof of concept) spin-out/spin in companies, particularly in the technology sectors in all cases relating to Ulster University/QUB (as appropriate) research base. Investment opportunities will be at seed stage and will show potential for commercialisation, potential for market opportunity and for export-led growth. The Manager shall consult with Ulster University/QUB as to potential Investments and Follow-On Investments but shall make any such Investments and Follow-On Investments at its absolute discretion.
Investment Stage	The focus is on seed and early-stage investments. However, provided that substantially all of the Investments are seed or early stage but the Manager considers that there is a prospect of commercial venture capital investment at a near future point in respect of a potential Investment, it may invest in opportunities at other stages in the business cycle.	Investments will be in post-proof of concept prototypes, market research, business planning and initial customer meetings; the desired outcomes being a clear understanding of the technical, commercial and market opportunities, the risk potential and the immediate challenges the company is likely to face. Seed and early-stage investments in spin-out/spin in companies will be, where possible. at agreed valuations but may also be by way of convertible loans in certain circumstances, and at a time when the commercial potential is envisaged, often following proof of concept work, including programmes such as the Invest NI POC grant funding and sometimes following participation in investment awareness programmes.
Follow-on Investments	Follow-on investment is made where the Manager believes that there is a value in avoiding early dilution and are subject to certain contractual investment restrictions contained in the Partnership Agreement and the KPIs.	
General Investment Objectives	The general objective for the Partnership is to invest in Northern Ireland in a range of technology sectors (including for the UU/QUB funds technology emerging from those institutions) that exhibit significant growth potential and to hold the investments until market success adds demonstrable value.	

Table 1.5: Key aspects of the Fund's Investment Policy		
	SME	**UU/QUB**
Key Investment Criteria	• Although the Manager will have absolute discretion with regard to investment decisions, the Manager will seek to: – invest in businesses with a product or service with one or more unique aspects (with a strong Intellectual Property base); – identify investments with early sales or demonstrable customer traction; – back experienced, if not complete, management teams; – identify investments with a scalable business model and the potential to generate high returns which also represent manageable risks; and – identify investments with export/global growth prospects. • Investment opportunities are likely to be from outside the university environment but may have originated from a university or other academic institution. • A typical candidate will have some commercial experience and will have partially developed their product or service using their own sources of finance and/or grants and will be looking for equity investment - either in their own start-up company or in a corporate spin-out. • Compliance with Article 21 (Risk finance aid) and Article 22 (Aid for Start-ups) of the GBER. • The Manager recognises the benefit of private matched funding being secured for all Portfolio Companies. • **The Manager must not:** – Permit the Partnership to make Investments in one or more tranches of less than £50,000 or more than £250,000 in any Portfolio Company; nor – Permit the aggregate investment by way of Investment and Follow-on Investment **in excess of £750,000** in the securities of any single Portfolio Company and its Associates (excluding, for the avoidance of doubt, the amount of any co-investment in a Portfolio Company) based on the subscription value of the securities at the time the investment is made without the prior written consent of the Advisory Board but in no circumstances can any such Investments in the securities of any single Portfolio Company and its Associates by the Partnership exceed £1,000,000 in aggregate[30]	• Although the Manager will have absolute discretion with regard to investment decisions, the Manager will seek to: – invest in businesses with a product or service with one or more novel aspects (this may extend to a strong Intellectual Property base); – identify seed Investments with market opportunities; – identify Investments with a potentially scalable business model; and – identify Investments with the potential for export. • Following the making of each investment, the Manager will use all reasonable endeavours to seek to: – proactively manage each Investment in order to ensure that each Portfolio Company is positioned to maximise onward growth; – assist the implementation by each Portfolio Company of its business plan in order to optimise the potential for achievement of agreed milestones; and – assist and implement an appropriate exit strategy/Follow-On Investment for each Portfolio Company in order to maximise value for the Limited Partners. • **The Manager must not:** – Permit the Partnership to make Investments in one or more tranches of less than £50,000 or more than £250,000 in any Portfolio Company; nor – Permit the aggregate investment by way of Investment and Follow-on Investment in excess of £300,000 in the securities of any single Portfolio Company and its Associates (excluding, for the avoidance of doubt, the amount of *any* co-investment in a Portfolio Company) based on the subscription value of the securities at the time the investment is made.
Marketing	Where possible and/or desirable, the Manager will introduce Portfolio Companies to sources of expertise and second and third round finance.	

[30] NB This restriction is per the Deed of Variation of 5th August 2015. The Original Agreement of 9th July 2014 had the following alternative restriction: At any point during the Term invest any amounts that in aggregate are in excess of **£500,000** in the securities of any single Portfolio Company and its Associates (excluding, for the avoidance of doubt, the amount of any co-investment in a Portfolio Company).

<table>
<tr><th colspan="3">Table 1.5: Key aspects of the Fund’s Investment Policy</th></tr>
<tr><th></th><th>SME</th><th>UU/QUB</th></tr>
<tr><td>Adding Value to Portfolio Companies</td><td></td><td>Where possible and/or desirable, the Manager will actively seek to introduce Portfolio Companies to potential senior management candidates with specific early-stage domain knowledge and proactively assist to develop and subsequently introduce Portfolio Company investment propositions to potential sources of follow-on investment funding.</td></tr>
<tr><td>Portfolio Management</td><td colspan="2">
For the SME Fund – It was stipulated that “The Manager aims to build a balanced and diversified portfolio based on an assumption that in each of the first five years of the Term:
– between 11 and 15 Investments will be completed (per the Original Agreement of 9th July 2014): and
– between 7 and 11 Investments will be completed (per the Deed of Variation of 5th August 2015).
For both the UU and QUB funds - The "Partnership" will invest in at least 7 spin-out companies (i.e. 14 in total across the two funds) over a five-year period with an investment range of £50,000 to £250,000. Seed investment propositions will be selected on the basis of the technology fit to the proposed application and the suitability of the (emerging) management team, signs of customer interest and a substantiated view as to the potential revenue model going forward.
Day to day input into the strategy of individual Portfolio Companies, management team correlation financial management and exit planning will be routinely provided via the Manager.
Where relevant, Portfolio Companies will also be provided with investment awareness training for attracting later-stage external financing.
Supporting portfolio management, the Manager will participate in the wider development of venture capital in the Northern Ireland region including:
– Engagement with investors;
– Market development to promote access to capital; and
– Active engagement in adding value to the strategic and operational management of investee companies.
</td></tr>
<tr><td>Investment decisions</td><td colspan="2">
All decisions to make an Investment will be made by the Manager.
Prospective Investments will be selected on the basis of an application form and a business plan followed by a business model review meeting with two fund executives present resulting in an agreed action plan which will subsequently be informed by due diligence materials.
Each potential Investment target will be reviewed by the Manager and receive one of the following outcomes:
1. An offer letter, comprising the outline terms of a prospective investment:
2. An action plan, recommending actions for the potential investee company such as mentoring or investment awareness training; or
3. A redirection with ‘signposting’ advice.
</td></tr>
<tr><td>Investment Restrictions (per original agreement)</td><td>In addition to the provisions above, and amongst other investment restrictions, the Partnership will not invest in more than 65 Portfolio Companies.</td><td rowspan="2">In addition to the provisions above, the Partnership will not:
a) invest in other venture capital investment funds; or
b) invest in less than 7 Portfolio Companies.</td></tr>
<tr><td>Investment Restrictions (per the Deed of Variation)</td><td>In addition to the provisions above, and amongst other investment restrictions, the Partnership will not invest in more than 50 Portfolio Companies.</td></tr>
</table>

1.4.5 *Original Objectives and Targets*

The chart below sets out the Techstart logic chain (per the Economic Appraisal), which shows the flow and relationship between the aims, SMART inputs activity/ outputs, impacts and outcomes.

Aim → Inputs → Activity/Outputs → Impacts → Outcomes

Aim	Inputs	Activity/Outputs	Impacts	Outcomes
Invest in seed and early-stage businesses with high growth potential and the prospect of exporting.	Invest NI funding towards: • POC grants; • Equity funds for University and non-University projects; • IAP programme costs; • Fund management costs; • Invest NI staff and overheads; and • External evaluation. Private sector match funding at least at the levels required by Articles 21 and 22 of GBER 2014.	• Support the pull-through of a minimum of 68 projects through POC per annum (340 in total); • Approving £7.6m of POC grant commitments across the 5 year period; • Support at least 15 IAP events per annum to at least 75 attendees from at least 68 companies (i.e. 75 events, 375 attendees and 330 companies across the 5-year period); • Approving a minimum of 65 investments with non-university companies between April 2014 and March 2019 with an average deal size of £200,000 (including follow-on investment); • Support the investment of £13m through the SME Equity Fund across the 10-year period (including follow-on investments); • Approve a minimum of 15 investments in spin-out companies from QUB and UU across the 5-year investment period (at least 3 investments per annum across the two Universities) with an average deal size of £200,000 (including follow-on investments).	At least: • 10% of POC recipients progressing to the equity funds; • 7% of IAP participants progressing to the equity funds; • 50% of POC recipients participating in the IAP • 16 of the businesses supported by equity funds, progressing to later stage investment; • 75% of IAP participants self-reporting that they are 'investor aware'	• Enhance employment in high growth businesses by creating 784 gross jobs (265 net jobs) across the investment portfolio; • Enhance productivity in NI by creating £75m of additional net GVA (£44.7m of net discounted GVA); • Create R&D spillover effects in NI of at least £2.0m (central scenario of £5.5m); • Create wider and regional impacts including entrepreneurship, innovation, University/industry linkages and real option values.

1.4.6 Revised Objectives and Targets

It is noted that following a period of fund activity between July 2014 and August 2015, Invest NI agreed to a number changes to the PoC grant fund, the Investor Awareness Programme and the SME Equity Fund, including most notably an amendment that moved £4m from the PoC grant fund to the SME Equity fund. These changes (in bold) are discussed further under Section 3, but a high-level overview of the revised objectives and targets (as summarised from various Deeds of Variation) or advised by Invest NI are detailed below:

Aim	Inputs	Activity/Outputs	Impacts	Outcomes
Invest in seed and early-stage businesses with high growth potential and the prospect of exporting.	Invest NI funding towards: • POC grants; • Equity funds for University and non-University projects; • IAP programme costs; • Fund management costs; • Invest NI staff and overheads; and • External evaluation. Private sector match funding at least at the levels required by Articles 21 and 22 of GBER 2014.	• **Support the pull-through of a minimum of 60 projects through POC in year one and 32-44 projects per annum thereafter (222 in total);** • **Approving £3.6m of POC grant commitments across the 5-year period**; • **For IAP see overleaf;** • **Approving a minimum of 40 investments with non-university companies between April 2014 and March 2019 with an average investment, including follow-on investments of between £340k and £425k per company;** • **Support the investment of £17m through the SME Equity Fund across the 10-year period (including follow-on investments);** • Approve a minimum of 15 investments in spin-out companies from QUB and UU across the 5-year investment period (at least 3 investments per annum across the two Universities) with an average deal size of £200,000 (including follow-on investments).	At least: • 10% of POC recipients progressing to the equity funds; • 7% of IAP participants progressing to the equity funds; • 50% of POC recipients participating in the IAP; • **15 of the businesses supported by equity funds, progressing to later stage investment;** • 75% of IAP participants self-reporting that they are 'investor aware'.	• **Enhance employment in high growth businesses by creating 916 gross jobs (313 net jobs) across the investment portfolio;** • **Enhance productivity in NI by creating £87.7m of additional net GVA (£52.7m of net discounted GVA);** • **Create R&D spillover effects in NI of at least £1.7m (central scenario of £4.7m);** • Create wider and regional impacts including entrepreneurship, innovation, University/industry linkages and real option values.

The changes made to the IAP (discussed in detail under Section 3.2.1) led to a number of activity/output KPIs being established, as reflected below in Tables 1.6 and 1.7:

Table 1.6: Investment Awareness Programme KPIs July 2014 to March 2015	
Number of IAP Events Held	11
IAP Event – Number of attendees	56
From number of companies	51
Showcasing events	1
Showcasing event participants	15

Table 1.7: Investment Awareness Programme KPIs (as per variation agreement November 2015					
	Year Ending 31 March				
Target	**2016**	**2017**	**2018**	**2019**	**2019**
Manager led events	3	3	3	3	1
Ecosystem led events	6	6	6	6	1
Post-POC start-up advice (number of recipients)	10	10	10	10	3
Series A / scaling advice (number of recipients)	10	15	20	15	3
Showcasing events	2	2	2	2	0
Showing event participants	20	20	20	20	0
Uni Commercialisation/PoC insights (projects)	10	10	10	10	3

1.5 Methodology

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

- A desk-based analysis of pertinent materials relating to each of the interventions during the period under review and benchmarked interventions;
- Telephone and face-to-face consultations with the following individuals or organisations:

Stakeholders	• Techstart Fund Manager; • DfE – Access to Finance representative; • InterTradeIreland; • Catalyst Inc; • Representatives of the two Northern Ireland Universities; • E-Spark Manager; • NI Chamber of Commerce.
Funds and representatives of private investors/angels	• Co-Fund NI manager – Clarendon Fund Managers; • Development Fund managers –Crescent Capital and Kernel Capital; • Growth Loan Fund manager – Whiterock Capital; • NISBLF managers – UCIT and Enterprise NI.
Techstart Participants	• 18 of 24 businesses that received SME fund equity investment; • 7 of 8 businesses that received university equity investment; • 64 of 150 businesses that received PoC grant investment; • 45 of 438 businesses that received IAP support. 86 in total when overlap across strands accounted for.
NISPO Participants	• 18 of 36 businesses that received IGF equity investment; • 5 of 10 businesses that received university (UIF or QUBIF) equity investment; • 52 of 227 businesses that received PoC grant investment. 75 in total when overlap across strands and with Techstart accounted for.

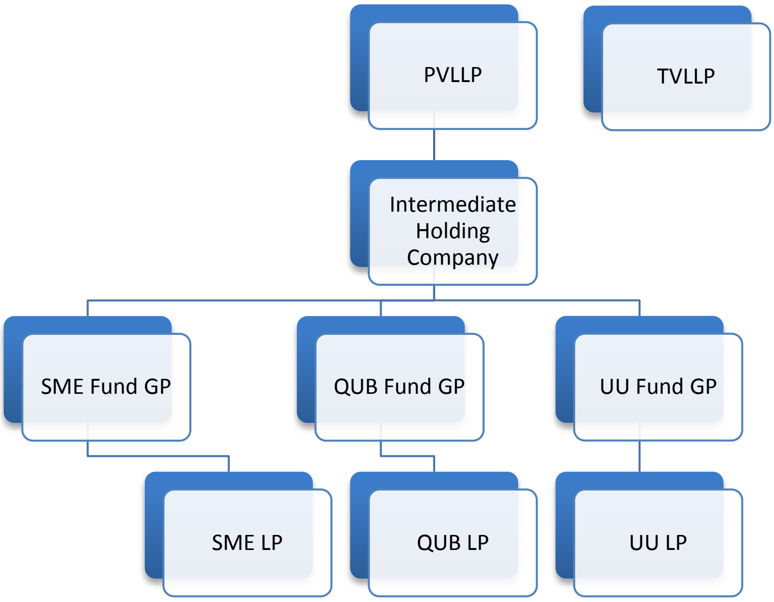
2. PROGRAMME/FUND MANAGEMENT

This Section provides details of the programme and fund's management activities.

2.1 Legal & Organisational Structure

During the period under review, the Techstart Equity Funds have been constituted as limited partnerships and governed by Limited Partnership Agreements ('LPA'). In accordance with British Private Equity & Venture Capital Association guidance, the Funds have a Board of Advisers that represent the interests of the Limited Partners (Invest NI and the two universities, depending on the individual fund). The Proof of Concept Fund is governed by a Grant Management Agreement and a Services Agreement is in place for the Investment Awareness Programme.

The legal structure created by Pentech to manage the funds and provide investment services as a 'General Partner' is detailed below[31]:



As Fund Managers, Pentech has responsibility for all aspects of the Funds including:

- The establishment of 10-year limited partnerships (subject to extension in accordance with the LPA constituting the limited partnership) as the funding vehicles for the three equity funds.
- The investment cycle including identifying, making, managing and realising investments. Individual investment decisions and funding structures are at the sole discretion of the Fund Manager (subject to compliance with the Investment Policy and legal requirements outlined within the LPAs).
- Managing the funds on a fully commercial basis with equity subscription percentages to be at a level that appropriately reflects the risk profile.
- Monitoring/reporting on the funds as required by the limited partners at intervals as set out in the LPA.
- Managing and delivering the Proof of Concept Fund and Investment Awareness Programme in accordance with the respective legal agreements.

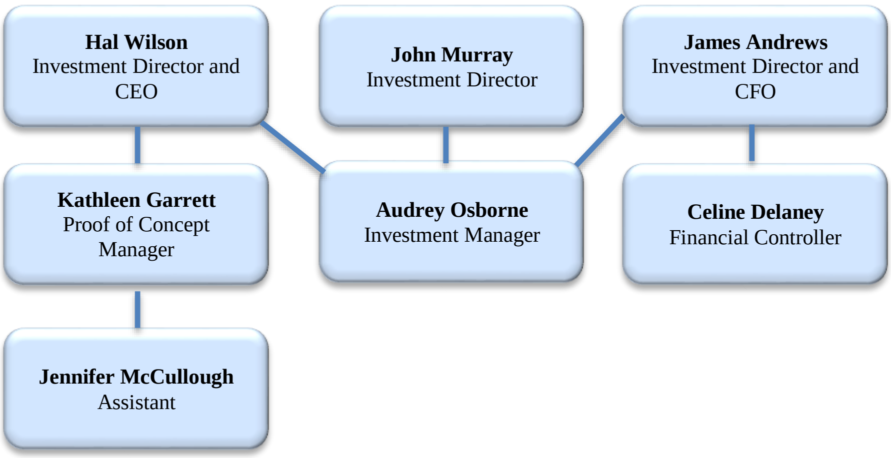
[31] NB During 2017, the Belfast Office's business transferred to TVLLP after the sales and purchase of the three funds' General Partners was agreed. Its completion was anticipated to occur on receipt by TVLLP of its FCA authorisation (application submitted 25th August 2017). In the interim period, TVLLP is operating as an Appointed Representative (PVLLP continues to be the Fund Manager) and is being remunerated on a back to back basis by PVLLP via an Investment Advisory Agreement. At the time of writing (December 2017), the transition phase was underway with a full change of control anticipated to be complete during the first half of 2018.

2.1.1 *Staff Structure*

Pentech employs a number of staff to administer the ‘front office’ aspects of the Funds. All staff members are experienced and have relevant experience in the equity/venture capital sector. Back office support is currently provided by the Pentech Edinburgh office, although this is expected to transfer to Belfast should consent to the change of control request be provided.

The Pentech team responsible for managing the Techstart NI Programme is detailed below:

Organisation Chart



In line with BVCA guidance, Techstart utilises Investment Committees for all investment decisions. These committees are formed whereby the deal lead (investment executive) seeks approval from a panel that is made up by other members of the fund management team. Neither Invest NI nor the universities are party to the investment decisions of the Funds.

Invest NI's Pentech contact and the Invest NI Programme Manager meet at least once every month to discuss matters relating to the Services.

2.2 Advisory Boards

For each equity fund, the General Partner has established an Advisory Board, whose functions are:

- To be consulted on local market developments;
- To provide guidance to the General Partner on any actual or potential conflicts of interest in respect of the Partnership as they arise;
- To review the valuations of Portfolio Companies;
- To review the general policies and guidelines for the Partnership; and
- To consider any question of whether an Investment falls within the Investment Policy.

The Advisory Boards’ consultative role includes:

- Monitoring the performance of the Fund, providing strategic input to marketing and deal flow and periodically reviewing and, if necessary, amending general policies and guidelines. They also advise on strategy at the point of exit, particularly towards the end of the life of the fund.
- To be available, among other things, to be consulted on local market developments and advise on any question of whether a prospective investment falls within the Investment Policy.
- To review and consider conflicts of interest brought to it by the Manager.

It is noted that the Advisory Boards are not entitled to take part in the operation or the management of the Partnership or to provide investment advice or carry on any form of regulated activities for the purposes of the FSMA.

For each Board, the General Partner has, at its sole discretion, invited at least five but not more than seven persons to join the Advisory Board being persons who are not Associates of the General Partner, the Manager or the Founder Partner. For the SME Equity Fund, Invest NI is entitled to appoint a representative on the Advisory Board and the Advisory Board shall not be quorate unless Invest NI's representative is in attendance. For the two university funds, each university is entitled to appoint three representatives onto the respective Board and Invest NI is entitled to appoint one representative on the Advisory Board and the Advisory Board shall not be quorate unless a representative of Ulster University/QUB (as appropriate to the individual fund) and a representative of Invest NI are in attendance. Members of the Advisory Board are selected on the basis of their relevant expertise and are selected from the business and professional community.

Instances where the Advisory Boards are required to make decisions include where there may be a requirement to:

- Enter into litigation for a value in excess of £5,000;
- Reduce the Manager's PI cover to below £2m and £10m (per claim and in aggregate respectively);
- Approve the appointment of a Key Executive;
- Invest greater than £750k in any one company.

The Advisory Board acts by simple majority and appoints one of its number to fulfil the office of chairman of the Advisory Board. Where the approval or consent of the Advisory Board is required in respect of the acquisition or disposal of any particular investment such approval or consent of the Advisory Board only permits. but does not commit the Partnership to making the Investment or allowing the disposal to occur. Any such commitment can only be made pursuant to a decision of the Manager in accordance with the terms of its Agreement.

In addition, Invest NI has the right for an executive of Invest NI to receive notice of and attend all meetings of the Advisory Board in an observer capacity but the executive is not a member of the Advisory Board and therefore has no voting or other rights (other than the right to receive notice and attend meetings).

Advisory Board meetings are typically held on a quarterly basis three times a year for the university funds), but can be held more frequently as the Manager may determine, provided that any member of the Advisory Board may itself convene further meetings.

2.3 Partnership Meetings

The Manager is responsible for convening a meeting of the Partnership in each Accounting Period and, in any event, not more than 2 months after completion of preparation of the accounts of the Partnership for the prior Accounting Period and may, whenever it thinks fit, convene other meetings of the Partnership. Any Limited Partners whose Commitments in aggregate represent 20% or more of Total Commitments may also, by notice in writing together with an agenda, requisition the Manager to call a meeting of the Partnership.

For each fund, no business shall be transacted at any general meeting unless a quorum of Partners is present at the time when the meeting proceeds to business; save as herein otherwise provided:

- For the SME equity fund, two Partners of which one shall be Invest NI and one shall be the General Partner, in each case present in person or *by* proxy shall constitute a quorum; or

- For the 2 university equity funds, three Partners of which one shall be Invest NI, one shall be the (respective) University and one shall be the General Partner, in each case present in person or by proxy shall constitute a quorum.

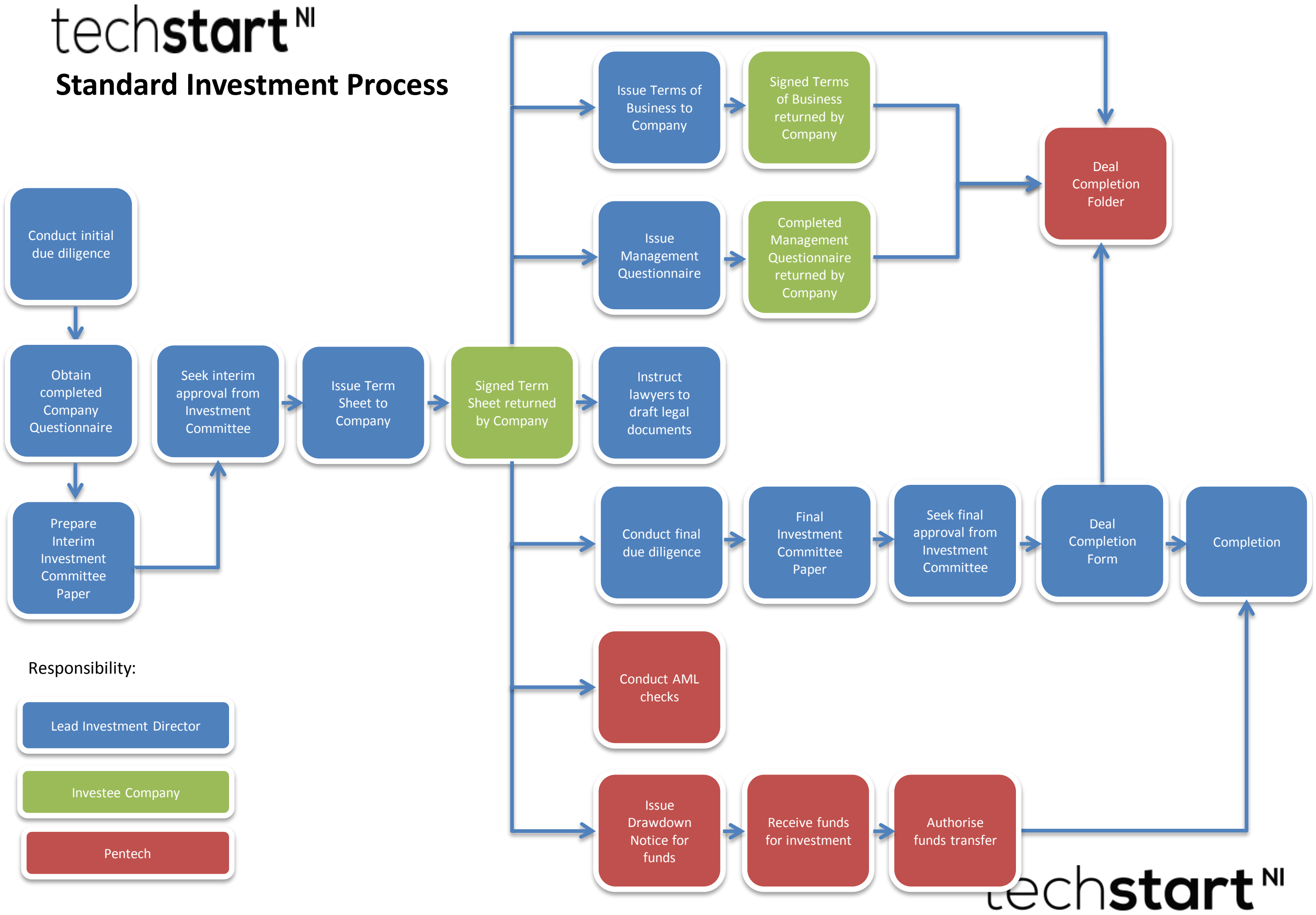
The chairman of the (respective) Advisory Board presides as chairman of every general meeting of the Partnership or if the chairman is not present or is unwilling to act, the directors of the Manager shall elect one of their number to be chairman of the meeting.

2.4 Processes

In managing the funds, the Fund Manager employs a series of processes, as summarised below:

Table 2.1: Fund Manager processes	
Process	**Key Activities**
Process for investment consideration	• Opportunity logging; • Weekly WIP (work in progress) meetings; • Preferred MO (modus operandi) of engagement; • What Pentech looks for: - Interesting market opportunities; - Big vision; - Factors that enable it to believe that it could be possible – people, networks, relationships; - Phases of growth/company building that in the early stages are right-sized to capital that Pentech and others can muster.
Process for investment making	The diagram overleaf illustrates the various steps employed in the investment making process, including: • Initial meetings and diligence moving towards team presentation • Lead Investment Director prepares Interim IC paper to sanction term sheet; • Additional diligence, AML and legal process in parallel; • Final IC paper, AML, legals signed and funds transferred.
Process for investment management	• Right to a Board seat; observer status fall back default – throttles with time and scale of investment considerations; • Information provision and board meetings; • Ex Board meetings assistance; • Reporting – LPs and Advisory Boards.
Reporting processes	• Monthly activity spreadsheet completion for Invest NI; • Quarterly reporting regime for all three equity funds, PoC and IAP programmes; • Annual economic statistics gathered for portfolio companies; • Annual audited accounts.
Oversight processes	• Each fund has separate Advisory Board; • SME fund meets every 3 months; • University Funds meet 3 times a year.

Process for investment making



2.5 **Reporting**

For each fund, as soon as is practicable after and in any event within 30 business days of the end of each Quarter, the Manager prepares and sends to each Limited Partner a report comprising:

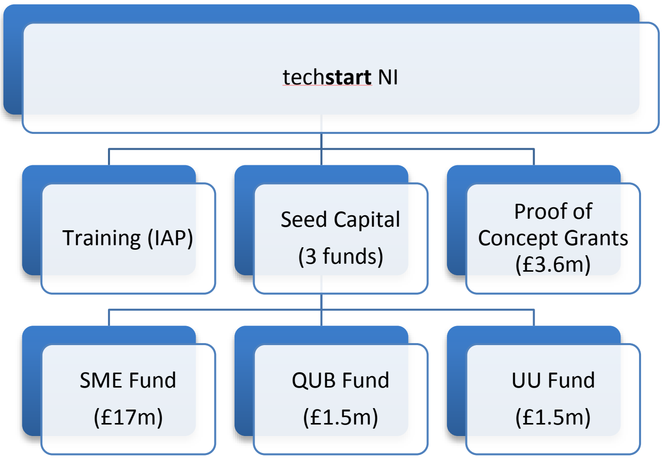
a) Details of the Investments purchased during the relevant period;
b) Details of Investments sold and otherwise disposed of during the relevant period;
c) A statement of all Investments and other property and assets of the Partnership together with a report on each Portfolio Company, including a brief commentary on the progress of Investments, a breakdown of the location of the operation of the Portfolio Companies by parliamentary constituency and the postcodes of the place of operation of the Portfolio Companies;
d) Details of the deal flow of Investments and potential Investments and the anticipated pipeline for the following Quarter;
e) A report in a form agreed with the Limited Partners on the performance of the Manager against the KPIs during the relevant period and the calendar year to date including against targets, prospects, leverage, marketing activities and progress made by the Portfolio Companies against the Enterprise Escalator;
f) A report on engagement with stakeholders by the Manager during the relevant period;
g) Quarterly unaudited accounts of the Partnership;
h) The Manager's unaudited Valuation of each Investment and a portfolio Valuation as at the end of the relevant quarter;
i) Such additional information as set out in the LPA Reporting Standards as may reasonably be requested by a Limited Partner; and
j) Details of any customer service complaints that have not been resolved to the satisfaction of the relevant customer.

In addition, the Fund Manager prepare reports and provides such information as is required by the Universities and Invest NI to meet their audit, monitoring and accounting requirements to the European Commission and other. For example, in respect of Invest NI's funding, the names of Portfolio Companies, the amount of each Investment, the sectors of activity and a brief description of the activities of the Partnership. In particular, as soon as practicable after and in any event within 30 business days of 31 March in each year the Manager is responsible for preparing and sending to the Universities and Invest NI a report showing the following in respect of the Portfolio Companies:

1. Increase in each Portfolio Companies turnover since receipt of the Investment
2. Increase in all Portfolio Companies collective turnover following receipt of Investments;
3. Number of additional jobs created and number of jobs that were in existence at the date of the first Investment that has been safeguarded by each Portfolio Company since receipt of the Investment;
4. Collective number of additional jobs created and number of jobs that were in existence at the date of the first Investment that has been safeguarded by all Portfolio Companies since receipt of Investments;
5. Increase in each Portfolio Company's GVA since receipt of the Investment
6. Increase in collective GVA for all Portfolio Companies in receipt of Investment
7. Private investor leverage for the equity funds; and
8. Progress made by the Portfolio Companies against the Enterprise Escalator.

2.6 Fund Management Agreements

A schematic of the 5 Techstart NI programme elements is featured below.



Prior to the appointment of Pentech to manage and operate the Techstart funds, a suite of agreements was developed to guide the implementation of the 5 individual elements. Albeit a number of the agreements have subsequently been revised. The agreements and amendments to the agreements are as follows:

1. An Investor Awareness Programme Services Agreement (9th July 2014)[32], and subsequent Deed of Variation (dated 2nd November 2015);
2. A grant management agreement (dated 9th July 2014) and subsequent Deed of Variation (dated 9th August 2015);
3. A Limited Partnership Agreement relating to the ‘Techstart NI SME Equity Limited Partnership’ (9th July 2014)[33] and subsequent Deed of Variation (dated 9th August 2015);
4. A Limited Partnership Agreement relating to the ‘QUB Equity Limited Partnership (9th July 2014)[34]; and
5. A Limited Partnership Agreement relating to the ‘Ulster Equity Limited Partnership’ (9th July 2014)[35].

Key aspects of the agreements, details of activity delivered and pertinent revisions to the agreements are provided in Section 3.

[32] Agreement between Invest NI and Pentech Ventures LLP.
[33] Agreement between Techstart NI SME Equity GP Limited (the ‘General Partner’); Techstart NI SME Equity SP Limited Partnership (the ‘Founder Partner’); and Invest NI.
[34] Agreement between Techstart NI GP 2 Limited (the ‘General Partner’); Techstart NI SP 2 Limited Partnership (the ‘Founder Partner’); The Queen’s University of Belfast and Invest NI.
[35] Agreement between Techstart NI GP 3 Limited (the ‘General Partner’); Techstart NI SP 3 Limited Partnership (the ‘Founder Partner’); Ulster University and Invest NI.

It is noted however that the agreements contain a large number of conditions to help ensure good governance and to reduce potential risks arising. For example, to help ensure conflicts of interest are avoided, the Limited Partnership Agreement includes the following restrictions on co-investment:

- The General Partner and the Manager shall not, and shall procure that none of their Associates or any of their respective officers, directors (or Connected Persons) shareholders, agents, partners or employees of the General Partner, Manager or other Associate shall make investments in Portfolio Companies or Associates of such companies or provide financing thereto in their own capacity.
- If the Partnership ceases to hold Investments in a Portfolio Company (otherwise than at the end of the life of the Partnership or its earlier termination in accordance with Clause 14) the General Partner and the Manager shall not, and shall procure that none of their Associates or any officers, directors, (or Connected Persons thereof) shareholders, agents, partners or employees of the General Partner, Manager or other Associate shall make any investment in such Portfolio Company until the expiry of 6 months after the disposal by the Partnership of its Investment in such Portfolio Company.
- No Investment shall be made in a company in which any of the Manager, the General Partner, any of their Associates, or any of their respective officers, directors, shareholders, agents, partners or employees is a shareholder.

Furthermore, for each Investment (whether a new Investment or a Follow-on Investment), the Manager is required to record and retain for audit purposes and include in its quarterly reports to Invest NI:

a) confirmation that the Investment complies with Article 21 or 22 of the GBER and which Article each investment has been made under; and
b) the funding strategy for each Portfolio Company (including the proposed timing and quantum of anticipated follow-on funding rounds and the strategy to secure private matched funding at the earliest opportunity) and details of progress made towards the delivery of such strategy; and
c) an explanation of the rationale for private matched funding not being appropriate or achievable in relation to any Investment or Follow-On Investment where it is not sought or secured.

2.7 Compliance with Articles 21 and 22 of GBER 2014

Techstart was launched in July 2014 and was notified under the GBER in September 2014. The notification was under the Risk Finance Aid and Aid for Start-Ups.

From Techstart's perspective, the recently (at that time) revised GBER required less matched funding than the previous GBER for start-up companies. This reflected the reality that it is more difficult for seed and early-stage businesses to attract private funding than later stage, more developed businesses. The revised rules meant that there was no requirement for matched funding under Aid for Start-Ups, whereas under Risk Finance Aid the matched funding required ranges from 10% to 60% depending on the stage of development of the business[36].

It is noted that the changes to GBER were considered to likely have an impact on the leverage of private funding in deals throughout the fund. Specifically, it was considered that the earlier PoC type deals would typically attract less private funding with more available for the larger first round deals and more again in follow-ons and Series A rounds[37]. Nonetheless, Invest NI recognised that private match is important as it provides external validation of a company's prospects and it also helps provide an additional runway for companies to achieve milestones. Leverage on a deal by deal basis and at a portfolio level is monitored with an overall target of at least 30% leverage across the portfolio[38]. However, this is not a legally binding KPI.

The Limited Partnership Agreement relating to Techstart NI SME Equity Limited Partnership (9th July 2014) identified that the following elements of Article 21 (Risk finance aid) and Article 22 (Aid for Start-ups) of the GBER were relevant for the Fund's Investment Policy:

[36] This compared to a straight 30% match funding for all deals under the previous Risk Finance regulations.
[37] Source: Invest NI's Request for Amendment to Techstart NI Approval (27 April 2015)
[38] Invest NI estimated that the average private match would be similar to that under NISPO.

a) For companies that are less than five years old as measured from the date of incorporation, that have not been formed by a merger and have not distributed profits, investment can be made without contemporaneous private sector investment. The maximum amount of support is €600,000. For small and innovative enterprises, the maximum amount is €1,200,000.
b) 'Innovative enterprise' means an enterprise:

    (i) That can demonstrate, by means of an evaluation carried out by an external expert that it will in the foreseeable future develop products, services or processes which are new or substantially improved compared to the state of the art in its industry, and which carry a risk of technological or industrial failure; or
    (ii) The research and development costs of which represent at least 10% of its total operating costs in at least one of the three years preceding the granting of the aid or, in the case of a start-up enterprise without any financial history, in the audit of its current fiscal period, as certified by an external auditor.

c) A company can receive support through a mix of aid instruments provided that the proportion of the amount granted through one aid instrument, calculated on the basis of the maximum aid amount allowed for that instrument, is taken into account in order to determine the residual proportion of the maximum aid amount allowed for the other instruments forming part of such a mixed instrument.
d) For companies at the start-up stage that has not been operating in any market, investment from the Partnership combined with a 10% investment from independent private investors will not place limits on future aid as per 6.1 above.
e) 'Independent private investor' means a private investor who is not a shareholder of the eligible undertaking in which it invests, including business angels and financial institutions, irrespective of their ownership, to the extent that they bear the full risk in respect of their investment. Upon the creation of a new company, private investors, including the founders, are considered to be independent of that company.

A company that meets either of the criteria in (a) to (b) below shall require matched investment from independent private investors should the Partnership seek to invest:

a) if it has been operating in any market for less than 7 years following its first commercial sale, then 40% of the new Investment or 60% of the Follow-On Investment must be from independent private investors. 'First commercial sale' means the first sale by a company of a product or service, excluding limited sales to test the market;
b) if it requires an initial risk finance investment which, based on a business plan prepared in view of entering a new product or geographical market, is higher than 50% of its average annual turnover in the preceding 5 years/ then 60% of the total investment must be from independent private investors.

Our review of the Fund Manager's records indicates that it monitors all investments made against the relevant GBER articles, as illustrated overleaf:

Table 2.2: SME Equity Fund – State Aid Summary from Initial Investment (at October 2017)[39]				
Company (by alphabetic order)	**Date of Investment**	**Article 21**	**Article 22**	**Comments**
Company A	11/12/2014		Yes	Article 22 (<5 Years old).
Company B	08/03/2016		Yes	Article 22 (<5 Years old).
Company B	10/10/2016	Yes		Article 21 match funding.
Company B	21/09/2017	Yes		Article 21 match funding.
Company C	12/09/2014	Yes		Article 21 match funding.
Company D	10/10/2016		Yes	Article 22 (<5 Years old).
Company D	14/06/2017		Yes	Article 22 (<5 Years old).
Company E	24/08/2017		Yes	Article 22 (<5 Years old).
Company F	30/01/2017	Yes		Article 21 match funding.
Company G	30/09/2014		Yes	Article 22 (<5 Years old).
Company H	16/10/2015	Yes		Article 21 match funding.
Company H	13/04/2017	Yes		Article 21 match funding.
Company I	26/09/2017		Yes	Article 22 (<5 Years old).
Company J	22/12/2014		Yes	Article 22 (<5 Years old).
Company J	19/06/2015		Yes	Article 22 (<5 Years old).
Company K	01/12/2016		Yes	Article 22 (<5 Years old).
Company L	16/03/2016		Yes	Article 22 (<5 Years old).
Company L	20/06/2017		Yes	Article 22 (<5 Years old).
Company M	07/04/2017		Yes	Article 22 (<5 Years old).
Company N	04/12/2015		Yes	Article 22 (<5 Years old).
Company N	30/01/2017		Yes	Article 22 (<5 Years old).
Company N	23/06/2017		Yes	Article 22 (<5 Years old).
Company O	15/12/2016		Yes	Article 22 (<5 Years old).
Company P	01/12/2016		Yes	Article 22 (<5 Years old).
Company Q	20/05/2015		Yes	Article 22 (<5 Years old).
Company Q	19/09/2016		Yes	Article 22 (<5 Years old).
Company R	23/12/2016		Yes	Article 22 (<5 Years old).
Company S	05/05/2015	Yes		Article 21 match funding.
Company S	27/05/2016	Yes		Article 21 match funding.
Company T	23/12/2016		Yes	Article 22 (<5 Years old).
Company U	23/12/2015		Yes	Article 22 (<5 Years old).
Company U	22/01/2016		Yes	Article 22 (<5 Years old).
Company V	23/09/2016	Yes		Article 21 match funding.
Company W	21/07/2016	Yes		Article 21 match funding.
Company W	13/06/2017		Yes	Article 22 (<5 Years old).
Company X	23/08/2017		Yes	Article 22 (<5 Years old).
Company Y	06/01/2015	Yes		Article 21 match funding.

[39] Please note that the items highlighted indicate that the investment could have been made under either Article 21 or Article 22.

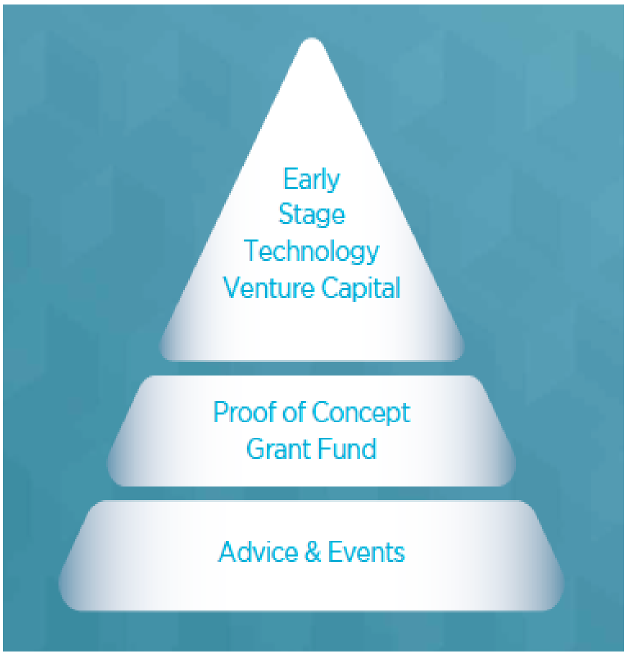
3. PROGRAMME ACTIVITY

This Section details key aspects of the programme agreements, activity delivered and pertinent revisions to the agreements.

3.1 Overall Techstart Activity

The diagram below provides a snapshot of Techstart activity at September 2017.

techstart NI Enterprise Escalator



New Investments (companies):	31[40]
Follow on Investments:	18
Techstart Invested:	£7.5m
Co-funders:	£9.6m
Co-funders from Outside NI:	45%
1st Time CEOs:	28

Applications:	471
Granted:	165
Granted:	£2.8m

Events:	180
Participants:	> 1000

Key points to note, which are explored in more detail in the subsequent sub-sections include:

- Techstart has participated in c.180 IAP events, and engaged with over 1,000 individuals through this channel;
- 471 applications for PoC Grants have been received, with 165 being awarded funding;
- 31 'new' companies have received equity investment, with 18 businesses receiving follow-on investments.

3.2 Investment Awareness Programme

3.2.1 The Original Agreement and Key Changes

The IAP Services Agreement (of 9th July 2014) established that it was anticipated that:

- The Manager would be responsible for providing a programme of IAP activities targeted at ambitious individuals and companies seeking to actively pursue third-party equity investment as a source of finance.
- IAPs would be provided on a bespoke basis with the intention of providing companies with an understanding of the investment process, how to prepare for investment and how subsequently to utilise investment funds to best effect. In particular, it was envisaged that the IAPs would address articulating the business case for investors and with the criteria that investors use when assessing business opportunities. IAPs will range from an overview of the requirements of the equity investor for very early stage companies to an enhanced programme for individuals and companies.

[40] Across all equity interventions

- The IAP would be managed and delivered by Pentech, leveraging its network of domain experts. The IAP would contain key modules on building a business plan; presenting to investors and raising finance; growing a business post-investment. However, it was noted that the NI market already had a number of organisations that engage in entrepreneurship coaching related to investment awareness. To that end, it was suggested that Pentech's IAP should enhance and complement these by utilising the VC and operational experience of the team to develop and deliver content on business planning, fundraising and on operational best practice.

The Evaluation Team notes that the original Investor Awareness Programme Services Agreement (9th July 2014) outlined that it was primarily anticipated that Pentech would deliver a structured series of IAP modules (summarised in Appendices 5 and 6) supporting the 3 main themes of:

1. Preparing for Investment;
2. Understanding the process of raising equity finance;
3. Utilising the investment funds to best effect.

Each of the themes was anticipated to be repeated on a rolling quarterly basis and constitute 12 IAP events annually, albeit it was recognised in the Services Agreement that the IAP will likely evolve over time based on participant feedback. In addition, it was anticipated within the Services Agreement that Pentech would launch two further IAP initiatives:

Start-up Weekends (of which there will be two per annum);	'Start-up Weekends' which were considered to be a proven format whereby tens of budding entrepreneurs come together to develop their ideas in a collaborative environment over the course of a weekend. For these events, Pentech proposed to enlist its network of entrepreneurs to inspire, educate and empower people and teams. Pentech proposed to run a minimum of two start-up weekends per annum and expected the output to be Proof of Concept Grant Fund or equity proposals.
Thematic Events (of which there will be four per annum).	Pentech also proposed to run quarterly Thematic Challenges, tailored specifically to the experience of the ecosystem. Topics were anticipated to include medical devices, software-as-a-service, security, and smart agri-food, with the best projects then being considered by Pentech for possible investment. It was considered that these events would help expand Pentech's network in specific investment sectors, leading to the identification of Entrepreneurs in Residence, mentors and individuals who would make a significant contribution to start-up teams.

This proposed rolling programme was intended to meet the annual KPIs required in the IAP Services Agreement (being at least 15 events, 75 attendees, and 68 companies per annum), albeit it was noted that the content and frequency of the modules and courses for the IAP would be subject to review on a quarterly basis.

However, discussion with both Pentech and Invest NI indicates that shortly into the contract period, it became clear to both parties that there was considerable 'investor awareness/readiness' activity already occurring within Northern Ireland including activity under programmes such as Invest NI's Propel, RBS' E-Spark programme and Catalyst Frameworks and also by private sector providers[41] such as accountancy or legal firms, who cover areas such as term sheets, business plans and intellectual property. Furthermore, Techstart was spending time with entrepreneurs as part of its selection processes (for both PoC and the Equity funds) and was sitting on a number of Boards (at the time of writing, 30), which was providing the Pentech team with unique insights into the real-world problems start-up CEOs were faced with. This activity had led both Invest NI and Pentech to see a gap in the market for events and activities catering to the ecosystem's need to upskill in particular areas. Such areas were considered to include crowdfunding, securing Series A investment, how to build an effective team and building strong business foundations.

[41] Indeed, Pentech subsequently partnered with a number of professional service providers in the delivery of information events within the ecosystem.

It is understood that the Fund Manager considered that its networks and years of experience in helping grow global technology companies would be better leveraged for the success of the NI community by delivering a tailored programme of more experiential advice focused on increasing the success and level of ambition in scale of companies that they could invest in; thus helping them get to Series A funding and beyond.

As a result, it was decided to substantially rescope the IAP element of the Techstart Programme from what had been originally proposed by Pentech, with the resulting IAP now consisting of a series of 'experience sharing' events and seminars and one-to-one advisory sessions that aim to address these real-world issues that it was considered were not fully addressed by the ecosystem (focused on the earliest stage companies). It is understood that these events are aimed at the life cycle of a company's journey from business formation, product creation, through to accelerating sales growth and exit. Many of the events and seminars are understood to enlist the experience of people from outside the region.

The IAP's Deed of Variation identifies that the key elements of the revised IAP would be:

- Getting to Series A funding and scaling;
- Hot topics relevant to the ecosystem (e.g. growth hacking);
- University-specific activities including Uni-POC commercialisation insights (e.g. initiatives such as Lean LaunchPad and SPUR); Start-up stimulation meetings.

As noted, specific focus was also placed on attempting to improve the yield of start-ups emanating from the Universities, through offering support to dedicated programmes such as the 'Lean Launchpad Programme'[42] by leveraging best practice in the market and aimed at encouraging commercial insight and discovery within early stage university projects.

In addition, it was expected that the Manager would provide 'Showcasing' events on a bespoke basis. These events were anticipated to be held both within Northern Ireland and outside, and would seek to address hot topics (including getting to Series A investment) in the technology startup ecosystem through bringing together experienced entrepreneurs, advisers and funders to share their experiences.

The key deliverable from the IAP is now stated as being to help companies and entrepreneurs understand, and through mentoring help deliver the commercial and structural progress they would need to have made (particular to their sector, business model etc.) to be in a position to have meaningful conversations with prospective Series A investors located in Northern Ireland, the Republic of Ireland, Great Britain and internationally.

The Manager committed to providing the revised IAP within the pre-existing IAP budget.

To reflect the above and the current (at that time) state of IAP provision in the market, the IAP Agreement (and KPIs) was amended, effective from July 2015.

[42] The Lean Launchpad programme is a 7 week pre-accelerator programme where university-based teams have the opportunity to: Validate their ideas in the market; Obtain funding (£1k per team) in support of customer discovery activities; Receive support from business mentors; Receive external feedback from a faculty of business experts; Investigate the most appropriate technology transfer route to market; and obtain up to £10k in additional funding upon successful completion of the programme for opportunities that merit it. The programme is being run by QUB Research and Enterprise in partnership with University of Ulster and is delivered by the Set Squared Partnership. Set Squared run the very successful, ICURe university pre-accelerator programme in England and Wales. All Lean LaunchPad NI projects require a team. The ideal team will typically be three individuals - the "Rower" (such as an Early Career Researcher), a Principal Investigator and an external business mentor. There is an expectation that the majority of the customer discovery activities will be carried out by the Rower.

This IAP series now consists of:

Table 3.1: IAP KPI Definitions	
Showcasing Events	Significant events which aim to hone in on specific areas and often involve external expertise. Showcasing events can be invitational to a tailored group or a wider gathering of the ecosystem. E.g. Leadership Academies.
Manager Led Event	Events which Pentech plans, organises and delivers to the ecosystem. Often these are smaller than the showcasing events but with the same aim of providing advice and information to the ecosystem. An example includes Digital Marketing.
Ecosystem Led Event	Events which Pentech participates in but does not plan, lending its experience and expertise at events its partners are delivering. E.g. Invent, Springboard, Espark participation.
University Commercialisation	Events targeted at the research community delivering modules and workshops on how to spin out, structure teams, IP etc. Pentech's main example of this is the Lean LaunchPad.
Post PoC Start UP advice	Pentech records the number of engagements with projects that are post-PoC stage but not yet at equity to ensure that it is providing assistance to all (these engagements are reported but not charged).
Series A Advice	Input provided to companies approaching a Series A round. This can include portfolio and non-portfolio companies (these engagements are reported but not charged).

3.2.2 *IAP Activity*

Information provided by Pentech provides evidence that since its introduction, Techstart's IAP has attracted a high level of interest from across Northern Ireland, with monitoring materials identifying that the IAP has been actively promoted through the techstart NI website and other channels.

Events have been organised covering a wide variety of topics and in a number of different locations, as well as additional market engagement activities including specific time spent developing portfolio companies and guiding those companies who are working towards next round funding.

Appendices 6 and 7 provide an overview of the showcasing and manager-led events implemented. However, in summary, key areas that the IAP events and seminars have focused on (to September 2017) include:

Table 3.2: Techstart IAP – Key Focus Areas (to September 2017)
• Business Planning – Lean Start-Up; • Growth Hacking: - Getting early traction; - Digital Marketing. • Hardware Manufacture (considering the challenges in bringing hardware products to market); • Leadership at the start-up stage and beyond; • Building a Great Team; • Sufficiency of cash runway & securing next stage funding: - Managing your cash runway; - Crowd Funding; - Series A. • Product Marketing and Product Management; • Exit approaches.

Reflecting the breadth of activity undertaken under IAP, Appendix 8 provides two case studies of IAP events that were held.

Discussion with Pentech indicates that it continues to engage with entrepreneurs on an ongoing basis to find gaps in the market for events and activities catering to the ecosystem's need to upskill in particular areas, and its future IAP activities will be directed towards topics the market expresses a need to learn more about or that the Manager considers, from experience, that the market would benefit from. The Manager anticipates that such events would continue to be delivered via experience sharing sessions and supplemented by one to one sessions with entrepreneurs on an ad hoc basis.

A variety of portfolio businesses have also engaged directly with the techstart NI Investment Team in relation to 'Post PoC Start-Up Advice' and 'Potential Series A/Scaling Advice'. The Evaluation Team notes that discussion with the Programme Manager indicates that when its personnel meet with portfolio business to discuss these topics, they do not in any way make them aware that they are 'receiving a product or service'. Instead, they simply offer them their perspective on the business and funding issues relevant to their particular set of circumstances.

Of note, the Manager has noted that Pentech is planning events that cover the topics of Exits, Product Management and Women in Start-Up Businesses.

3.2.3 *Achievement of IAP KPIs*

The original KPIs for the Investment Awareness Programme are summarised below:

Table 3.3: Investment Awareness Programme							
Activity	**From the Effective Date to 31 March 2015**	**Year ending 31 March**				**From 1 April to 30 June 2019**	**Total**
		2016	**2017**	**2018**	**2019**		
IAP Event	11	15	15	15	15	4	**75**
No. of Attendees	56	75	75	75	75	19	**375**
From no. of companies	51	68	68	68	68	17	**340**
Showcasing Events	1	2	2	2	2	1	**10**
Showcasing Participants	15	20	20	20	20	5	**100**
Total events	**12**	**17**	**17**	**17**	**17**	**5**	**85**

It was projected that at least 75% of IAP participant businesses would state they were 'investor aware'.

The original targets equated to at least 15 IAP events and 2 Showcasing Events per annum, 75 attendees from 68 companies or organisations per annum and 2 Showcasing Events with at least 10 participants per Showcasing Event; over 5 years, no less than 10 Showcasing Events and at least 100 participants and 375 attendees from 340 companies at IAP Events over the five years' period.

However, as discussed, the KPIs for the Investment Awareness Programme were revised with an effective date of July 2015. The tables below, therefore, reflect the Programme Manager's performance against the KPIs established for the period from July 2014 to March 2015, and subsequently (overleaf) those that were established for the period from July 2015 to date.

Table 3.4: KPI Performance in Period Performance Year (July 2014) to March 2015[43]			
	Target	**Actual**	**Variance**
Number of IAP Events Held	11	46	**+35**
IAP Event – Number of attendees	56	683	**+627**
From number of companies	51	521	**+470**
Showcasing events	1	2	**+1**
Showcasing event participants	15	147	**+132**

[43] Source: Techstart NI Investment Awareness Programme Report for the Quarter ended 31 March 2015

Table 3.5: Investment Awareness Programme KPIs (as per variation agreement July 2017)									
	Targets					Actual		Variance	
	Year Ending 31 March					Year Ending 31 March		Year Ending 31 March	
Target	**2016**	**2017**	**2018**	**2019**	**2019**	**2016**	**2017**	**2016**	**2017**
Manager led events	3	3	3	3	1	4	15	**+1**	**+12**
Ecosystem led events	6	6	6	6	1	36	37	**+30**	**+31**
Post-POC start-up advice (number of recipients)	10	10	10	10	3	14	18	**+4**	**+8**
Series A / scaling advice (number of recipients)	10	15	20	15	3	36	30	**+26**	**+15**
Showcasing events	2	2	2	2	0	2	2	**0**	**0**
Showing event participants	20	20	20	20	0	69	50	**+49**	**+30**
Uni Commercialisation/PoC insights (projects)	10	10	10	10	3	12	7	**2**	**-3**

The Evaluation Team's analysis of the information presented above indicates that the Programme Manager has, for the most part, met or exceeded all targets that were established for the IAP during the period July 2014 – March 2017. Only 1 of 19 targets was not met. In relation to this, it is noted that discussion with the Programme Manager indicates that the 'negative' variance was as a result of circumstances within the universities when it was not possible to execute the programme effectively before the end of the reporting year. In place of 'Lean Launchpad', Techstart continued to offer support and advice regarding commercialisation to university projects on an individual basis. The Lean Launchpad subsequently ran in May 2017 in cooperation with both universities.

3.3 **Proof of Concept Grants**

The grant management agreement (dated 9th July 2014) identified that the 'Grant Fund' had been established with a view to distributing £7.6m to the non-university 'technology' sector on a competitive basis. Successful applications were anticipated to have the potential to produce valuable intellectual property which may in the future be commercially exploited, in some cases via a spin-out company. Grants were to be distributed with a view to enabling Grant Beneficiaries to establish the commercial potential of a concept and to assist potential entrepreneurs to develop and test their projects, products and service ideas.

The purpose of the proof of concept stage funding is to enable successful applicants to develop innovative intellectual property and business ideas to a stage where they are in a position to license the intellectual property or incorporate a company and apply for conventional seed or other venture capital funding.

In assessing opportunities to make a Grant, the manager was expected to focus on the technology fit of an opportunity to its proposed application; the suitability of the emerging management team; signs of customer interest; and a substantiated view as to the potential revenue model going forward.

The (July 2014) Grant Management Agreement established that the grant would only be available to cover independent third-party costs incurred by the Grant Beneficiary and that grants would be tiered as follows:

1. **Mini-grants** (Concept Grants) at 100% grant rate of third-party costs, which may not exceed £10,000 in value. These were anticipated to focus on ascertaining market demand/readiness, assessing the competitive strengths and weaknesses of initial business concepts and establishing an IP rights strategy. Outputs were to include initial market research reports, initial business case reports, and concept development work.
2. **Standard grants** (Pathfinder Grants) at 100% grant rate of third-party costs, which may not exceed £40,000 in value, except in exceptional circumstances where the Manager might consider there to be special merit to award grants of up to £60,000, provided the total value of grant made did not exceed the £7.6m grant fund budget. These grants were anticipated to be made available for later-stage activities. Standard grants were expected to provide for prototype development, building the management team of a grant beneficiary; devising a development plan for the grant beneficiary etc. The major outputs were to be a confidential business plan (including an investment plan) and/or a growth action plan for the grant beneficiary.

An Assessment Panel comprising business people, business angels and entrepreneurs was established to decide upon the award of Standard Grants. Mini-grants that met the selection criteria could be made by the Manager.

In agreement with Invest NI, a key change in the fund occurred during mid-2015 with the restructuring of the Pathfinder Grants (of up to £40k) to become Concept Plus Grants (of up to £25k). It is understood that this change came about after Pentech proposed that the £40k standard grant could be reduced to £25k and deliver similar results to the previous £40k grant level. Invest NI subsequently undertook a consultation process that supported the argument put forward by Pentech and indicated that through better control of expenditure by PoC applicants and enabling own labour to be an eligible expenditure[44], that in many cases a £25k grant would provide similar scope for milestones to be achieved as the £40k grant. Subsequently, the parties agreed to vary the PoC Fund Grant Management Agreement, which was

[44] Previously, only third party costs were eligible for support. An example of the types of savings that were anticipated related to those PoC projects that involved the writing of code. It was considered that it did not make sense for this code writing to be outsourced if this could be done efficiently by the PoC applicant. Albeit it was recognised by both Invest NI and Pentech that safeguards would need to be introduced to ensure that a the change to enable own labour to be classified as eligible expenditure would not be abused by applicants. It is understood that the safeguards introduced were included in the PoC letters of offer and mirrored clauses in the standard Invest NI R&D offers.

set out in a deed of variation, with effect from 1 July 2015. The essence of the change to the PoC Fund was a reduction in size from £7.6 million to £3.6 million. This resulted in a lower targeted number of awards.

The Deed of Variation (dated 9th August 2015) therefore introduced a number of key changes to the fund, including:

- A reduction in the quantum of the 'Grant Fund' from £7.6m to £3.6m;
- A reduction in the maximum size of an individual Standard Grant from £40,000 to £25,000;
- A reduction in the Fund Manager's projected fees from £1,008,000 to £543,000 inclusive of VAT.

The original (per July 2014 Grant Management Agreement (GMA)) minimum number of Grants to be made per year for 5 years commencing on the Effective Date is set out in the table below:

Table 3.6: Minimum number of Grants to be Awarded (Original GMA)		
Period	**No. of grants to be awarded - Mini**	**No. of grants to be awarded - Standard**
From the Effective Date to 31 March 2015	30	21
Year ending 31 March 2016	40	28
Year ending 31 March 2017	40	28
Year ending 31 March 2018	40	28
Year ending 31 March 2019	40	28
From 1 April 2019 - 30 June 2019	10	7
Total	**200**	**140**

The revised (per August 2015 Grant Management Agreement) number of Grants to be made per year for 5 years commencing on the Effective Date is set out in the table below:

Table 3.7: Number of Grants to be Awarded (Amended GMA)		
Period	**No. of grants to be awarded - Mini**	**No. of grants to be awarded - Standard**
From the Effective date to 30 June 2015	36-44	24-32
Year ending 30 June 2016	26-34	6-10
Year ending 30 June 2017	26-34	6-10
Year ending 30 June 2018	26-34	6-10
Year ending 30 June 2019	26-34	6-10
Total	**160**	**62**

The August 2015 Grant Management Agreement set out the following additional KPIs:

Table 3.8: POC Original and Amended KPIs		
Annually	**Original KPI**	**Amended KPI[45]**
Grant funds committed	£1,320k to £1,720k	£1,320k to £1,720k (year 1)
		£450k - £550k (years 2 -5)
Five years		
Grant funds committed	£7.6 million	£3.6m

It was also projected that:

- A minimum of 10% of PoC recipients would progress to the equity funds.
- At least 50% of PoC recipients would participate in the IAP.

3.3.1 *PoC Grant Activity*

[45] The rationale for the amended KPIs is included in the casework amendment paper

Since its launch, both aspects of the PoC Fund have attracted a high-level of interest, with the techstart NI team actively promoting the Fund across Northern Ireland by participating at various presentations and events within the ecosystem and by maintaining a strong online presence.

As a result of the reshaping of the PoC Fund in 2015, the Manager implemented a new application process for the Concept Grants (of up to £10k) in July 2015, moving from awards being made on an open call basis to being awarded on a quarterly basis. Due to the low number of awards possible on an annual basis (a maximum of 10), the Manager now awards Concept Plus Grants bi-annually, albeit it has been agreed with Invest NI that the six-monthly calls for Concept Plus applications will be kept under review to see how a six monthly cycle works in practice.

Upon receipt of applications, the Manager conducts an eligibility check on the applications, with eligible applicants invited to present to the Manager. For 'Concept Plus' applicants, the Manager then selects a shortlist of applicants to progress to the next stage in the process, which is a presentation to the Fund Assessment Panel (AP)[46], which makes a recommendation as to whether the applicant should be awarded a grant. After due consideration of the AP's feedback, the Manager takes a decision as to whether to award a grant. All applicants whose applications are unsuccessful are offered the opportunity to receive feedback.

The Manager also maintains a record as to whether a grant has been awarded to a grant beneficiary on the basis of it being de-minimis aid or aid for a start-up, alongside information regarding the effectiveness of the Enterprise Escalator Model i.e. whether beneficiaries progress from the PoC Fund through the Investment Awareness Programme and the SME Fund.

The table below illustrates that during the period to 30 June 2017, 464 applications for POC support were received, of which just over a third (35% or 161) received funding:

Table 3.9: POC Grant Applications & Awards (at 30 June 2017)

	Concept Grants (Mini)		Pathfinder Grants & Concept Plus		Total	
	Received	Awarded	Received	Awarded	Received	Awarded
To 31 July 2015 (Under Original Application Process of Weekly Awards)	131	55	92	36	**223**	**91**
From 31 July 2015 to 30 June 2017 (Under New Application Process of Quarterly Awards)	192	55	49	15	**241**	**70**
Cumulative Actual from Beginning of Fund to 30 June 2017	**323**	**110**	**141**	**51**	**464**	**161**

46 NB The Manager appointed the AP after obtaining Invest NI's prior approval of each proposed member.

As illustrated, at the end of June 2017, the total number of PoC Grants awarded was 161. Of the PoC Grants awarded to that point, 126 had completed. The table below summarises key activity (to June 2017).

Table 3.10: POC Grant/Beneficiary Activity		
Metric		**No.**
Number of Awards	Concept Grant (Mini)	110
	Pathfinder / Concept Plus Grant (Standard)	51
	Total	**161**
Total Quantum of Funds awarded		£2,812,950
No. of unique businesses/individuals in receipt of funding		146
No. of POC beneficiaries that have received Techstart NI SME Funding		14 (10%)
No. of POC beneficiaries that have attended IAP		56 (38%)
No. of POC grants awarded under De-Minimis		5
No. of POC grants awarded under Aid for Start-Ups		156
No. of POC beneficiaries that have pitched at Halo		16
No. of POC beneficiaries that have participated in Propel		29
No. of POC beneficiaries that have participated in Startplanet NI		5

Key points to note include:

- Of the 161 awards, 110 have been for Concept Grants (Mini), whilst 51 have been Pathfinder or Concept Plus Grants. A total of 146 individual businesses received PoC grant awards;
- A total of just over £2.8m has been awarded.
- 5 of the 161 awards were awarded under 'De Minimis', whilst the remaining 156 were awarded under 'aid for start-ups';
- In relation to the 'enterprise escalator', 56 (38%) of the 146 businesses had attended an IAP event or seminar, whilst 14 (10%) had received a Techstart SME equity fund investment;
- In relation to linkages with the ecosystem, 16 of the 146 businesses pitched to the Halo Business Angel network, 29 were Propel participants and 5 were Startplanet NI participants.

3.3.2 Achievement of PoC KPIs

The Tables overleaf illustrate the Fund Manager's performance (to June 2017) against the KPIs established for the PoC Grant Fund. Key points to note include:

- There has been strong demand throughout the period under review for PoC grants, with a total of 464 applications received and 161 awards.
- Cumulative targets for both the Concept Grants (Mini) and the Pathfinder & Concept Plus Grants were set in ranges. At the end of June, the upper end of both ranges (88-112 and 36-52 respectively) provide a combined total of 164 awards. With 161 actual awards at June 2017, it is evident that the fund is performing strongly.
- This performance is against the background of the restructuring of the Pathfinder Grants (which was agreed with Invest NI) during Quarter 2 of 2015, to be replaced by Concept Plus Grants;
- Subsequent changes to the PoC Fund during Quarter 3 2015 included a change to the KPIs and new targets were agreed as per the table overleaf.

Table 3.11: POC KPI Targets				
		Q3 2014 – Q2 2015	Q3 2015 – Q2 2016	Q3 2016 – Q2 2017
Award of Concept Grants (Mini) up to £10,000	Current Year	36-44	26-34	26-34
	Cumulative (range)	36-44	62-78	88-112
	Cumulative (mid-point)	40	70	100
Award of Pathfinder & Concept Plus Grants	Current Year	24-32	6-10	6-10
	Cumulative (range)	24-32	30-42	36–52
	Cumulative (mid-point)	28	36	44
Total Cumulative (mid-point)		**68**	**106**	**144**

Table 3.12: POC Actual Activity				
		Q3 2014 – Q2 2015	Q3 2015 – Q2 2016	Q3 2016 – Q2 2017
Award of Concept Grants (Mini) up to £10,000	Current Year	49	34	27
	Cumulative	49	83	110
Award of Pathfinder & Concept Plus Grants	Current Year	36	6	9
	Cumulative	36	42	51
Total Cumulative (mid-point)		**85**	**125**	**161**

Table 3.13: POC KPI Variance from Mid-Point of Target Ranges				
		Q3 2014 – Q2 2015	Q3 2015 – Q2 2016	Q3 2016 – Q2 2017
Award of Concept Grants (Mini) up to £10,000	Cumulative	+9	+13	+10
Award of Pathfinder & Concept Plus Grants	Cumulative	+8	+6	+7
Total Cumulative (mid-point)		**+17**	**+19**	**+17**

3.4 SME Seed Equity Fund

The Limited Partnership Agreement relating to Techstart NI SME Equity Limited Partnership (9th July 2014)[47] established that:

- The purpose of the partnership is to carry on the business of an investor in accordance with the Investment Policy exclusively in unquoted seed and early stage SMEs engaged in or investing in the technology sector incorporated and resident in, or established in, or which have substantial operations based in NI.
- Such investments shall be in the deal size range of £50,000 to £250,000 (at the time of investment) and shall include but shall not be limited to the purchase, subscription, acquisition, sale and disposal of shares, debentures, convertible loan stock and other securities the SMEs, and for follow-on Investments only, in unquoted companies, and the making of loans whether secured or unsecured to such companies in connection with equity or equity-related investments, provided that all such Investments shall always fall within the Investment Policy.

Under the terms of the agreement, Invest NI subscribed for a Commitment which, in aggregate, equalled £17,500,175, which was later (5th August 2015)[48] varied to increase to £21,965,175, which was represented by a Capital Contribution and a Loan Commitment, as follows:

[47] Agreement between Techstart NI SME Equity GP Limited (the 'General Partner'); Techstart NI SME Equity SP Limited Partnership (the 'Founder Partner'); and Invest NI.
[48] Deed of Variation - Relating to The Limited Partnership Agreement Dated 9 July 2014 Relating To The Techstart NI SME Equity Limited Partner (5th August 2015)

Table 3.14: Capital Contributions and Loan Commitment					
		Original Agreement of 9th July 2014		Per Deed of Variation of 5th August 2015	
		Commitment	Representing	Commitment	Representing
Capital Contribution		£175	0.001%	£175	0.0008%
Loan Commitment	Investment Commitment	£13,000,000		£17,000,000	
	Payment of General Partner's Shares	£4,500,000		£4,965,000	
	Sub-Total	**£17,500,000**	**99.999%**	**£21,965,000**	**99.9992%**
Total		**£17,500,175**	**100%**	**£21,965,175**	**100%**

Invest NI's Loan Commitment was initially made up of:

1. a loan commitment of £13,000,000 (the 'Investment Commitment') which was made for the purpose of making New or Follow-On Investments and to meet any liabilities or obligations of the Partnership other than in respect of the General Partner's Share; and
2. a loan commitment of £4,500,000, which was "made to enable the payment of the General Partner's Share, any interest-free loan pursuant to Clause 8.4 and to meet any liabilities or obligations of the Partnership to the extent that such liabilities or obligations cannot be met in full out of the Investment Commitment.

The August 2015 Deed of Variation saw Invest NI's Loan Commitment increase to:

- An investment commitment of £17,000,000; and
- A loan commitment of £4,965,000 to enable the payment of the General Partner's Share and other items per point 2 above.

Alongside Invest NI's commitment, the General Partner agreed to invest and maintain a capital commitment of £1; whilst the Founder Partner agreed to invest and maintain a capital commitment of £45[49].

The General Partner's Share for each Accounting Period is anticipated to be as follows:

Table 3.15: General Partner's Share		
Year ending	**General Partner's Share[50]**	
	Per Original Agreement of 9th July 2014	**Per Deed of Variation of 5th August 2015**
From Effective Date to Y/E 31 March 2015	£450,000	£450,000
March 2016	£600,000	£669,750
March 2017	£600,000	£693,000
March 2018	£600,000	£693,000
March 2019	£600,000	£693,000
March 2020	£525,000	£618,000
March 2021	£425,000	£448,250
March 2022	£325,000	£325,000
March 2023	£225,000	£225,000
March 2024	£125,000	£125,000
From 1 April 2024 to 30 June 2024	£25,000	£25,000
Total	**£4,500,000**	**£4,965,000**

[49] The agreement notes that on the Final Closing Date the Founder Partner shall be required to increase or shall be deemed to have forfeited part of its Capital Contribution so that from and after the Final Closing Date the aggregate amount of the Capital Contributions subscribed by it as founder partner, equals 20% of the total Capital Contributions subscribed or committed to be subscribed to the Partnership at the Final Closing Date.

[50] NB It is expected that if the Partnership Expenses during the previous Accounting Period, exceed the amount of the General Partner's Share for the relevant Accounting Period, such amounts shall be carried forward and be payable from the General Partner's Share in subsequent Accounting Periods.

3.4.1 SME Equity Fund Key Amendments

As noted above, a key amendment was made to the SME Equity Fund during August 2015. This change occurred concurrently with the change made to the PoC fund (see Section 3.3). Invest NI's Casework Papers[51] note that the findings of consultations undertaken by Invest NI personnel and a review of a recent (at that time) consultancy report[52] identified a need to place more of an emphasis on outcomes rather than the number of deals done and that the quality of projects supported was more important than the quantity. However, it was also recognised that as the fund is designed to address market failure, it was also important to ensure that the fund manager invested across a range of SMEs and was not enabled to become too selective and so as to provide too much funding to any one company at the expense of other portfolio companies or applicants who not reaching an investment barrier deemed too high.

The casework paper noted that it was important that the fund manager operate in a commercial manner and to have the ability to protect the fund's position in Series A and B rounds. It was considered that this would help to incentivise the manager to maximise the financial return to Invest NI and keep them focused on portfolio management in the final few years of the fund's life. In addition, it was suggested that:

- There was also a danger that if the portfolio size became too large, the manager might be unable to provide sufficient input to each company and that the potential success of the portfolio businesses might be limited.
- There was also a need to ensure that companies had sufficient initial funding to put in place an effective team and to be able to achieve meaningful milestones without the constant need to be in fundraising mode.

These findings suggested a requirement for higher average initial investment rounds.

At the outset, it had been anticipated that there would be equity investments in c.65 companies over a five-year period, with 30% of the £13m fund retained for follow-on investments in the five-year realisation phase of the fund. This equated to an average investment per company of £200,000. Budgeted deal flow had been based on experience in the NISPO I fund. However, by 2015, Invest NI considered that during NISPO I too little funding may have been retained to support companies to reach milestones that would enable them to source additional external funding. The suggested amendment, therefore, proposed to take account of the cost of putting in place a sufficient initial team and to provide that team with sufficient time to reach meaningful milestones (say three to four people with an average initial salary of £40k and a one-year runway of funding). The proposed amendment also recognised that the retention of sufficient follow-on funding to improve the prospects of successful Series A funding rounds was important. Invest NI's analysis, consultation and benchmarking indicated that the average investment size, per company, for the fund should be significantly larger than previously forecast.

It was considered that the additional £4m which was proposed to be allocated to the SME Equity Fund from the PoC fund (see Section 6.3) would further support the achievement of the fund's requirements as detailed above. In addition, it was considered that a number of the £40k PoC grant applications were likely to move directly to equity (convertible debt) funding. In relation to this grouping, Pentech had advised Invest NI that their aim was to encourage the formation of teams, even at the PoC stage, and to help this happen it was necessary to provide additional funding. However, it was considered likely that a number of these deals would include situations, where the initial team would be made up of two entrepreneurs and a funding round below £100k, might be appropriate. This view was supported by Invest NI's consultation process.

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[51] Request for Amendment to Techstart NI Approval (dated: 27th April 2015)
[52] "The Future of Early Stage and Growth Finance in Northern Ireland" report which was completed for DETI in March 2015

As discussed in Section 3.4, the permitted deal size in the original approval was £50k - £250k, with an overall cap on the investment in any one company being £500k. Recognising that there are some start-ups that required additional funding to reach milestones, that follow-on funding can help to secure other external funding and allows the fund manager to participate in later rounds, it was subsequently proposed (at the time of the amendment) that the cumulative cap on investment in any one company should be increased to £750k. However, it was also recommended that in exceptional circumstances, the fund should have the capacity to invest up to £1m in any one company following Invest NI's consent. It was considered that the initial deal size range remained appropriate, but that the average initial deal size was now likely to be larger than initially forecast.

In summary, it was determined by Invest NI (on the basis that the quality of investments was more important than the number of portfolio companies) that a more appropriate target for the SME Equity fund would be to invest in c40-50 companies. On the basis of an increased fund size of £17m, this would then equate to an average investment, including follow-on investments of between £340k and £425k per company.

3.4.2 *SME Equity Fund Activity*

The Techstart NI SME Equity Limited Partnership (the "SME Fund") was formed on 9 July 2014. Since that point, the Fund Manager has undertaken extensive activity and engagement with key stakeholders in order to promote the fund. Appendix 9 provides a snapshot of this activity.

At 30 June 2017, there had been a total of 22 company investments (and 11 follow-on investments) since the inception of the Fund. The table below summarises investment activity through the SME fund to 30 June 2017.

Table 3.16: SME Fund Investments

Year	Quarter	No. of Investments		Value of Investments			No. of Exits
		New	Follow-On	New	Follow-On	Total	
2014	Q3	2		306,006		306,006	
	Q4	2		135,000		135,000	
	Total	**4**	**0**	**441006**	**0**	**441,006**	**0**
2015	Q1						
	Q2	2	1	284,201	25,000	309,201	
	Q3						
	Q4	3	0	485,000		485,000	
	Total	**5**	**1**	**769201**	**25000**	**794,201**	**0**
2016	Q1	3	1	700,000	115,000	815,000	
	Q2	1	1	200,000	207,440	407,440	1
	Q3	1	1	250,000	150,000	400,000	
	Q4	6	1	1,170,068	19,998	1,190,066	
	Total	**11**	**4**	**2,320,068**	**492,438**	**2,812,506**	**1**
2017	Q1	1	1	150,000	250,000	400,000	
	Q2	1	5	200,000	429,990	629,990	
	Total	**2**	**6**	**350,000**	**679,990**	**1,029,990**	**0**
Total 2014-17		**22**	**11**	**3,880,275**	**1,197,428**	**5,077,703**	**1**

As illustrated, there was one exit (made during 2016). This decision was made as a result of concerns relating to the business' commercial progress and prospects.

The tables overleaf provide details of the investment portfolio at 30th June 2017. The Fund Manager considers that all investments are valued at fair value. In respect of unquoted investments, these are recognised initially at cost and subsequently fair valued using a methodology that is consistent with the International Private Equity Guidelines (IPEG). In accordance with IPEG, this means that investments may be valued using an earnings multiple, which has been discounted or premium applied which adjusts for points of difference to appropriate stock market or comparable transaction multiples. Alternative methods of valuation may include the application of an arm's length third party valuation, a provision on cost or a net asset value basis.

Table 3.17: Overview of Recipient Companies at Q1 2017

Company (by Alphabetic Order)	Date Initial Investment	Sector	Head Office	Main Areas of Operation	Invested to 30th June 2017	Uplift/ (Provision)	Current Valuation	Uplift/ (Provision)
Company A	Dec-14	Content marketing	Belfast	UK	£60,000	-£60,000	-	-100%
Company B	Mar-16	Neurological monitoring	Belfast	UK	£269,998	-	£269,998	0%
Company C	Sep-14	High-tech robotics	Belfast	UK, US	£156,006	-£156,006	-	-100%
Company D	Nov-16	Parts management	Belfast	UK	£174,999	£53,000	£227,999	30%
Company E	Feb-17	Marketing automation	Belfast	UK	£150,000	-	£150,000	0%
Company F	Sep-14	Music promotion	Belfast	UK	£150,000	-£150,000	-	-100%
Company G	Oct-15	Website optimisation	Belfast	UK	£375,000	-£66,105	£308,895	-18%
Company H	Dec-14	Power meters	Antrim	UK	£100,000	-£100,000	-	-100%
Company I	Nov-16	Locum service	Belfast	UK	£200,000	-	£200,000	0%
Company J	Mar-16	Election software	Derry	UK	£349,999	-£125,000	£224,999	-36%
Company K	Apr-16	Anti-natal depression	Belfast	UK	£200,000	-	£200,000	0%
Company L	Dec-15	Slimming device	Antrim	UK	£500,000	-	£500,000	0%
Company M	Dec-16	P2P comparison website	Belfast	UK	£199,999	-	£199,999	0%
Company N	Mar-16	Performance Analytics	Belfast	UK	£200,100	-	£200,100	0%
Company O	May-15	Chemical analysers	Belfast	UK	£300,000	-	£300,000	0%
Company P	Dec-16	Savings website	Belfast	UK	£249,897	-	£249,897	0%
Company Q	May-15	Cemetery management	Antrim	UK, US	£341,641	£58,359	£400,000	17%
Company R	Dec-16	Business analytics	Belfast	UK	£200,171	-	£200,171	0%
Company S	Oct-16	Intelligent bicycle lights	Newtownards	UK	£250,000	-	£250,000	0%
Company T	Jul-16	Emotions monitoring	Belfast	UK, US	£300,000	-	£300,000	0%
Company U	Jun-16	Content & network processing	Belfast	UK	£200,000	-	£200,000	0%
Total					**£4,927,810**	**-£545,752**	**£4,382,058**	**-11%**

Table 3.18: Overview of Exiting Company

Company name	Date of Investment	Date of Disposal	Total Investment	Gain (Loss) on Disposal	Aggregate proceeds	Realised gain (loss)	IRR
Company V	Dec-15	Jun-16	£150,000	(£137,500)	£12,500	(91%)	(99.6%)
Totals			**£150,000**	**(£137,500)(**	**£12,500**	**(91%)**	**(99.6%)**

As illustrated below, the aggregate portfolio valuation at 30 June 2017 was £4,382,058 which represents a reduction of 11% on investment cost. The 'Total Value to Paid In' ratio (TVPI) is 0.65 and the investment IRR is (13.0%). The 'Distributions to Paid In' (DPI) ratio is 0.00.

Table 3.19: Net Assets Valuation at 30 June 2017

	£	NAV per £ committed
Investments at cost	4,927,810	0.22
Investments revaluations	-545,752	-0.02
Investments at valuation	4,382,058	0
Other net assets	650,006	0.03
Net assets	5,032,064	0
Drawn Commitments	7,714,470	0.35
Less capital distributions	-12,500	-
Net Drawn	**7,701,970**	**0**

Other notable SME Fund activities (to June 2017) include:

- A first investment had been completed alongside the BBB Angel CoFund with a second having passed through the Investment Committee and in 'legals' (at that time);
- Substantive relationships had been formed with a number of key crowd-funding forums, with a number of investee companies securing or seeking to secure further funding through that means;
- The Fund Manager had facilitated initial meetings between ADV and some of its portfolio companies and other parties;
- An investee business was in advanced discussions with First Derivatives around leading a Series A round of investment.

3.4.3 *Achievement of SME Equity Fund KPIs*

The original and amended KPIs for the SME Seed Equity Fund are summarised overleaf, alongside the Evaluation Team's understanding of the progress of the SME Seed Equity Fund at 30th June 2017 against the amended KPIs[53]:

Invest NI's Terms of Reference for this evaluation further notes that it was projected that at least 20% of the businesses supported by the Equity Funds would progress to later stage funds. Information provided by the Fund Manager indicates that (at June 2017):

- 2 investee businesses with initial investments of less than or equal to £150,000 (categorised by the Fund Manager as being Type A investments) have progressed to Series A potential[54]; whilst
- 6 investee businesses with initial investments of between £150,000 and £250,000 (categorised by the Fund Manager as being Type B investments) have progressed to Series A potential[55].

[53] Based upon a review of the various Fund reports up to that date
[54] Companies D and Q
[55] Companies B, I, L, R, S and T.

Table 3.20: SME Equity Fund Original and Amended KPI (and Commentary on Position at 30th June 2017)

Annually	Original KPI	Amended KPI	Position at June 2017 (i.e. after 3 years)	Commentary
The number of Investments per annum in companies not already a Portfolio Company for the first five years of the Term.	11-15	7 - 11[56]	22 New (& 11 Follow-On)	Within broad target range. At 30 June 2017, there had been a total of 22 new company investments (and 11 follow-on investments) since the inception of the Fund, which is at the lower end of the KPI target range assuming a flat linear profile (i.e. 21 - 33 new investee companies)
To operate in the deal size range of	£50,000 to £250,000	£50,000 to £250,000	Achieved	On target
The proportion of Investment Commitment to be drawn down and invested over the first five years of the Terms	70% (minimum)	70% (minimum)	£5,555,000 drawn and £5,077,810 invested	The amended investment commitment over the life of the fund is £17m. Whilst the KPIs in the LPA do not provide an annual breakdown, Invest NI's casework papers suggested that it was anticipated that between 12%-16% of the Investment Commitment would be drawn down during each of the first 5 years. This equates to projected drawdown of £2,040,000 - £2,720,000 per annum. Based upon a theoretical linear drawdown the fund is behind target by between 9%-32%. Whilst a linear drawdown is unlikely to be practical in real life and mindful of not undermining the fund's commercial focus, nonetheless performance against this KPI will require careful monitoring over the remaining two years of the fund's initial 5-year period, to assess whether the anticipated investment commitment remains achievable. Discussion with the Fund Manager indicates the view that the target is still achievable and the flexibility introduced through the amended LPA relating to the size of allowable investments will facilitate this.
Drawdown - for years 6 to 8	8%-12%	8%-12%	N/A	Not yet applicable
Company stage	Seed and early stage	Seed and early stage	Achieved	Achieved
Five years				
The number of new company investments over the first five years of the Term	65	40 - 50	22 New (& 11 Follow-On)	Just below target range. This target is a 5-year year target. Assuming a flat linear profile the year three target range is 24 - 30. At 30 June 2017, there had been a total of 22 company investments (and 11 follow-on investments) since the inception of the Fund.
To drawdown and invest at least 70% of the Investment Commitment over the first five years of the Term.	70% of Fund	70% of Fund	£5,555,000 drawn and £5,077,810 invested	As above.
To drawdown and invest the remaining Investment Commitment between year six and the end of year eight of the Term.	30% of Fund	30% of Fund	N/A	N/A
Other				
To make Investments only within the Investment Area.			Achieved	On target
To ensure the Key Executives devote substantially all of their working hours to the management and control of the Partnership whilst in the employ of the Manager			Achieved	On target

[56] The five year target was for 40 - 50 new company investments; the annual range was broader to allow for variability in the number of new company investments each year.

3.5 2 x University Equity Funds

The Limited Partnership Agreements relating to the two university equity funds (both dated 9th July 2014) establish that:

- The purpose of the partnership is to carry on the business of an investor in accordance with the Investment Policy and in particular but without limitation to identify, research, negotiate, investment opportunities and make and monitor the progress of and sell, realise, exchange or distribute investments exclusively in unquoted seed and early stage SMEs for the development of post-research post proof of concept spin-out/spin-in businesses from UU/QUB (respectively) including from the technology sectors related to the UU/QUB research base.
- Such investments shall be in the deal size range of £50,000 to £250,000 (at the time of investment) and shall include but shall not be limited to the purchase, subscription, acquisition, sale and disposal of shares, debentures, convertible loan stock and other securities the SMEs, and for follow-on investments only, in unquoted companies, and the making of loans whether secured or unsecured to such companies in connection with equity or equity-related investments, provided that all such Investments shall always fall within the Investment Policy.

Under the terms of the agreement, both UU and QUB respectively subscribed for a Commitment which, in aggregate, equalled £1,500,015, whilst Invest NI subscribed for a Commitment (in each of the two funds) which, in aggregate, equalled £625,006 which were represented by Capital Contributions and Loan Commitments, as follows:

Table 3.21: Subscribed Commitment

		Original Agreement of 9th July 2014			
		Each university Respectively		Invest NI (per Fund)	
		Commitment	Representing	Commitment	Representing
Capital Contribution		£15	0.001%	£6	0.001%
Loan Commitment	Investment Commitment	£1,500,000			
	Payment of General Partner's Shares			£625,000	
	Sub-Total	**£1,500,000**	**99.999%**	**£625,000**	**99.999%**
Total		**£1,500,015**	**100%**	**£625,006**	**100%**

The loan Commitment of both universities was made for the purpose of making new or follow-on investments and to meet any liabilities or obligations of the Partnership other than in respect of the General Partner's Share. The loan Commitment of Invest NI was made to enable the payment of the General Partner's Share, any interest-free loan[57] and to meet any liabilities or obligations of the Partnership to the extent that such liabilities or obligations cannot be met in full out of the Investment Commitment.

Alongside the Universities' and Invest NI's commitment, the General Partner agreed to invest and maintain a capital commitment of £1; whilst the Founder Partner agreed to invest and maintain a capital commitment of £5.50[58].

The General Partner's Share for each Accounting Period (for each fund) was anticipated to be £625,000 (discussed further in Section 6.4).

[57] Pursuant to Clause 8.4 of the Agreement.

[58] The agreement notes that on the Final Closing Date, the Founder Partner shall be required to increase or shall be deemed to have forfeited part of its Capital Contribution so that from and after the Final Closing Date the aggregate amount of the Capital Contributions subscribed by it as founder partner, equals 20% of the total Capital Contributions subscribed or committed to be subscribed to the Partnership at the Final Closing Date.

3.5.1 *Activity – QUB Fund*[59]

During the period to 30th June 2017, four new (totalling £410,027) and 2 follow-ons (totalling £185,150) investments were made in the QUB Equity Fund, as summarised in the tables below, with a summary of key activity and developments within the 4 investee businesses is provided in Appendix 18:

Table 3.22: QUB Portfolio Summary (at 30th June 2017)

Company	Date of Initial Investment	Sector	Head Office	Main Areas of Operation	Invested to 30th June 2017	Uplift/ (Provision)	Current Valuation	Uplift/ (Provision)
Company A	Jan-15	Content & network processing	Belfast	UK	£300,000	-	£300,000	0%
Company B	Feb-15	Musical synthesisers	Belfast	UK and Europe	£195,150	-	£195,150	0%
Company C	Nov-16	Biometric authentication	Belfast	UK	£50,027	-	£50,027	0%
Company D	Apr-17	Drug delivery	Belfast	UK	£50,000	-	£50,000	0%
Total					**£595,177**	**-**	**£595,177**	**0%**

Table 3.23: QUB Equity Fund Investment Activity by Quarter

		New Investments	Follow on Investments	Value of New	Value of Follow-on	Total investment
2014	Q3	-	-	-	-	-
	Q4	-	-	-	-	-
2015	Q1	2	-	£310,000	-	£310,000
	Q2	-	-	-	-	-
	Q3	-	-	-	-	-
	Q4	-	-	-	-	-
2016	Q1	-	-	-	-	-
	Q2	-	2	-	£185,150	£185,150
	Q3	-	-	-	-	-
	Q4	1	-	£50,027	-	£50,027
2017	Q1	-	-	-	-	-
	Q2	1	-	£50,000	-	£50,000
Grand Total		**4**	**2**	**£410,027**	**£185,150**	**£595,177**

[59] Source: QUB Fund Advisory Group Meeting (16th May 2017)

As illustrated below, the aggregate portfolio valuation at 30 June 2017 was £597,177, with no alterations paid to the investment values vis-à-vis the initial investment costs.

Table 3.24: QUB Net Assets Valuation at 30 June 2017		
	£	NAV per £ committed
Investments at cost	595,177	0.28
Investments revaluations	-	-
Investments at valuation	**595,177**	**0.28**
Other net assets	219,601	0.10
Net assets	**814,778**	**0.38**
Drawn Commitments	1,039,778	0.49
Less capital distributions	-	-
Net Drawn	**1,039,778**	**0.49**

In terms of the Enterprise Escalator, one of the investees' CEOs had participated in the Propel programme and had attended a number of the techstart NI IAP events.

3.5.2 *Activity – Ulster Fund*

During the period to 30th June 2017, two new (totalling £199,833) and 1 follow-on (totalling £100,000) investments were made in the Ulster Equity Fund, as summarised in the tables below, with a summary of key activity and developments within the 2 investee businesses provided in Appendix 19:

Table 3.25: Ulster Equity Fund Investment Portfolio Summary - 30 June 2017

Company	Date Initial Investment	Sector	Head Office	Main Areas of Operation	Invested to 30th June 2017	Uplift (provision)	Current Valuation	Uplift (provision)
Company A	Oct-15	Medical Technology	Belfast	UK	250,000	-	250,000	0%
Company B	Feb-17	Locum service	Belfast	UK	49,833	-	49,833	0%
Total					**299,833**	**-**	**299,833**	**0%**

Table 3.26: Ulster Equity Fund Investments Activity by Quarter

Year	Quarter	New Investments	Follow on Investments	Value of New	Value of FO	Total investment	Exits
2014	Q3						
	Q4						
	Total	0	0	0	0	0	0
2015	Q1						
	Q2					0	
	Q3					0	
	Q4	1		150,000		150,000	
	Total	1	0	150,000	0	150,000	0
2016	Q1						
	Q2						
	Q3						
	Q4						
	Total	0	0	0	0	0	0
2017	Q1	1	1	49,833	100,000	149,833	
	Q2					0	
	Total	1	1	49,833	100,000	149,833	0
Total 2014-17		**2**	**1**	**199,833**	**100,000**	**299,833**	**0**

As illustrated below, the Ulster Equity Fund's aggregate portfolio valuation at 30 June 2017 was £299,833, with no alterations paid to the investment values vis-à-vis the initial investment costs.

Table 3.27: Net Assets Valuation at 30 June 2017 for UU Fund		
	£	**NAV per £ committed**
Investments at cost	299,833	0.14
Investments revaluations	-	-
Investments at valuation	**299,833**	**0.14**
Other net assets	318,945	0.15
Net assets	**618,778**	**0.29**
Drawn Commitments	843,778	0.40
Less capital distributions	-	-
Net Drawn	**843,778**	**0.40**

In terms of the Enterprise Escalator, both investees had availed of a techstart NI POC grants previously.

3.5.3 Achievement of KPIs Established

Similar KPIs were established for both university equity funds at the outset, as summarised below, alongside each fund's performance against the KPIs at 30th June 2017:

Table 3.28: Performance of Individual University Equity Fund against KPIs (at 30th June 2017)		
University Equity Fund KPIs (per Fund)	**QUB Fund**	**Ulster Fund**
1. To complete at least 1 Investment per annum in companies not already a Portfolio Company for the first five years of the Term.	Achieved - 4 new investments have been made against a target of 3.	Not yet achieved - 2 new investments have been made against a target of 3[60].
2. To operate in the deal size range of a minimum of £50,000 and a maximum of £250,000.	Achieved	Achieved
3. To make 7 Investments *over* the first five years of the Term (in new companies).	On target - During the period to 30th June 2017, four new investments totalling £410,027 excluding follow-ons were made in the QUB Equity Fund against a pro-rated target of c.4.	Behind target - During the period to 30th June 2017, two new investments totalling £199,833 excluding follow-ons were made in the Ulster Equity Fund, against a pro-rated target of c.4. Albeit, it should be noted that information provided by the Fund Manager indicates that 2 further new company investments were made by the Ulster Equity Fund during the period July-September 2017, meaning the Fund is now on target on this KPI.
4. To drawdown and invest at least 70% of the Loan Commitment of the universities over the first five years of the Term.	Marginally behind target – The fund has a total investment commitment of £1.5m. A 3-year (i.e. circa 30th June 2017) pro-rated target would therefore be £630,000 (i.e. £1.5m x 70% x 3/5). However, at 30th June 2017, only £595,177 had been invested.	Behind target – The fund has a total investment commitment of £1.5m. A 3-year (i.e. circa 30th June 2017) pro-rated target would therefore be £630,000 (i.e. £1.5m x 70% x 3/5). However, at 30th June 2017, only £299,833 had been invested.
5. To drawdown and invest the remaining Loan Commitment of the universities between year six and the end of year eight of the Term.	Not yet Applicable	Not yet Applicable
6. To make Investments only within the Investment Area.	Achieved	Achieved
7. To complete at least 1 Investment per annum in companies not already a Portfolio Company for the first five years of the Term.	Achieved - 4 new investments have been made against a target of 3.	Not yet achieved - 2 new investments have been made against a target of 3[61].

[60] Albeit, it should be noted that information provided by the Fund Manager indicates that 2 further new company investments were made by the Ulster Equity Fund during the period July-September 2017, meaning the Fund is now on target on this KPI.
[61] Albeit, it should be noted that information provided by the Fund Manager indicates that 2 further new company investments were made by the Ulster Equity Fund during the period July-September 2017, meaning the Fund is now on target on this KPI.

3.5.4 *Looking Forward – Both University Funds*

In supporting the university funds' portfolio businesses and exploring opportunities for further investments, it is understood that the Fund Manager is:

In relation to accessing further capital	• 'Courting' active business angels (in NI and elsewhere) in certain sectors – Fintech, Neurotech, SaaS. • Focusing on doing more activity with Co-Fund, Kernel and Crescent, including introducing portfolio businesses to Kernel and Crescent; • Deepening relationships with Crowdcube, Syndicate Room, BGF Ventures and DraperEsprit EIS fund; • Aiming to tap into the £150m ADV platform[62] announced during 2016. An initial meeting was held in Edinburgh, with a follow-up plan in place. • Offering support to overcome the challenges relating to achieving Series A finance (recognising that c1 in 10 get to Series A out of all accelerators in the US and UK).
In relation to Pipeline (Stimulation)	• Continuing to work with CSIT and CSIT labs to see if Pentech can help their innovation process and pipeline. • Provision of ongoing 'Leaders, Rowers and Mentors' initiatives; and • Offering support to the Universities' (QUB and UU) Lean Launchpad initiative.
Engagement Model	• To date, deal flow for the QUB Fund has mainly been driven by QUBIS and CSIT introductions; whilst for the Ulster Fund it has been through the University's Commercialisation staff making introductions; • The university PoC is considered to be the best source of opportunities; • The main challenge is considered to be the lack of 'Teams' amongst the university-based opportunities; • The Fund Manager considers that a potential opportunity might be to introduce an 'Internal Entrepreneur in Residence' model. An EIR is a kind of position in venture capital firms, law firms or business schools that is usually temporary and not formal. This is when an institution brings in an entrepreneur, who is usually in the process of starting or expanding his/her new company. While in a business school, an EIR is expected to provide guidance to students who are intending to go through the same path as those who are helping them. The type of nurturing an EIR can provide to a business school environment helps students, professors or whoever wishes to start a business within the institutional environment. The E.I.R helps them develop ideas, organise them and follow the right path towards making these ideas reality. EIRs are usually interested in these types of opportunities for several reasons, including expanding their own CV through teaching and influence as well as developing relationships with future business owners who could be future partners of the EIR.

[62] During late November 2016, the British Business Bank announced that it was backing a new venture to provide investment to innovative UK digital technology businesses, driving growth and job creation across the country. A third of the funding for the new £150m platform, which will provide evergreen, patient capital to smaller businesses looking to grow no matter what stage of development, will be provided under the Bank's Enterprise Capital Funds (ECF) programme. The Accelerated Digital Ventures (ADV) platform will make funds available to digital technology SMEs, boosting sector growth across the UK. The platform will support the existing digital technology hubs in **Belfast**, Bristol, Cambridge, Cardiff, Edinburgh, Glasgow, London, Manchester, Newcastle, Oxford and Sheffield. British Business Bank is supporting the new ADV platform, alongside Legal & General (L&G) and Woodford Investment Management, as part of its remit to design, deliver and efficiently manage UK-wide smaller business access to finance programmes for the UK government. ECFs are commercially-focused funds which bring together private and public money to make equity investments in high growth businesses.

3.6 Techstart Activity by Gender & Sector

3.6.1 Gender Analysis

The issue of gender bias was raised by 25% (3 of 12) of the female Techstart POC and equity recipients that were consulted. The Fund Manager for its part does not consider there to be any gender bias in its management and implementations of the Funds. A review of available statistics relating to gender participation in the Fund, including application success rates, as well as proportional participation (vis a vis what is the norm in other regions), would indicate that Techstart is not displaying signs of gender-biased participation.

Table 3.29: Techstart PoC Activity (at November 2017)			
	Awarded	**Declined**	**Applied**
Males	130	262	**392**
	33%	**67%**	**100%**
Females	39	48	**87**
	45%	**55%**	**100%**

A further point to note is that the Evaluation Team understands that the Fund Manager has recently (February 2018) introduced a policy that all PoC panels will have at least one female panel member.

Table 3.30: Techstart Equity Activity (at November 2017)			
	Invested	**Declined**	**Applied**
Males	25	214	**239**
	10%	**90%**	**100%**
Females	8	22	**30**
	27%	**73%**	**100%**

The table below further indicates that whilst males continue to represent a larger share of recipients, that Techstart is performing ahead of many international indicators relating to female founders of technology businesses.

Table 3.31: Profile of Recipients by Fund & Gender (at November 2017)						
	Males	**Females**	**Total**	**Males**	**Females**	**Total**
PoC	130	39	**169**	77%	23%	**100%**
Equity	25	8	**33**	76%	24%	**100%**

The Fund Manager also notes that recent Crunchbase survey[63] found that in 2017, only 17% of start-ups have a female founder. Crunchbase's inaugural study on female founder representation of U.S.-based companies was published in May 2015, as result of the discussion on the lack of women in engineering teams gathering pace. Two years on, and with the expansion of the study to the global ecosystem, the study revisited the same questions: What percent of companies have at least one female founder? Have those numbers shifted since 2009? How do female founder teams fare when raising seed, early and late-stage venture dollars? Key findings included:

- The study considered 43,008 global companies with founders that had an initial funding between 2009 to 2017. Of these global companies, 6,791 (15.8 %) have at least one female founder.
- For the update, the study primarily reviews year-over-year trends. From 2009 to 2012, the percent of venture-funded companies with women founders increased by nearly 8 percent; however, the percentage of women-founded venture-backed companies has plateaued at approximately 17 percent since 2012. That is, for nearly five years there has been no percentage growth in women-founded venture-backed start-ups;
- The absolute number of companies (along with the total number of start-ups) with a female founder grew more than fivefold, from 176 in 2009 to 932 in 2016.
- Of the 932 companies, one-third represent female-only founder teams. A further third are comprised of two-person female-male founding teams. The final third is founder teams of three or more members. In

63 https://techcrunch.com/2017/04/19/in-2017-only-17-of-startups-have-a-female-founder/

summary, two-thirds of women-founded companies are led only by women or are co-founded with one male founder.

- For companies with an initial raise in 2016, female-founded companies are weighted toward education (32 percent), e-commerce (31 percent), healthcare (21 percent) and media and entertainment (21 percent) start-ups.
- In 2016, companies with at least one female founder raised 19 percent of all seed rounds, 14 percent of the early-stage venture and 8 percent of late-stage venture rounds.
- For the same year, female-founded companies raised 17 percent of seed dollars, 13 percent of early-stage dollars and 7 percent of late-stage dollars.
- Therefore, at each progressive funding stage, female-founded companies are raising lower percents of overall funding.
- Many organisations have been formed to address challenges that female founder and underrepresented minorities face. Angel networks like Astia Angels, Pipeline Angels, Broadway Angels and Golden Seeds focus on female-led companies along with training women in investing. BBG Ventures, MergeLane, the Female Founders Fund, Rivet Ventures, Halogen Ventures, Scale Investors, Fierce Capital and The Perkins fund are all early-stage funds focused on female-founded companies. SheWorx, The Vinetta Project, Watermark and others provide a forum for female founders and leadership.

Whilst the application success rates for both PoC grants and the SME Equity Fund suggest that no gender-based bias has taken place, it would nonetheless be prudent for the Fund Manager to review all aspects of its interactions with client groupings and ensure that there is no potential for the fund to be perceived to treat any grouping (including between sectors – see Section 3.6.2) of applicants differently from another (save within the boundaries of the funds' investment criteria). In addition, and whilst perhaps beyond the scope of Techstart in isolation, Invest NI should ensure that appropriate steps are being taken to facilitate access to finance and support to all prospective client groupings, including female-led enterprises (potentially looking to the activity being introduced by Enterprise Ireland in this regard).

It is further noted that Invest NI's Access to Finance Strategy was subject to a 'Section 75 Policy Screening' during 2012, and it was concluded that there was unlikely to be any negative impact on any Section 75 groupings (including women and men generally).

3.6.2 *Sector Analysis*

A number (4 of 86 recipients consulted) of individuals that received support through Techstart also voiced concern (see Section 3.6.1) that there may be some bias occurring against non-software technology business. This was discussed with the Fund Manager who again rejects any suggestion that there may be a bias against any particular eligible sector in any aspect of its operation. The Fund Manager has, in addition, provided the following information relating to the profile (hardware v software) of successful equity recipient projects.

Table 3.32: No. and % of Techstart Equity Investment Activity by Sector (at November 2017)

Hardware	Software	Total
12	21	**33**
36%	64%	**100%**

The Fund Manager considers that this representation (36% hardware) within its investment portfolio and the steps that it has taken to facilitate hardware businesses (e.g. the visit to Elite Electronics – See IAP case study 2 - Appendix 8) illustrates that no bias has occurred against non-software businesses.

The Evaluation Team notes that it is difficult to draw definite conclusions as to whether or not any bias against specific sectors has taken place, for a number of reasons, including the fact that no information was made available relating to the profile of applications received by sector (hardware v software) and no reliable benchmark evidence was available.

3.7 **Evidence of the 'Elevator Approach' in Action**

Pentech has provided evidence of the elevator approach in action, including (as presented overleaf) information demonstrating that of the 31 businesses that received equity investment, 15 had previously received a Techstart PoC grant.

In addition, Pentech has provided business start-up advice to 19 individuals/businesses following the receipt of their PoC grants, and advice relating to attaining Series A investment to a further 13 businesses.

Table 3.33: Evidence of 'Elevator Approach' in Action

	No. of Businesses
Post PoC Start-Up Advice	19
Series A/Scaling Advice	13

Table 3.34: Techstart Equity Investments – Enterprise Escalator Approach									
	No. of Businesses	First Time Founders	No. of IAP Sessions Attended	Proof of Concept Grants			Investment		
				Concept grant (mini)	Pathfinder/concept plus grant (standard)	Total quantum of grant funds – NISPO/Techstart	Techstart	Other[64]	Total
NISPO POC	6	6	10	4	3	£159,500	£816,106.00	£1,014,365	£1,830,471
NISPO POC/Techstart POC	3	2	11	3	3	£120,000	£941,640	£978,579	£1,920,219
Techstart POC	12	10	34	6	8	£350,000	£2,995,153	£3,572,493	£6,567,646
No POC	5	4	8				£1,287,893	£1,097,821	£2,385,714
University Companies	5	2	13				£1,420,150	£2,903,140	£4,323,290
Total Techstart Investment	**31**	**24**	**76**	**13**	**14**	**£470,000**	**£7,460,942**	**£9,566,398**	**£17,027,340**

Escalator Approach

Of the 31 techstart equity Investments to date – 15 have received a techstart PoC grant

[64] The Fund Manager has confirmed that the 'Other' funding relates to investment received at the time of the Techstart Investment and subsequent to it.

3.8 Case Studies

The following two case studies provide information relating to the breadth of activity and involvement that Pentech/Techstart has with investee businesses.

3.8.1 Case Study 1

Company 1's vision is to:

- Build the world's largest database of brain activity data;
- Target early onset of neurodegenerative diseases and clinical trials screening;
- Transform the ability to detect cognitive illness in its very earliest stages of development.

To date, Techstart has had a pivotal role in the business' development. The key stages (which are discussed further below) of the relationship have included:

- PoC awarded;
- Initial Investment;
- Investment round extension;
- Business progress assistance;
- Follow on round assistance;
- Board building.

PoC awarded	• Company 1 was awarded £40k PoC grant in early 2016 to refine the design of its EEG capture headset and to produce early prototypes of electronics; • Techstart worked with the founders in parallel to establish the best business model to pursue, including introductions to companies that could help shed light on the cognitive health market e.g. Peak in London.
Initial investment	Market soundings - Thesis was capturing people's interest, BUT: • It was only a thesis. The Team needed to come together and progress needed to be made to demonstrate that the idea had legs and the people had the capability to take the idea forward; • Techstart invested £250k in March 2016 in the belief that further funding could be attracted to the company in parallel with business progress.
Investment Round Extension	Techstart worked proactively with the company between March and October 2016 to identify and close a further £275k of investment, including direct introductions to: • Investment from Edinburgh based neurosurgeons • Investment from NI based senior executive who led the British Business Bank's Angel CoFund's investment into the company.
Business Assistance	Activity included: • Introduction to Elite Electronics who will manufacture the headset; • Introduction to a recruiter who has successfully helped with hard to fill positions; • Introduction to a part-time finance manager who now looks after all aspects of the business financially; • Created a legal structure that has smoothed the exit of one of the founders of the business; • Advice on leading immigration clearance process for key hire.
Follow on Round Assistance	• £2m funding round commenced Spring 2017 • Introductions to: - Draper Esprit (London) - Kx/First Derivatives (NI) - ADV (GB/Scotland) • Kx engaged and Series A investment of £1.65m completed September 2017

	• Techstart requested to be involved in BBB Angel Co-Fund IC processes.
Board Building	• Existing board member cycled off as company's needs have changed • Techstart introduced new Chairman, who commences October 2017.

In summary, since its first interaction with the business, Techstart has:

- Stepped up early showing belief in the business and allowing the team to form and move forward
- Helped at multiple levels in the business with practical support;
- Used their networks in NI and, in particular, further afield to help the business at a pivotal stage; and
- Enabled the achievement of the key target of Series A round investment.

Notwithstanding the support received from Techstart, the Evaluation Team notes that Company 1 has also received considerable further support from Invest NI both concurrent with and since the receipt of Techstart support. For example, following the receipt of the Techstart PoC support (but prior to the Techstart equity investment), it received support through Invest NI's Innovation Vouchers programme. Subsequently, at the time that the first equity investment was made, it received Grant for R&D support of c£85,000. Following the receipt of both these supports it has received financial support through Invest NI' Design for Business' programme, investment through the Co-Investment Fund (c£60,000) and a substantial (c£500,000) second Grant for R&D. In addition, it has received support to develop a US market entry strategy.

3.8.2 *Case Study 2*

Company 2 is a neuro-stimulation device to help people get lean and stay lean. It is a non-invasive, drug-free device that activates the vestibular system to help manage weight and food intake, addressing a very large global market. The Company has raised more than £1.4m in equity, and recently launched the product on Indiegogo, raising more than £1m in a month. The Company has started selling product. To date, Techstart has had a pivotal role in the business' development. The key stages (which are discussed further below) of the relationship have included:

- PoC awarded;
- Initial Investment;
- Team and Board Building;
- Investment round extension;
- Business progress assistance.

PoC awarded	• The company was awarded £40k PoC grant in November 2014 for prototype design & clinical testing; • Techstart worked with the founders from the start to help with business and team formation, as well as financing, design and manufacture
Initial investment	• Market soundings with in-market experts – The huge potential for a non-invasive weight loss device was obvious; • The key challenge related to the fact that the 2 founders were medical doctors with no business experience; • Techstart invested £200k in December 2015 in the belief that further funding could be attracted to the company as the team and opportunity matured.
Team and Board Building;	• Techstart introduced an experienced marketing professional who is now Chief Commercial & Marketing Officer. It also introduced two of the more recent marketing hires • Techstart introduced an experienced Chairman, with a background in Life Sciences, M&A and fund-raising. The Chairman and his colleagues are now significant investors; • Techstart introduced the ex-CEO of Schrader Electronics (sold for $1bn in 2014), to oversee manufacturing. He is now a Director and an Investor; • Techstart introduced a Board Advisor, with extensive international start-up and sales experience.

Investment round extension;	• Techstart again 'jumped early' and led the Seed Extension by putting in £250k (alongside £135k of private money) ahead of the full round being completed; • Techstart worked proactively with the company between January and June 2017 to identify and close a further £0.7m of investment, including introductions to British Business Bank's Angel CoFund and Beltrae Partners.
Business progress assistance	Techstart made introductions to: • A design and manufacturing consultant who helped with early signposting; • Elite Electronics who will manufacture the headset; • A part-time CFO, and then out-sourced finance team, who look after all aspects of the business financially • 'Diet Chef' CEO, who advised on market segmentation and advertising standards compliance; • UK PR agency who contributed to the successful Indiegogo launch; • Local Digital Marketing agency who execute the Company's digital strategy; • Octalysis who have helped guide the Company in the production of a more 'sticky' App.

In summary, since its first interaction with the business, Techstart has:

- Stepped up early showing belief in the business and allowing the team to form and move forward;
- Helped at multiple levels in the business with advice and practical support; and
- Used their networks in NI and, in particular, further afield to help the business at a pivotal stage.

Notwithstanding the support received from Techstart, the Evaluation Team notes that Company 2 has also received considerable further support from Invest NI prior to, concurrent with and since the receipt of Techstart support. For example, prior to the receipt of the Techstart PoC support, Company 2 had commenced participation on the first stage of the Propel. Subsequently, following the receipt of the Techstart PoC support (but prior to the Techstart equity investment), it participated in the second phase of the Propel programme and received a variety of supports from Invest NI including GAP (Growth Accelerator Programme) support x 2, Innovation Voucher Programme, Technical Development Incentive (TDI) support x 2. Following the receipt of Techstart equity support, it received a variety of further support from Invest NI including Trade Advisory support, an Export Start grant (c£50,000), a substantial Grant for R&D (c£170,000) and further Technical Development Incentive (TDI) supports.

4. PARTICIPANTS' SATISFACTION WITH, & VIEWS OF, TECHSTART

This section summarises the feedback received from Techstart beneficiaries/participants relating to the support received, with full details presented in Appendix 12.

4.1 The Survey Sample

During the period under review (i.e. July 2014 to June 2017), a total of 540 individuals or businesses engaged with at least one element of the Techstart Programme, (albeit this totalled 739 different interactions, as some individuals/businesses engaged in more than one strand of activity or in one strand of activity on more than one occasions e.g. they might have attended more than one element of the IAP.

For many individuals, Techstart NI had only a brief interaction, so does not collect contact details for all. The Evaluation Team was provided with contact details for 226 unique individuals/businesses, and consulted with 86 (38%) of them, as profile below by support received.

Table 4.1: Summary of Techstart Evaluation Survey Activity

	SME	QUB	UU	POC	IAP	Total
No. of interventions	24	4	4	165	542	739
No. of unique businesses/ business ideas	24	4	4	150	438	540
Of unique businesses						
No contact details provided					304	304
Numbers not working				5	3	8
Unwilling to participate				2		2
Total Potentials (to call & complete)	**24**	**4**	**4**	**143**	**131**	**226**
No. of surveys completed	**18**	**3**	**4**	**64**	**45**	**86**

Whilst this Evaluation is primarily focused on the support provided by the Techstart Fund Manager (Pentech), the Evaluation Team also sought to understand whether the respondents had received support from Techstart's predecessor NISPO. The table provides an overview of the aspects of the Techstart programme, or its predecessor NISPO, that the 86 respondents had received support through. As illustrated, a number of businesses had received support through NISPO's IRP, POC grant scheme or had received investment through one of NISPO's equity funds.

Table 4.2: Overview of the aspects of Techstart and NISPO recipients received (N=86)

Aspects of Techstart and NISPO		% of businesses[65]
The Techstart Investment Awareness Programme (delivered by Pentech and its associates)		52%
The NISPO Investor Readiness Programme (delivered by E-Synergy and its associates)		2%
The NISPO Proof of Concept Grant	Mini-Grant	5%
	Standard Grant	1%
The Techstart Proof of Concept Grant	Mini-Grant	58%
	Standard Grant	26%
The Techstart Equity Funds	SME Equity Fund	21%
	UU Equity Fund	4%
	QUB Equity Fund	4%
A NISPO Equity Fund		3%
Total		**86**

Of note, 3 of the 23 businesses surveyed that received a Techstart equity investment had previously received a NISPO equity investment.

4.2 Development Stage of Business (Before & Currently)

[65] Please note that the percentages will not sum to 100% on the basis that respondents may have been involved in more than one aspect of the Techstart programme, or its predecessor NISPO.

- Given the number of IAP and POC respondents, it is perhaps not surprising to note that at an overall level, the majority (74%, N=86) of Techstart beneficiaries' businesses/business ideas were at the 'proof of principle/ proof of concept' stage before receipt of the Techstart support.
- However, a quarter (26%, N=23) of the businesses that received a Techstart equity investment indicated that they were already trading prior to the receipt of the investment.
- All 23 of the businesses surveyed that received a Techstart equity investment are still operational, with 17 (74%) indicating that they are now trading (up from 26% prior to the investment). The remaining 6 business reported being at a pre-start stage (e.g. developing a prototype/working demonstrator, at product development stage or market ready but not yet trading).
- Just a quarter (25%) of the 52 POC (only) respondents indicated that their POC project/business is now trading (up from 6% prior to receipt of the POC grant). However, 15% (N=52) of the POC grant recipients stated that their proposed business did not/ will not start. The remaining 60% of Techstart POC grant recipients stated that they are still at POC stage, are at prototype or product development stage or at market-ready stage (but not yet trading).

4.3 Reasons why some IAP/POC Businesses/Business Ideas Did Not Start/Progress

The 10 IAP or POC recipients that stated that they did not/will not start their proposed business (or business idea, where they were already operating a business) provided a number of reasons as to why this is the case, with the most frequently cited reasons being that:

- They had identified that the idea was not viable/ feasible (60%, N=10);
- They could not access the necessary finance in order to start the business (40%, N=10); and
- They considered that starting their own business was too risky (30%, N=10).

6 of the 10 respondents suggested that the activities undertaken through the Techstart programme influenced their decision not to start a business.

4.4 Views of the IAP

- 45 of the 86 respondents participated in at least one Techstart IAP event or seminar.
- Almost all (98%, N=45) IAP participants indicated that they were either 'satisfied' (65%) or 'very satisfied' (33%) with the events and seminars that they attended, in the context of what they had hoped to get from their participation or attendance at them.
- A majority (69%, N=45) of IAP participants were in agreement that their attendance at the Techstart event or seminar had helped them to address 'live and critical' issues that they were facing in growing their business.
- Similarly, a majority (60%, N=45) of IAP participants agreed that the Techstart event or seminar that they attended had helped prepare them for investment raising and/or had informed them of some of the available options for their next stage of funding.
- Encouragingly, almost all (96%, N=45) IAP respondents would recommend a Techstart IAP event or seminar to other businesses at a similar stage of development.

4.5 Views of One-to-One Advice/Guidance Received

- Almost half (45%, N=86) of respondents indicated that they received one-to-one support and guidance from the Techstart Fund Manager (Pentech).
- Of those that received one-to-one advice, a majority (69%, N=39) respondents agreed (23%) or strongly agreed (46%) that the advice had helped them to address 'live and critical' issues that they were facing in growing their business.
- In addition, the majority (54%+, N=39) of the respondents agreed that the one-to-one advice received from Pentech had:

  - Helped prepare them for investment raising (56%, N=39); and
  - Informed them of some of the available options for the next stage of funding (54%, N=39).

- The aspects of the support and advice received from Pentech that respondents found most useful included:

  - The Fund Manager's ability to provide an informed and independent view on the performance of the business;
  - The market insights received;
  - Guidance on the types of things that investors would look for.

Encouragingly almost all (92%, N=39) of the respondents that received one-to-one advice from the Fund Manager indicated that they would recommend the support to other businesses at a similar stage of development.

4.6 Views of the POC Grant

64 of the 86 respondents received a Techstart POC Grant.

- Almost all (92%, N=64) of the POC recipients indicated that they were 'satisfied' (37%) or 'very satisfied' (55%) with the processes surrounding applying for the POC grant and any feedback received on their application.
- A quarter (25%, N=64) of the POC grant recipients indicated that they received mentoring support as part of their grant offer from a member of Pentech's delivery team. All (100%, N=16) of those that received mentoring support stated that they were 'satisfied' (25%) or 'very satisfied' (75%) with the advice and guidance offered by the mentor.
- Almost all (94%, N=64) of the POC grant recipients indicated that they were satisfied (44%) or very satisfied (50%) with the level of funding that they had received through the POC grant.
- With the exception of a very small number of individuals, all of the POC grant recipients indicated that they had achieved the factors that had encouraged them to apply for a proof of concept grant.
- The majority (ranged from 53% - 97%) of respondents agreed that the receipt of the POC grant had the following impacts on them or their business/business idea:

  - It helped them to better scope and define their business idea/business model (97%, N=64);
  - It helped them better understand the market potential that their business idea had (90%, N=64);
  - It helped them to develop innovative intellectual property (60%, N=64);
  - It helped develop their business idea to a stage where they could licence the intellectual property or incorporate a company (53%, N=64);
  - Upon finishing the activities that they used the grant for, they had a clear sense of direction of how to move their business idea forward (94%, N=64);
  - The grant prepared their business for investment (67%, N=64);
  - It helped develop their business idea to a point where they could apply for conventional seed or other venture capital funding (58%, N=64); and
  - The grant improved their business' chances of receiving funding (70%, N=64).

4.7 Views of the Equity Finance

23 of the 86 respondents received Techstart equity investment.

4.7.1 *Satisfaction with the support received before the receipt of the funding*

- Almost all (96%, N=23) of the recipients of Techstart Equity Finance agreed with the following statements about the process and support received through the Techstart Fund before receiving funding:

  - They were provided with adequate support and advice by the Fund Manager before submitting their funding application and business plan;
  - Having to present to an Assessment Panel helped them better articulate their business idea; and
  - The feedback that they received on their business idea from the Assessment Panel was helpful.

- In addition, most (87%, N=23) recipients agreed that participation in the financing process challenged them to think about their business idea in ways that they otherwise would not have done.

4.7.2 *Satisfaction with the support received following the receipt of the funding*

- Almost All (91%, N=23) of the respondents agreed (61%) or strongly agreed (30%) that the Funding Manager (Pentech) had helped them to introduce a capital efficient and milestone-based approach, including:

  - Validating product need;
  - Validating market demand; and
  - Building a plan to grow.

Furthermore, the majority (ranged from 61%-87%) of the recipients of Techstart equity finance agreed that:

- The mentoring support offered through the Programme was of a high standard e.g. the mentor(s) was able to transfer relevant knowledge, experience, contacts and advice to the business (80%, N=23);
- The mentor that they were matched with had experience or skills of specific relevance to their business (78%, N=23);
- Pentech and/or the mentor was able to assist them to improve their business model or sales strategy (83%, N=23);
- Pentech and/or the mentor adopted a collaborative approach with the equity investment recipient to identify the key management requirements and skill gaps within their business and then helped put that team in place (87%, N=23);
- Pentech and/or the mentor was able to help them identify and secure private match funding (61%, N=23);
- Pentech and/or the mentor was able to assist them to develop robust financial projections for their business (83%, N=23);
- The action plan that was developed provided a practical course of action for their business (83%, N=23).

4.7.3 Satisfaction with the Investment process, the deal and post-deal support

The majority (ranged from 73%-96%) of the recipients of equity finance were satisfied with the following aspects of the process, the deal and post-deal support:

- The due diligence process (technical, commercial, financial etc.) (96%, N=23);
- The level of finance that was offered (91%, N=23);
- The investment terms agreed (78%, N=23);
- Any advice (commercial, technical etc.) provided by Pentech after the investment was received (87%, N=23);
- Pentech's role on the business' Board (i.e. relating to mentoring and advice) (78%, N=23);
- The extent of monitoring information required by Pentech relating to the business' performance (87%, N=23);
- The extent to which Pentech facilitated the business engaging with the key market or investment networks/contacts (78%, N=23);
- Signposting to specialist advice as and when required (78%, N=23); and
- Any advice and guidance offered by Pentech to secure further investments in the business (73%, N=23).

4.7.4 Impact of Receiving Equity Investment

On an overall basis, most (82+%, N=23) of the equity recipients suggested that the Techstart equity investment had:

- Prepared the business for further funding; and
- Improved the business' chances of receiving further funding.

4.8 Duplication and Complementarity

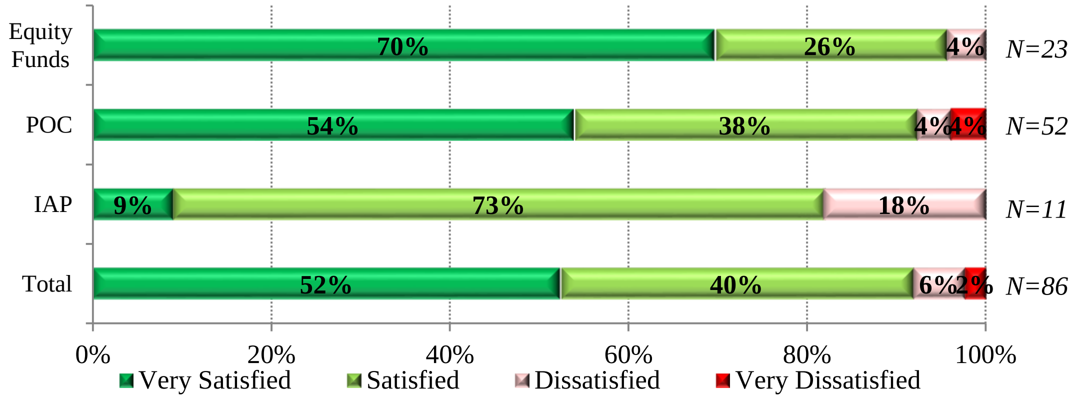
Encouragingly nearly all (99%, N=86) businesses indicated that, in the absence of the Techstart programme, they would have been unable to get the same or similar support elsewhere.

One business that received an equity investment suggested that they would likely have been able to get similar support from investors in London.

4.9 Overall Satisfaction with Techstart

At an overall level, almost all (92%, N=86) respondents (across all of the strands of support) reported that they were either satisfied (40%) or 'very satisfied' (52%) with the support provided through the Techstart Programme.

Figure 4.1: Overall satisfaction with the Techstart programme



4.10 Aspects of the Programme that Do/Do Not Work Well

Table 4.3 provides a summary of the aspects of the Techstart programme that respondents feel work particularly well, and those they feel do not work well. Table 12.6 (Appendix 12) provides further detail.

Table 4.3: Summary of the aspects of the Techstart Programme that work well or do not work well	
Aspects that work well	**Aspects that could be Improved**
• Straightforward application process (including the online aspects); • The challenge function offered (including the requirement to 'pitch'); • Relationship with the Pentech team; • Pentech's 'Knowledge and knowhow'; • Being involved with the programme gives the business credibility.	• The funding limits placed on the equity investment; • More mentoring should be provided alongside the finance; • The programme appears to support more males than females[66].

4.11 Participants' Recommendations for Improvement

Given the high levels of satisfaction, respondents provided only a small number of suggestions as to how the Techstart programme might be improved. Their recommendations included:

- Ensure Invest NI are monitoring the fund manager's engagement and delivery to ensure there is no bias present, including sector (N=4), gender (N=3) and age (N=1);
- Streamline the claims process and reconsider the eligible costs (i.e. staff costs) under the POC grant (N=2) – NB It is noted that Invest NI has changed the criteria relating to eligible costs under the PoC grant fund;
- Provide more mentoring support (N=3);
- Have a rolling application period (N=3);
- Increase the level of funding provided:

  - Reinstate the £40,000 POC grant (N=2); and
  - Increase the level of equity funding (N=2).

[66] Albeit, it is noted that the Evaluation Team's review of available statistics relating to gender participation in the Fund, including application success rates, as well as proportional participation (vis a vis what is the norm in other regions), would indicate that Techstart is not displaying signs of gender biased participation.

5. TECHSTART'S IMPACT

5.1 Introduction

This section summarises respondents' feedback relating to the impact that the Techstart support that they received has had on them personally or on their business, with full details provided as Appendix 13.

5.2 Support Received Prior to Techstart

A third (34%, N=86) of respondents reported that, prior to receipt of the Techstart support, they were successful in gaining finance from other sources of equity finance or other external finance. Across the 29 businesses, the support totalled a minimum of £1.9m (of which £255,000 was NISPO equity funding and £80,000 NISPO PoC funding).

A further 9% (N=86) indicated that they had approached other sources of finance but had been unsuccessful. Those sources included:

- Private investors (N=4);
- Innovate UK (N=1);
- NISPO POC (N=1); and
- Techstart concept plus grant (N=1).

5.3 Techstart's Influence on Business Creation

13% (11 of 86) of the respondents were already operating a trading business (that was subject to their Techstart project) prior to the receipt of Techstart support. However, in October 2017, 32 individuals report that they are either:

- Continuing to operate that pre-existing business (11 individuals); or
- Started a business and are continuing to operate it (21 individuals).

This indicates that 21 businesses commenced trading after the receipt of Techstart support.

The net impact (i.e. its additionality) of Techstart in relation to those 21 individuals' decision to start their business after receiving Techstart support, or where relevant, to start their business at 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. That is, the support must allow for deadweight. 'Deadweight' refers to activity that would have occurred without the intervention i.e. the Techstart Programme.

Appendix 17 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 questions within the participant survey and assigns weightings (agreed in conjunction with DfE's Economist Team) to the individual responses.

Depending on the response provided, a level of additionality/deadweight was applied. For example, a respondent who indicated that they definitely would not have started the business in the absence of the Techstart programme would have been assigned a level of 100% additionality (i.e. full additionality). Conversely, a respondent who indicated that they definitely would have started the business within the same timescale regardless of the Techstart Programme would have been assigned a level of 100% deadweight (i.e. no additionality). Other responses were given a weighting somewhere between these two extremes (i.e. a level of partial additionality/deadweight).

The outcomes of the analysis are provided below:

Table 5.1: Trading Additionality/Deadweight (N=21)		
	Additionality	**Deadweight**
Equity Funds (N=11)	80%	20%
PoC Grant (N=10)	71%	29%
IAP		
Total	**75%**	**25%**

5.4 Support Received Since Receiving Techstart

Just over half of the respondents (51%, N=75) indicated that they had received external investment or other support from private sector sources or public sector organisations since they received support through the Techstart Programme. Overall, these businesses were able to leverage £4.5m as part of their Techstart deal and £6.2m since.

Similar to Techstart's influence on the creation of businesses, the net impact (i.e. its additionality) of Techstart on those businesses receiving that finance can only be measured after making allowances for what would have happened in the absence of the support. Using a similar methodology as before, our analysis provided the following results for the level of additionality associated with Techstart's influence on enabling or facilitating participants to access other finance.

Table 5.2: Finance Additionality/deadweight (N=38)		
	Additionality	**Deadweight**
Equity Funds (N=15)	74%	26%
POC Grant (N=21)	75%	25%
IAP (N=2)	0%	100%
Total	**71%**	**29%**

5.5 Estimating Techstart's Business Outcomes (at October 2017)

5.5.1 Approach to Grossing Up Impacts

Section 13.6 of the Appendices document provides an overview of the approach taken to gross up the impacts identified by the survey sample. However, salient points to note include:

- Amongst the survey sample 87% (N=23) and 27% (N=52[67]) of Equity and POC recipients respectively reported impacts;
- A small number of businesses that are not yet trading had reported impacts, namely employment impacts. This is plausible as a result of receiving the investment/financial assistance and other investment since the Techstart support;
- The population for grossing up purposes for both funds has been based on the percentage of the survey sample that is not yet trading and has reported impacts, and those that are trading. For example, the number of businesses that received equity investment that reported impacts is 25, which includes 4 (that are not yet trading) and 21 (that are trading).
- It should be noted that the grossing up analysis for those businesses that are not yet trading that has reported impacts has been calculated separately from those businesses that are trading that has reported impacts.

Therefore, the population has been grossed up to 25 and 37 for Equity Funds and POC respectively.

5.5.2 Impact Deadweight / Additionality

[67] NB The sample size for PoC recipients decreases from 64 (featured in Section 4) as 12 of the PoC recipients that were surveyed also received an equity investment. Therefore, for the purposes of impacts, these respondents are considered amongst the equity respondents.

The net impact of the Techstart programme (i.e. its additionality) on recipient 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 the intervention.

Please note that given that most evaluations are undertaken sometime 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 interventions) may have had an impact on a business' performance. Therefore, an impact additionality measure was used to ascertain 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' [68]:

Table 5.3: Impact Additionality/deadweight (N=34)		
	Additionality	**Deadweight**
Equity Funds (N=20)	79%	21%
POC Grant (N=14)	72%	28%
IAP		
Total (N=34)	**76%**	**24%**

[68] See Appendix 17 for further details.

5.6 Net Additional Business Outcomes

Please note, the net additional impacts associated with the survey sample applied the 'additionality' factor at an individual respondent level to provide a greater degree of accuracy. The Evaluation Team's estimates of the net additional impacts associated with Techstart are detailed below[69]:

Net Additional Sales Impacts

The removal of the individually calculated levels of impact deadweight to the gross monetary impacts reported by businesses in receipt of Techstart support suggests that the programme may have directly contributed:

- £7.3m of sales for the population (68% for Equity recipients and 32% for POC recipients).

Based on company forecasts, the sales impacts will total £39m by 2019.

Table 5.4: Net Additional Sales Impact for the Population (N=164) (£)							
	2013	**2014**	**2015**	**2016**	**2017**	**Total 2013-17**	**2019 (Forecast)**
Equity - not yet trading	0	0	0	0	0	0	2,080,000
Equity - Trading	0	0	31,355	115,591	3,563,848	3,710,795	23,629,879
Equity Total	**0**	**0**	**31,355**	**115,591**	**3,563,848**	**3,710,795**	**25,709,879**
POC - not yet trading	0	0	0	0	0	0	2,100,000
POC - Trading	0	5,492	233,292	304,692	3,091,123	3,634,600	11,295,977
POC Total	**0**	**5,492**	**233,292**	**304,692**	**3,091,123**	**3,634,600**	**13,395,977**
Total	**0**	**5,492**	**264,648**	**420,284**	**6,654,971**	**7,345,395**	**39,105,856**

Net Additional Sales Impacts by Geographic Markets

Businesses reported the following proportion of sales impacts in NI, GB and export markets. Encouragingly, almost all sales (91%) are in external markets, specifically GB (25%) and export (66%) markets.

Table 5.5: Proportion of Sales Impacts (at 2017) in NI, External and Export Markets			
	NI Sales	**GB Sales**	**Export Sales**
Equity	8%	27%	65%
POC Grant	12%	21%	67%
Total	**9%**	**25%**	**66%**

[69] Further details provided in Appendix 13 and 21.

Table 5.6 provides an overview of the net additional sales impacts by geographic markets (for the population), where £0.7m, £1.8m and £4.9m of sales have potentially been achieved in NI, GB and export markets, respectively.

Table 5.6: Net Additional Sales Impact for the Population (N=164) (£)

	2013	2014	2015	2016	2017	Total 2013-17
Equity						
NI Sales	0	0	2,378	8,766	270,265	**281,409**
GB Sales	0	0	8,499	31,333	966,026	**1,005,858**
Export Sales	0	0	20,478	75,493	2,327,557	**2,423,529**
Equity Total	**0**	**0**	**31,355**	**115,591**	**3,563,848**	**3,710,795**
POC						
NI Sales	0	637	27,055	35,336	358,481	**421,509**
GB Sales	0	1,162	49,361	64,468	654,031	**769,022**
Export Sales	0	3,693	156,876	204,889	2,078,611	**2,444,069**
POC Total	**0**	**5,492**	**233,292**	**304,692**	**3,091,123**	**3,634,600**
Total Sales						
NI Sales	0	637	29,433	44,101	628,746	**702,918**
GB Sales	0	1,162	57,860	95,800	1,620,057	**1,774,880**
Export Sales	0	3,693	177,355	280,382	4,406,168	**4,867,598**
Total	**0**	**5,492**	**264,648**	**420,284**	**6,654,971**	**7,345,395**

Net Additional GVA Impacts (using Sales Methodology)

Using the net additional sales identified above, the net additional GVA impact associated with Techstart (at October 2017) using the NI Average of 30.1%[70] is c.£2.2m.

Table 5.7: Net Additional GVA Impacts of the Population, using NI Sector Average (N=164)						
	2013	**2014**	**2015**	**2016**	**2017**	**Total 2013-17**
Equity - not yet trading	-	-	-	-	-	-
Equity - Trading	-	-	9,438	34,793	1,072,718	1,116,949
Equity Total	**-**	**-**	**9,438**	**34,793**	**1,072,718**	**1,116,949**
POC - not yet trading	-	-	-	-	-	-
POC - Trading	-	1,653	70,221	91,712	930,428	1,094,015
POC Total	**-**	**1,653**	**70,221**	**91,712**	**930,428**	**1,094,015**
Total	**-**	**1,653**	**79,659**	**126,505**	**2,003,146**	**2,210,964**

However, calculating the net additional GVA impact of Techstart using the ICT Sector[71] average of 50.8%[72] provides a suggested figure of c.£3.7m.

Table 5.8: Net Additional GVA Impacts of the Population, using ICT Sector Average (N=164)						
	2013	**2014**	**2015**	**2016**	**2017**	**Total 2013-17**
Equity - not yet trading	-	-	-	-	-	-
Equity - Trading	-	-	15,929	58,720	1,810,435	1,885,084
Equity Total	**-**	**-**	**15,929**	**58,720**	**1,810,435**	**1,885,084**
POC - not yet trading	-	-	-	-	-	-
POC - Trading	-	2,790	118,512	154,784	1,570,291	1,846,377
POC Total	**-**	**2,790**	**118,512**	**154,784**	**1,570,291**	**1,846,377**
Total	**-**	**2,790**	**134,441**	**213,504**	**3,380,725**	**3,731,461**

Therefore, using the net additional sales as the basis for calculating the net additional GVA impact of Techstart suggests that (at October 2017), the programme has potentially created net additional GVA in the range of £2.2m and £3.7m.

[70] Source: NI Non-Financial Business Economy 2015 Provisional Results (Annual Business Inquiry), published 02/12/2016
[71] The Information and Communication, which the majority of Techstart participants were operating within.
[72] Source: NI Non-Financial Business Economy 2015 Provisional Results (Annual Business Inquiry), published 02/12/2016

Return on Investment (using GVA calculated through Sales Methodology)

Using the respective net additional GVA calculations (previous page), we can estimate Techstart's return on investment (as of circa October 2017, when the survey work was completed), as being between £0.25 and £0.42 for every £1 invested. It should be noted that a negative return should be fully anticipated at this juncture in the life of a fund such as Techstart (given the stage of development of the target beneficiaries). This is discussed further in Section 5.7, where we estimate the net additional GVA generated by equity recipients using an alternative methodology (i.e. based upon accounts information).

Methodology 1: Assessment of GVA through the application of sectoral GVA to the sales derived by recipients of support

Table 5.9: Methodology 1 using NI Sectoral Average GVA			
	Equity Recipients	**PoC Recipients**	**Total**
Net Additional GVA (@ 30.1% of sales)	£1,116,949	£1,094,015	**£2,210,964**
Investment/financial assistance provided	£6,347,713[73]	£2,437,950	**£8,785,663**
ROI (based on Techstart investment only)	**£1: £0.18**	**£1: £0.45**	**£1: £0.25**

Table 5.10: Methodology 1 using ICT Sectoral Average GVA			
	Equity Recipients	**PoC Recipients**	**Total**
Net Additional GVA (@ 50.8% of sales[74])	£1,885,084	£1,846,377	**£3,731,461**
Investment/financial assistance provided	£6,347,713	£2,437,950	**£8,785,663**
ROI (based on Techstart investment only)	**£1: £0.30**	**£1: £0.76**	**£1: £0.42**

It is noted that at this juncture it appears that the PoC fund is outperforming the equity funds (in terms of the return on Techstart investment received). The Evaluation Team would urge some caution in the interpretation of these findings though, as the current evaluation is an interim evaluation conducted 3 years into the rollout of the funds, whilst the full impact of the equity funds is not anticipated to be seen for up to 13 years after the funds' introduction. Nonetheless, it should be noted that when considered in isolation, the PoC fund has had some key successes (to October 2017). The Evaluation Team's review of some of these indicates that the projects involved 'close to market' activities such augmenting/improving pre-existing products with established markets, and as such lend themselves to more immediate returns than the equity funds.

[73] Includes equity awarded plus any associated PoC Grants for the equity recipients. Excludes Fund Manager's fees, internal Invest NI management costs, and any additional co-funding.

[74] Please note that, given the sectoral profile of businesses supported through Techstart, it is assumed that the sectoral levels of GVA would be higher than the NI sectoral average (of 30.1%). As such, as a proxy, the Evaluation Team has applied the ICT sectoral average (of 50.8%) to the sales reported by businesses (as at October 2017).

Net Additional Employment Created

The removal of the individually calculated levels of impact deadweight to the gross monetary impacts potentially achieved by businesses in receipt of Techstart support suggests that the programme may have directly created a further 185 FTE jobs.

Table 5.11: Net Additional Employment Impact for the Survey Sample (N=75) and Population (N=164)					
	Survey Sample (N=75)		Population (N=164)		2019 (Forecast) FTEs for the population
	FTEs	No. above PSM	FTEs	No. above PSM	
Equity - no yet trading	6	0	9	0	60
Equity - Trading	58	22	72	27	151
Equity Total	**65**	**22**	**81**	**27**	**211**
POC - not yet trading	4	4	11	11	15
POC - Trading	36	17	94	44	135
POC Total	**39**	**20**	**104**	**54**	**150**
Total	**104**	**42**	**185**	**82**	**361**

Net Additional Spend on R&D

The net additional spend on R&D potentially derived by businesses is £7.7m.

Table 5.12: Net Additional Spend on R&D for the Survey Sample (N=75) and Population (N=164) (£)			
Net Spend on R&D	**Survey Sample (N=75)**	**Population (N=164)**	**2019 (Forecast for Population)** [75]
Equity - no yet trading	729,060	972,080	1,756,400
Equity - Trading	1,162,000	1,435,412	3,375,750
Equity Total	**1,891,060**	**2,407,492**	**5,132,150**
POC - not yet trading	420,000	1,260,000	0[76]
POC - Trading	1,546,650	4,045,085	2,491,808
POC Total	**1,966,650**	**5,305,085**	**2,491,808**
Total	**3,857,710**	**7,712,576**	**7,623,958**

[75] Only 67% of those with impacts were able to provide a forecast.
[76] A PoC recipient that is not yet trading was unable to quantify its forecasted spend on R&D.

5.7 Alternative GVA Calculation (Using Accounts Information for Equity Only)

Whilst the preceding assessment of sales/turnover generated by businesses in receipt of Techstart support provides a foundation to assess potential levels of gross and net additional GVA (through the application of sectoral levels of GVA), accounts information provided by the Fund Manager for recipients of equity investment (through the SME and/or UU and QUB equity funds) has facilitated an alternative and potentially more accurate assessment of the impacts derived, albeit the information provided is based on accounts detail up to the end of March 2017, whereas our survey sample includes participants that received support up to the end of June 2017, and sales impacts up to October 2017, when the surveys were implemented.

As such, beyond the different methodological approaches, further caution should be taken when trying to compare the results of both, as they cover different time periods. Whilst we consider that the accounts data provides a very accurate picture up to the end of March 2017, it could be argued, by virtue of the nature of the Techstart target audience that the sales approach provides a more accurate picture up to the end of October 2017, as the businesses in receipt of support are considered to be (for the most part HPSUs) high potential start-ups that are anticipated to grow rapidly over a short period of time.

Nonetheless, to this end, levels of GVA have been calculated by the Fund Manager for a number of equity recipient businesses by summing each company's earnings before the deduction of interest, tax, depreciation and amortisation expenses (EBITDA) with their payroll costs for each year of their operation following receipt of equity investment up to March 2017 (which is the period that equity recipients' accounts have typically been prepared for).

Technical notes:

- The Evaluation Team has reviewed the approach undertaken by the Fund Manager for a randomly selected sample of businesses (N=5)[77] to ensure the appropriateness of the calculations underpinning the analysis.
- Of the 31 businesses that have received equity investment:
  - GVA calculations had been undertaken for 17 of 24 businesses that had received investment up to 31st March 2017 (the end of the last financial year when accounting information was available for each business). For the remaining 7 businesses, the Evaluation Team has applied a prorated calculation based upon the GVA contributed by the other 17 businesses, taking account of the respective time periods each of the 7 businesses have been operating since receiving investment.
  - No accounting information was available for a further 7 businesses that received investment after March 2017. These businesses and their levels of investment have been removed from the analysis.
- Businesses in receipt of equity investment through the Fund may also have received PoC support.

NB The return on investment ratios have been presented in two ways:

1. Firstly, based upon a review of accounts information, the cohort of businesses in receipt of Techstart equity finance have (at the time of review) generated a negative GVA value of £69,857. The proportion of this that is attributable (the net additional aspect) to Techstart is calculated as being (£54,977). However, given that these businesses have received Techstart investment (up to 31st March 2017) totalling £5,792,795, the businesses would need to generate further net additional GVA of £5,847,772 before the programme breaks even from a cost benefit perspective (excluding Fund Manager's fees, Invest NI staff costs and co-investment). At present, however, this represents a loss on every Techstart £1 invested of £1.01. It is noted that this option assumes that all (or the vast majority) of Techstart investment has been used to support salary costs which are a key component of GVA;

[77] We note that these businesses had contributed both positive and negative levels of GVA to the NI economy and hence do not have concerns in relation to any potential selection bias by the Fund Manager when providing accounts information for the sample businesses.

2. The second method presents the return in a more conventional manner, by not subtracting the value of equity/POC investment from the GVA generated. By way of example, for many economic development programmes (e.g. a trade development programme) if it were to achieve £3 of GVA for every £1 invested the return would be presented as 3:1. This option presents the return in that more conventional manner (whereas the first option removes the quantum invested). When considered from this perspective, the return on investment (using accounts information) is shown as for every £1 invested, the programme returns minus £0.01 i.e. £1:(£0.01).

Table 5.13: Gross & Net Additional GVA Generated by Receiving Techstart Equity Investment										
Company	Cumulative Gross GVA to March 2017[78]	Net additional GVA (Additionality of 78.7%)	Techstart Investment					Net additional GVA (net of investment)	Return-on-investment	
			POC	SME equity	QUB equity	Ulster equity	Total		excluding the Techstart investment	including the Techstart investment
1	73,736	58,030		60,000			**60,000**	(1,970)	**(0.03)**	**0.97**
2	(181,463)	(142,811)	40,000	269,998			**309,998**	(452,809)	**(1.46)**	**(0.46)**
3	(694,444)	(546,527)		156,006			**156,006**	(702,533)	**(4.50)**	**(3.50)**
4	(15,000)	(11,805)	40,000	70,000			**110,000**	(121,805)	**(1.11)**	**(0.11)**
5	(3,225)	(2,538)		150,000			**150,000**	(152,538)	**(1.02)**	**(0.02)**
6	104,143	81,961		150,000			**150,000**	(68,039)	**(0.45)**	**0.55**
7	128,228	100,915		375,000			**375,000**	(274,085)	**(0.73)**	**0.27**
8	(83,000)	(65,321)		100,000			**100,000**	(165,321)	**(1.65)**	**(0.65)**
9	16,427	12,928		200,000	50,000		**250,000**	(237,072)	**(0.95)**	**0.05**
10	5,733	4,512	40,000	250,000			**290,000**	(285,488)	**(0.98)**	**0.02**
11	(40,392)	(31,789)	40,000	450,000			**490,000**	(521,789)	**(1.06)**	**(0.06)**
12	(4,838)	(3,808)	10,000	200,000			**210,000**	(213,808)	**(1.02)**	**(0.02)**
13	26,900	21,170		200,100			**200,100**	(178,930)	**(0.89)**	**0.11**
14	(46,867)	(36,884)	50,000	300,000			**350,000**	(386,884)	**(1.11)**	**(0.11)**
15	(4,838)	(3,808)		249,879			**249,879**	(253,687)	**(1.02)**	**(0.02)**
16	260,108	204,705	40,000	341,641			**381,641**	(176,936)	**(0.46)**	**0.54**
17	(4,838)	(3,808)	25,000	200,171			**225,171**	(228,979)	**(1.02)**	**(0.02)**
18	(8,063)	(6,346)	40,000	250,000			**290,000**	(296,346)	**(1.02)**	**(0.02)**
19	54,018	42,512		250,000			**250,000**	(207,488)	**(0.83)**	**0.17**
20	(24,190)	(19,038)	10,000	150,000			**160,000**	(179,038)	**(1.12)**	**(0.12)**
21	498,507	392,325		200000	300,000		**500,000**	(107,675)	**(0.22)**	**0.78**
22	(97,899)	(77,047)			195,000		**195,000**	(272,047)	**(1.40)**	**(0.40)**
23	(11,000)	(8,657)			50,000		**50,000**	(58,657)	**(1.17)**	**(0.17)**
24	(17,600)	(13,851)	40,000			250,000	**290,000**	(303,851)	**(1.05)**	**(0.05)**
Total	**(69,857)**	**(54,977)**	**375,000**	**4,572,795**	**595,000**	**250,000**	**5,792,795**	**(5,847,772)**	**(1.01)**	**(0.01)**

[78] Blue shaded cells denote the application of a prorated calculation due to the unavailability of accounts information. The potential level of GVA generated by these businesses has been calculated based on the number of months operating, hence the prorated calculation for each business will differ.

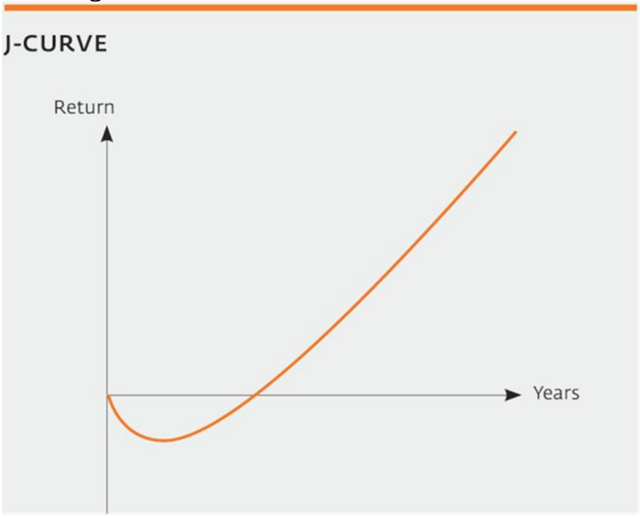
A comparative summary of the GVA analysis provided above (using the more traditional method of presenting the GVA return on investment – the second method) alongside that calculated using the sales methodology (see Section 5.6) is provided in the table below:

Table 5.14: Comparative Net Additional GVA Return on Investments using alternative Methodologies

	Using Sales Information		**Using Accounts Information (N=24)** [79]
	Applying ICT Sectoral Average GVA of 50.8%	**Applying NI Sectoral Average GVA of 30.1%**	
Net Additional GVA	£1,885,084	£1,116,949	(54,977)
Investment/financial assistance provided (equity and PoC)	£6,347,713	£6,347,713	5,792,795
ROI	**£1: £0.30**	**£1: £0.18**	**£1: (£0.01)**

Notwithstanding the methodological and timing differences, all three return-on-investment calculations indicate that, at mid-to-late 2017, Techstart's investments represent a cost to the economy (of between £0.70 and £1.01 for every £1 invested). However, it is important to note that at this early juncture in Techstart's rollout, such a result should, in the Evaluation Team's view, be fully anticipated. Indeed, empirical evidence[80] suggests that there is a tendency for private equity and proof of concept funds focusing on seed and early-stage growth companies to derive negative returns and cash flows in the short to medium term (which may amount to years), given the infancy of the companies invested in and the extensive research and development activities that are often undertaken to bring innovative products or services to market[81]. These funds/businesses tend to anticipate and derive positive returns and cash flow later in the investment fund's life as the portfolio companies mature and are gradually exited (also known as the 'J-curve' effect).

Figure 5.1: Illustration of the 'J-curve' effect



In the context of our results, it is important to be mindful that private equity investment is a relatively illiquid investment with a long-term horizon. The J curve illustrates that private equity investment returns for the first 2-3 years are typically negative (and perhaps longer when dealing with early-stage businesses). The J curve is primarily a result of the costs of setting up and operating a fund and of the

79 The return-on-investment is based upon the investment and or financial assistance provided to the businesses up to 31st March 2017. The figures are solely based on the investment and financial assistance provided i.e. exclude other costs including fund management costs, Invest NI staff costs etc.

80 For example see 'The private equity J-Curve: cash flow considerations from primary and secondary points of view', Christian Diller, Ivan Herger, Marco Wulff, Capital Dynamics

81 Related to this, we further note that a significant number of companies (N=62 - 15 that received equity investment (at a minimum) and 47 businesses that received PoC financial support only) only received financial assistance and/or equity within the previous 12 months (i.e. between April 2016 and March 2017).

temporary measurement at cost of the investments made. Typically, the return on a private equity fund cannot be finally determined until all investments have been sold and the private equity fund has been dissolved, usually ten years or more after establishment.

A further point to note, as indicated above, is that much of the expenditure of Techstart recipient businesses has been on R&D or export sales development type activities, and thus contributes to other strategic goals within an NI context, such as increasing levels of Business Expenditure R&D (BERD). Furthermore, we note that there may have been positive knowledge and market spillovers resulting from the R&D activities that were supported by the Fund during the period under review.

5.8 Unexpected Benefits

A significant minority (36%, N=75) of businesses suggested that the receipt of the Techstart support led to other benefits or unexpected impacts/benefits for the respondent and/or the business. Those benefits included:

- Networking opportunities and being introduced to new clients and/ or contacts; and
- Credibility as a business.

5.9 Comparison with EA's Projected Impact

5.9.1 Projected Impacts

The Economic Appraisal and subsequent amendment anticipated that Techstart would result in the generation of a number of types of benefits including:

1. GVA impacts;
2. In addition to GVA impacts (but not included within the EA's NPV analysis), it was noted that a proportion of the capital committed to equity might be realised at the end of the realisation period. However, as NISPO I had not reached the end of the realisation period, there was no baseline assumption for the proportion of equity which would be realised and as such, these financial benefits were not quantified at the time of the EA. Therefore, it was considered that the benefits modelled demonstrated a prudent approach to potential benefits on realisation;
3. R&D spillovers; and
4. Non-monetary impacts (e.g. entrepreneurship, innovation, university/industry linkages etc.).

The following table outlines the estimated gross and net additional GVA benefits/ impacts associated with the Preferred Option featured in the amendment casework:

Table 5.15: GVA Impacts (Options 3a)	
Quantum of Funding (£)	£24.6m
Gross GVA (£)	£252m
Net Additional GVA (£)	£87.7m

In order to estimate Techstart's potential GVA impacts, the Economic Appraisal used a third methodology (i.e. the methodology was not based upon the projected sales generated by fund recipients, nor was it based upon the accounts information of NISPO recipients). The EA's methodology was based on what is described as the 'employment cost to GVA' method. In relation to the anticipated GVA impacts, the EA amendment made the following assumptions.

- No GVA impacts were projected for the POC and IAP components as these were defined as 'feeder' programmes for the equity funds. It was considered that the economic benefits arising from these components would be captured in the equity funds **or** elsewhere in the evaluation of individual business supports available in Northern Ireland (e.g. Propel, Halo etc.).
- For the equity funds, the 'employment cost to GVA' method was used to project GVA impacts, as it was considered that this was where the most robust data points could be determined.
- Specific **'input' assumptions** relating to the inputs to the Economic Benefits Model utilised within the EA included:

  - An average deal size of £377k. Therefore, it was assumed that the £13m non-university equity funds would equate to 45 deals across the five year investment period. The £3m university funds (£1.5m each) would equate to 15 deals across the five year investment period.
  - Given the nature of the seed and early-stage companies, it was assumed that investee businesses would have different levels of success, with the following assumptions applied[82]:

    - 30% of companies would 'fail' (resulting in no employees after two years);
    - 30% of companies would 'survive' (resulting in six employees after two years which remains constant throughout the 6 year period prior to exit);
    - 30% of companies would 'thrive' (resulting in increasing employees each year throughout the 6 year period prior to exit with 28 employees by Year 6); and
    - 10% of companies would 'excel' (resulting in increasing employees each year throughout the 6 year period prior to exit with 60 employees by Year 6).

    It is noted that the amendment model featured a greater proportion (10%) of businesses at the top end of the scale that the original EA (where only 5% were projected to 'excel'). This reflected that higher funding was being provided to the better portfolio companies.

  - For each job created through Techstart, an annual salary of £18,876 would be paid (based on the 2012 NI Private Sector Median).
  - The average salary was multiplied by a factor of 1.21194 to take account of non-wage labour costs (such as national insurance and pensions) as these 'on-costs' are included in the total employment costs presented in the Northern Ireland regional accounts used in the process of converting salary data to GVA. This resulted in a total cost to the employer per FTE of £22,840.

- Specific assumptions relating to **the GVA calculations** included:

  - Total employment cost per FTE was converted into GVA per FTE. A total employment cost to GVA ratio of 1.87 was calculated based on the 2009 results for the Northern Ireland Annual Business Survey.
  - The GVA per FTE figure was then multiplied by the total number of FTEs created for each year.
  - The BIS Occasional Paper 'Research to Improve the Assessment of Additionality' (2009) outlined a number of scenarios for the assessment of additionality. As such, three possible scenarios[83] for the level of deadweight, displacement and substitution (or additionality factors) for 'individual enterprise support[84]' were assessed. In order to be prudent, the scenario with the lowest levels of additionality was chosen (Regional Level).

[82] These estimates were based on the actual performance of NISPO I companies.

[83] Scenario 1 and 2 are regional and sub regional levels of additionality, they were sourced from BIS, 2009, "Research to improve the assessment of additionality". The third scenario was the assumptions applied for in the economic appraisal for the Development Fund (2012).

[84] NISPO II was classed as 'individual enterprise support' under the 'business development and competitiveness' theme, as it met the definition "providing access to finance for small and medium sized enterprises (SMEs)".

In summary, the EA amendment projected the following interim performance for the Techstart fund after 3 years (i.e. in line with the timing of this evaluation) for Option 3a:

Table 5.16: GVA Impacts Projected within the EA after 3 years	
	Option 3a (1 Fund Manager)
No. of Equity Investments/Companies	35
No. of Job Years[85]	319.4
Average Employment Cost per Employee	£22,840
Employment to GVA Factor	1.87
GVA Per Job Created	£42,597.21
Gross GVA Impacts	**£13,605,548**
Additionality Factor	34.2%
Net Additional GVA after 3 years	**£4,654,099**

Based upon the information featured above[86], it is evident that the EA's projected results (at an interim stage of 3 years) are considerably more positive than those estimated by the evaluation team with the EA projecting net additional GVA of £4.7m compared with actual negative GVA of between -£54,977 (see table 5.13) and £1,885,084 (see table 5.10) for equity recipients in isolation[87].

We note that there are a large number of methodological and outturn differences[88] between the two different methodologies employed by the Evaluation Team and that used within the EA. In particular, the EA has used a methodology that calculates GVA based upon the number of employees employed by the investee businesses. However, for businesses such as those that typically receive Techstart support, this does allow for the fact that in the early phases of the businesses' operations, much of employment costs are sustained through the equity investment, as opposed to the businesses' trading performance. With respect to this approach, it may have been more prudent to commence the measurement of employment impacts after a suitable time frame (e.g. two to three years) when investee businesses have had an opportunity to commence trading/become profitable and self-sustain the employment generated.

In conducting any future evaluations of Techstart, where a comparison with the Economic Appraisal's GVA and/or NPV analysis is required, the findings presented above should be borne in mind

Of note, as a potential indicator of Techstart's future performance, it is noted that the Economic Appraisal of Techstart had applied the following assumptions relating to the future performance of the equity recipients:

- 30% of companies would 'fail' (resulting in no employees after two years);
- 30% of companies would 'survive' (resulting in six employees after two years which remains constant throughout the 6 year period prior to exit);
- 30% of companies would 'thrive' (resulting in increasing employees each year throughout the 6 year period prior to exit with 28 employees by Year 6); and
- 10% of companies would 'excel' (resulting in increasing employees each year throughout the 6 year period prior to exit with 60 employees by Year 6).

The Economic Appraisal indicated that these estimates were based on the actual performance, at that time, of NISPO I companies. Our review of the performance of NISPO businesses in October 2017 provides the following profile:

85 By way of further comparison, the updated EA model projected that equity recipient businesses (receiving 35 investments) would employ 179 (Option 3a) individuals by the end of year 3. The Evaluation Team estimates that Techstart's equity recipients employ 112 (gross) employees at October 2017 (circa 3.25 years after the Fund's launch).
86 And despite the EA using a much lower additionality factor than that estimated by the Evaluation Team.
87 We have shown only the findings in relation to equity recipients in isolation in this section to provide a somewhat like-for-like comparison as the EA did not profile benefits for the PoC recipients (except to extent that POC recipients were anticipated to provide some pipeline for the equity funds).
88 E.g. the average size of deals, the number of deals made etc.

Profile of NISPO Equity Recipients (using definitions presented in the EA)		
No. of Employees	**Definition per Techstart EA**	**% of NISPO Equity Recipients**
0	Fail	50%
1-5	Between Fail and Survive	22%
6-27	Between Survive and Thrive	25%
28-59	Between Thrive and Excel	3%
60+	Excel	0%

This indicates that it might be anticipated that a smaller proportion of businesses than that profiled within the EA will deliver the majority of benefits.

6. COST ANALYSIS

6.1 Costs Per EA & Original Approval

The Economic Appraisal's Option 3a projected total (full economic) programme costs of £37,896,858 (see Table 6.1) over a 10-year period. Key assumptions made included:

General Cost Assumptions	• Much of the cost assumptions were based upon the actual costs incurred under NISPO 1; • For the purpose of the economic appraisal, inflation was excluded from the economic analysis. • VAT was included where it was considered likely to be payable by Invest NI. • Costs were based on a 10-year period (which included a 5-year investment period from April 2014 to March 2019 and a 5-year realisation period from April 2019 to March 2024 when there would also be some follow-on activity). • Costs excluded any fund manager bonus costs. It was suggested that these would be met through any future returns in excess of capital committed generated by the equity funds[89]. • The full economic cost was presented, including Invest NI equity/ grant costs, private match funding, management fees, fully loaded Invest NI staffing costs and external evaluation costs.
Equity/ Grant/ Programme Costs	• The POC component was anticipated to have a duration of six years with grants being awarded for five years with a further year (year 6) to allow the companies to incur expenditure, make grant claims and for the grant manager to pay out the grant. Therefore, POC costs were assumed to be spread evenly across the six years. • The equity funds had a five-year investment period (when new investments would be made) and a five-year realisation period (when follow-on investments, but no new investments could be made). It was assumed that 70% of the total funds would be drawn-down evenly across the investment period with the remaining 30% drawn-down evenly across years 6-8. • The IAP was built into management fees under NISPO I. However, under Techstart, it was proposed that the programme costs for IAP would form part of the overall equity/ grant/ programme costs and therefore would not be subject to a profit margin for the fund manager. This was cited as being in line with relevant benchmarks.
Management Fee	• These were based on the staffing structure of the NISPO I fund manager and allowed for the recommendations for fund manager resources included in the Interim Evaluation. • It was anticipated that the tender documents would state that no deal fees would be levied on the companies and that monitoring fees would be capped.
Other Costs	• No specific marketing costs were associated with the proposed Techstart, with it anticipated that the fund manager would be responsible for marketing and awareness raising associated with the fund and (within its overall management fees allocation). • Invest NI would also undertake marketing activity at a 'Fund of Funds' level, but this would be incorporated in the Invest NI internal resource cost for Corporate Communications (see below). • Three external evaluations would be undertaken (at years 3, 6 and a post-project evaluation in year 10), with a budget of £20,000 (exclusive of VAT) allocated for each evaluation based on similar evaluations.
Internal Invest NI Resource Costs	The quantum of internal administration time required to oversee Techstart was assumed to be consistent with the time required to oversee NISPO I.

The table overleaf summarises the Option (Option 3a) from the Economic Appraisal that was selected for approval[90]:

[89] Under NISPO I, the anticipated bonus arrangement was self-funding and was triggered if the fund manager achieved a return on the equity investment, plus an additional £500,000 to cover the costs of the bonus.
[90] Inclusive of VAT on the IAP Programme Costs, the POC Manager and the Evaluation costs

Table 6.1: Summary of Projected Monetary Costs					
		Rationale	**Salary (£)[91]**	**Number of Individuals**	**Option 3 (A) (£)**
Invest NI Fund / Equity Costs	POC				7,600,000
	SME Equity Fund				13,000,000
	UIF				1,500,000
	QUBIF				1,500,000
	IAP				1,038,000
	Invest NI Fund/ Equity Sub-Total				**24,638,000**
	Private Sector Match Funding				**5,571,429**
	Fund / Equity Total				**30,209,429**
Fund Management Costs	Managing Director	Provide a strategic overview of the larger SME Equity Fund.	£120,000	0.25	300,000
	Investment Managers	These individuals would manage the equity funds, with additional management required for the larger scale funds.	£96,000	3	2,304,000
	Investment Executives	These individuals would seek out and manage the day-to-day investment activity. Additional staffing would be required if separate SME Equity Fund / University funds or larger funds were provided.	£60,000	2	960,000
	POC Manager	The POC Manager would be responsible for administering the POC grant programme. The time required would not vary across options.	£50,400 (incl. VAT)	1.5	453,600
	Compliance / FD / Monitoring / Admin	These individuals would ensure that the investments were compliant with FSA Regulation and monitoring performance. One individual would be required in each fund managing organisation for this role.	£54,000	1	540,000
	Admin Support	Required by the Equity Fund Managing organisations.	£24,000	1.5	£336,000[92]
	Set-up Costs	Set-up costs will be incurred in Year 1 for each fund managing organisation.			150,000
	Overheads	Overheads would be incurred across the project life and would vary depending on the number of staff and the number of fund managing organisations.			500,000
	Profits	25% of costs[93]			1,385,900
	Total Management Fees				**6,929,500**
Internal Invest NI Resource Costs	Director				£91,178
	Manager				£280,686
	Executive Officer I				£145,653
	Corporate Communications				£48,118
	Total Invest NI Staffing Costs				**£685,929**
Evaluation Costs					72,000
Total Costs (incl. VAT)					**37,896,858**
Management Fees as a Proportion of Total Costs (%)					18%

[91] Inclusive of full employers' costs (e.g. NICs, pensions etc.).
[92] It was assumed that 1.5 FTE admin support staff would be fully employed in years 1-8 with only 1 admin support in years 9 and 10.
[93] It was considered that there would be a requirement for a commercial incentive for the fund managing organisation and further that it was standard practice to allow for a proportion of profit to be earned. This was confirmed by the EA's benchmark consultations.

Invest NI's projected internal resource costs were based on the following assumptions:

Table 6.2: Invest NI Staff Requirements - Options 3a						
Invest NI Staff	**Fully loaded staff costs (£)**	**Years 1-5**		**Years 6-10**		**Total Cost (£)**
		% of time	**Cost Per Annum**	**% of time**	**Cost Per Annum**	
Director	£151,964	10%	£15,196	2%	£3,039	£91,178
Manager	£80,196	75%	£60,147	25%	£20,049	£280,686
Executive Officer I	£48,551	40%	£19,420	20%	£9,710	£145,653
Corporate Communications	£80,196	10%	£8,020	2%	£1,604	£48,118
Total Staffing Costs			**£102,783**		**£34,402**	**£685,929**

6.2 Costs Following Procurement Exercise

Following the procurement process, the fund was launched in July 2014, with the following agreed budget elements (excluding Invest NI resource costs and evaluation costs)[94] proposed for the 10-year operational period (split into a 5-year investment period and a 5-year realisation period)[95].

Table 6.4: Costs Following Procurement Exercise	
Budget Element	**£**
PoC grant fund	7,600,000
SME seed equity fund	13,000,000
QUB	1,500,000
UU	1,500,000
Investment Awareness Programme (IAP)	600,000
PoC and equity management fees	6,800,000
Total	**31,000,000**

As featured in Section 3.7.1, this compares with the original approval of £31.6m for Invest NI-related Fund/Equity Costs and Fund Management Costs but excluding £72k for evaluation costs.

6.3 Key Amendments to Budgets

Due to budget pressures, Invest NI approached Pentech in November 2014, requesting them to consider whether part of the PoC grant funding (revenue spend) could be provided to SMEs as loans (capital spend) rather than a grant. Pentech advised that they did not have FCA approval to provide loans to individuals, but that they could provide convertible debt to companies. It was therefore decided to explore the potential to reduce the allocation to the PoC fund and re-allocate this to the SME equity fund. It was considered by Invest NI that the use of ERDF funding in the SME equity fund provided substantial benefits from an affordability perspective.

At that juncture (circa November 2014), Pentech also suggested that based on their experience in the market that some other changes should also be considered. This included deal size and follow-on ability for the SME equity fund (which had potential to impact on the portfolio size), and the current external costs only rule on PoC expenditure.

The subsequent amendment approved (in July 2015) a £4m reduction in the PoC grant budget and a corresponding £4m increase in the SME fund. The work required in respect of this amendment was carried out in-house and involved staff from Corporate Finance, Business Appraisal and the Departmental Economics team. At that time the maximum PoC grant was also reduced from £40k to £25k (alongside the smaller Concept Grants of £10k), but for the first time facilitated the provision of a

[94] Source: Invest NI's Request for Amendment to Techstart NI Approval (27 April 2015)
[95] NB The PoC Fund has a 5-year offer period with one further year to enable grants to be drawn down. The IAP is anticipated to operate for 5 years.

grant towards own labour which had previously been excluded as an eligible cost. The remaining elements and fees were not amended.

Following the various discussions with Pentech and a consultation process conducted by Invest NI personnel, an amended budget was agreed as follows[96]:

Table 6.5: Amended Budget			
Budget Element	**Post Tender Budget £**	**Amended Budget £**	**Difference**
PoC grant fund	7,600,000	3,600,000	(4,000,000)
SME seed equity fund	13,000,000	17,000,000	4,000,000
QUB	1,500,000	1,500,000	-
UU	1,500,000	1,500,000	-
Investment Awareness Programme (IAP)	600,000	600,000	-
PoC and equity management fees	6,800,000	6,800,000	-
Total	**31,000,000**	**31,000,000**	**-**

Invest NI Casework Papers related to the amendment noted that the changes made had the effect of reducing revenue spend by c£4m and increasing capital spend by c£4m (compared to the original agreement with the Fund Manager), which met the initial catalyst for the amendment i.e. it had been Invest NI's objective to reduce the revenue spend associated with the initiative. The amendment also served to increase the Fund's capital spend, which in part is funded through ERDF.

The Casework Papers further noted that Pentech had proposed that the existing tendered fee should be re-allocated to reflect that more work would be required on the SME equity fund, with less needed on the PoC fund. The Papers note that the re-allocation was considered and agreed at the following levels:

Table 6.6: Re-allocation			
Programme	**Original**	**Amended**	**Difference**
SME equity fund	£4,500,000	£4,965,000	+£465,000
PoC grant	£1,008,000	£543,000	(£465,000)
IAP	£600,000	£600,000	-
Uni equity funds	£1,250,000	£1,250,000	-
Total	**£7,358,000**	**£7,358,000**	**-**

In summary, key features of the amendment included:

PoC Grant Fund	• A reduction in the PoC Grant Fund from £7.6m to £3.6m; • A reduction in the maximum value of the PoC Standard Grant from £40,000 to £25,000; • Consequential changes to the PoC grant fund targets (as discussed in Section 3.3); • A reduction in the PoC management fee by £465,000 (from £1,008,000 to £543,000).
SME Seed Equity Fund	• An increase in the total size of the fund by £4m (from £13m to £17m); • An amendment in the permitted portfolio company investment (of £50k to £500k) to £50k to £750k.
Management Fees	• A reprofiling of the proposed management fees of £7,358,000.
Projected Economic Returns	• The economic model developed for the original appraisal was reviewed and adapted to take account of the proposed amendments and the tendered costs as opposed to the budgeted costs used in the economic appraisal. • Invest NI's Casework Papers note that the economic model for the amended composition of the funds:

[96] Source: Invest NI's Request for Amendment to Techstart NI Approval (27 April 2015)

	- Projected a net discounted GVA of £52.7m in comparison to £44.7m in the original appraisal, and principally as a result of the increased GVA above, the NPV was expected to increase from £14.9m to £19.9m. - Projected 313 net jobs compared with 265 in the original appraisal, driven by the increased investment made available through the seed equity fund and representing a pro rata increase in the number of jobs compared to the additional equity amount available to the portfolio.

6.4 Actual Management Costs Incurred (to 30th June 2017)

The actual costs incurred by Programme strand (as of 30th June 2017) are discussed below:

6.4.1 IAP Costs

The IAP Services Agreement (of 9th July 2014) and the Deed of Variation (of 2nd November 2015) established that the Fund Manager's IAP related fees would be invoiced at monthly intervals, with the maximum IAP fees (including VAT) payable by Invest NI projected to be as follows:

Table 6.7: Investment Awareness Programme Costs

Period	Projected IAP Fees
From the Effective Date to 31 March 2015	£90,000
Year ending 31 March 2016	£120,000
Year ending 31 March 2017	£120,000
Year ending 31 March 2018	£120,000
Year ending 31 March 2019	£120,000
From 1 April to 30 June 2019	£30,000

It is understood that fees have been drawn down in accordance with the Services Agreement i.e. costs of £375,470 have been incurred as of 30th June 2017.

6.4.2 POC Costs

The Fund Manager's original and amended projected fees are as set out in the table below. These Fees cover all management costs of the Grant Fund and are inclusive of any and all costs and expenses incurred by the Manager in performing its obligations hereunder including, without limitation, all labour, material and expenses involved in such performance.

Table 6.8: POC Fund Manager Fees

	Original Fees (including VAT)	Period	Revised Fees (including VAT)
From the Effective Date to 31 March 2015	£126,000	From the Effective Date to 30 June 2015	£168,000
Year ending 31 March 2016	£168,000	Year ending 30 June 2016	£75,000
Year ending 31 March 2017	£168,000	Year ending 30 June 2017	£75,000
Year ending 31 March 2018	£168,000	Year ending 30 June 2018	£75,000
Year ending 31 March 2019	£168,000	Year ending 30 June 2019	£75,000
Year ending 31 March 2020	£42,000	Year ending 30 June 2020	£75,000
Total	**£1,008,000**	**Total**	**£543,000**

It is understood that fees have been drawn down in accordance with the amended PoC Services Agreement i.e. costs of £318,000 have been incurred as of 30th June 2017.

6.4.3 SME Fund

At 30th June 2017, the General Partner had drawn down just under £2m (£1,986,000) of its share, which is directly in line with the projected position detailed in the Deed of Variation (of 2nd November 2015).

Table 6.9: Statement of General Partner's Share to 30 June 2017 v Projected Position			
	Original Projected Fees (including VAT)	**Revised Projected Fees (including VAT)**	**Actual Fees (as of 30th June 2017)**
From the Effective Date to 31 March 2015	£450,000	£450,000	£450,000
Y/E 31 March 2016	£600,000	£669,750	£669,750
Y/E 31 March 2017	£600,000	£693,000	£693,000
Y/E 31 March 2018	£600,000	£693,000	£173,250
Y/E 31 March 2019	£600,000	£693,000	N/A
Y/E 31 March 2020	£525,000	£618,000	N/A
Y/E 31 March 2021	£425,000	£448,250	N/A
Y/E 31 March 2022	£325,000	£325,000	N/A
Y/E 31 March 2023	£225,000	£225,000	N/A
Y/E 31 March 2024	£125,000	£125,000	N/A
From 1 April 2024 to 30 June 2024	£25,000	£25,000	N/A
Total	**£4,500,000**	**£4,965,000**	**£1,986,000**

6.4.4 University Equity Funds

At 30th June 2017, the General Partner had drawn down £225,000 of its share of each of the two university equity funds, which is directly in line with the projected position detailed in the Agreements (of 9th July 2014).

Table 6.10: University Funds' General Partner's Share			
Year ending	**Per Agreement of 9th July 2014[97] (both Funds respectively)**	**Actual Position to 30 June 2017**	
		QUB Fund	**UU Fund**
From Effective Date to Y/E 31 March 2015	£56,250	56,250	56,250
Y/E 31 March 2016	£75,000	75,000	75,000
Y/E 31 March 2017	£75,000	75,000	75,000
Y/E 31 March 2018	£75,000	18,750	18,750
Y/E 31 March 2019	£75,000		
Y/E 31 March 2020	£56,250		
Y/E 31 March 2021	£50,000		
Y/E 31 March 2022	£50,000		
Y/E 31 March 2023	£50,000		
Y/E 31 March 2024	£50,000		
From 1 April 2024 to 30 June 2024	£12,500		
Total	**£625,000**	**£225,000**	**£225,000**

[97] NB It is expected that if the Partnership Expenses during the previous Accounting Period, exceed the amount of the General Partner's Share for the relevant Accounting Period, such amounts shall be carried forward and be payable from the General Partner's Share in subsequent Accounting Periods.

6.4.5 *Invest NI Staff Costs*

It is understood that Invest NI's internal resource applied to overseeing the Techstart programme has broadly been in line with the time anticipated within the EA. The Evaluation Team has (see Appendix 20 for calculations) calculated the fully-loaded staff costs based on the DfE Ready Reckoner utilising 2014/15 as the base year (allowing Q1 for programme procurement, set-up etc) and the uplift percentages agreed between Invest NI and DfE Economists, as follows:

Table 6.11: Invest NI Actual Techstart Staff Resource Requirements (to 30th June 2017)							
Invest NI Staff	**Grade**	**% of time**	**14/15**	**15/16**	**16/17**	**Q1 17/18**	**Total**
Director	Grade 5	10%	£15,651	£16,065	£16,487	£4,230	**£52,433**
Manager	Grade 7	75%	£60,545	£62,118	£63,713	£16,338	**£202,714**
Executive Officer I	EO1	40%	£18,708	£18,708	£19,637	£5,029	**£62,082**
Corporate Communications	Grade 7	10%	£15,651	£16,065	£16,487	£4,230	**£52,433**
Total			**£94,904**	**£96,891**	**£99,837**	**£25,597**	**£317,228**

6.4.6 *Programme Management Cost Summary*

A summary of the Techstart Programme Management costs (to 30th June 2017) is provided below:

Table 6.12: Programme Management Cost Summary		
	Budget Element	**£ (at 30 June 2017)**
Fund Manager	PoC grant fund	318,000
	SME seed equity fund	1,986,000
	QUB	225,000
	UU	225,000
	Investment Awareness Programme (IAP)	375,000
Invest NI Staff Costs		317,228
Evaluation		29,500
Total		**3,475,728**

6.5 Actual Programme Costs

The table below summarises the actual Techstart Programme costs aster 3 years (i.e. at 30th June 2017) and compares with the full (10-year) programme costs projected within the Economic Appraisal's Option 3a and those subsequently agreed with the Fund Manager.

Table 6.13: Summary of Monetary Costs (Projected Full Programme Costs v Actual Costs after 3 Years)				
		Option 3 (A) (£)	**Budget (following Amendments)**	**Actual Cost (to 30th June 2017)**
Invest NI Fund / Equity Costs	POC	7,600,000	3,600,000	2,812,950
	SME	13,000,000	17,000,000	5,077,703
	Ulster	1,500,000	1,500,000	299,833
	QUB	1,500,000	1,500,000	595,177
	IAP	1,038,000	600,000	375,000
	Sub-Total	**24,638,000**	**24,200,000**	**9,160,663**
Fund Management Costs (less IAP)		6,929,500	£6,758,000	2,754,000
Internal Invest NI Resource Costs		£685,929	£685,929	317,228
Evaluation Costs		72,000	72,000	29,500
Total Costs (incl. VAT)		**£32,325,429**	**£31,715,929**	**£12,261,391**

Based on our review of all information received, the Evaluation Team considers that Programme Management costs are broadly in line with their projected position. However, as outlined in Section 6.3, where a risk of divergence may occur over time relates to the quantum of equity funds disbursed.

7. KEY STAKEHOLDER FEEDBACK

As part of the Evaluation process, the Evaluation Team consulted with a number of key stakeholders (see Appendix 2 for details) alongside the Fund Manager. Key findings from those consultations are summarised below.

7.1 Need for the Funds

Uniformly, the consultees were of the view that there was (in 2014) and continues to be, a need for the Techstart NI Funds as a whole and for each of the funds therein. Key points noted, in relation to the individual programme strands, include:

IAP	The consultees were of the view that there is a general need for investor readiness support to be provided to start-ups and early-stage businesses. However, we note that most consultees indicated that they were not sufficiently familiar with the specific IAP support that has been provided by the Fund Manager to provide a view on the need for it in particular, or for investor readiness to be included within the Techstart suite of support.
PoC Grants	Consultees were favourably disposed towards the PoC grant programme noting its benefits: • It provides funding for projects which would otherwise be unlikely to progress at all in its absence, thereby supporting entrepreneurs to take risks and start businesses. • It facilitates businesses to test an idea and get it out to the market prior to seeking more substantial funding, which in turn facilitates the business to 'sink or swim' and for the entrepreneur to either grow a business around the concept or to move on to a more viable alternative, without having to incur huge investment from the private or public sectors. It was suggested by one consultee that success in securing a PoC gives start-up businesses a track record when approaching banks and other traditional funding providers which may potentially assist them in securing funding. The consultee considered that in the absence of that track record, it would be unlikely that these businesses would be successful in securing such funding.
Equity Funds	The consensus view was that there continues to be a gap in the provision of risk capital within NI, particularly at the seed finance stage which is being served (to an extent) by the Techstart equity funds. The following was noted by consultees: • In the absence of the funds, it would be unlikely that a private VC would enter the space or that banks would provide funding to many of the businesses at such a high-risk stage of development. • There are considerably more start-up businesses now (at October 2017) than there were 10 years ago, and whilst recognising that the supply of risk capital has increased[98] it was suggested that the level of available risk capital has remained proportionately the same (to the number of suitable start-ups), so there is a need to continue to provide funding (and potentially to a greater quantum than current levels). • There was a general consensus that the Techstart funds provide the first stage in a continuum of growth capital for NI businesses and therefore are vital in providing a pipeline to the later-stage funds and bolstering the access to finance eco-system. For instance, representatives from the Development Funds confirmed that they are not typically interested in investing in businesses which are at the stage of development targeted by Techstart. • It was suggested that businesses in NI are becoming increasingly aware of, and open to, equity as a potential source of finance so the demand for the Techstart NI funds is likely to increase moving forward. However, the ability to fulfil this demand will be subject to available budgets.

[98] i.e. Techstart is bigger than NISPO, which was bigger than NiTech. In addition, the Development Funds are larger and Co-Fund did not exist 10 years ago.

	• Furthermore, it was suggested that Invest NI's Access to Finance strategy has created a risk capital industry in NI which would not otherwise exist, and therein has supported the establishment of an entrepreneurship ecosystem. • In specific relation to university-based projects, it was suggested that there continues to be a need for the provision of equity funding to encourage spin-out businesses from the commercialisation of University research. In the absence of this funding, it was suggested that these businesses would be unlikely to receive risk capital from elsewhere and there would continue to be a gap between funding available through University POC grants, research council funding, and growth finance.

7.2 Appropriateness of the Delivery Model

There was a general consensus that the suite of funds within Techstart were appropriate and were necessary to support the needs of the marketplace relating to access to finance at the high-risk seed stage.

However, one consultee suggested that there remains a gap between the PoC grant and the Techstart SME equity fund where businesses struggle to access finance to continue their progression. It was suggested by this consultee that the growth in crowd-funding could potentially fill this gap. Key points noted, in relation to the individual programme strands, include:

PoC Grants	• Consultees were broadly positive about the delivery of the PoC, indicating that there appear to be appropriate levels of scrutiny placed on the projects. • However, mixed views were provided in relation to the parameters of the PoC grant fund: - One consultee suggested that the £10k awards are insufficient to enable a business to commission sufficient external technical expertise to prove a concept, so the business will likely have to return for a subsequent £25k grant. This consultee was of the view that greater flexibility should be provided relating to the available size of the PoC award on a case-by-case basis, suggesting that this might potentially provide greater value for money. - One consultee suggested that PoC grants of up to £80k should be available on a case-by-case basis to facilitate a 'better runway' to access funding for some technologies. - A number of consultees were of the view that the requirement to wait to apply to one of two annual tranches potentially slowed the progress of businesses which might otherwise have rapid growth potential. It was suggested that more frequent tranches (e.g. quarterly) would enhance the PoC grant fund and enable businesses to more rapidly achieve their growth potential. • One consultee, whilst agreeing that Invest NI should have increased the size of the SME equity fund, considered that doing so by transferring monies from the PoC fund may inadvertently stymie the pipeline for the equity fund. • A number of consultees were of the view that the requirement for businesses to meet costs upfront before claiming back PoC funding can be challenging given that the businesses are often not revenue generating and banks will not necessarily provide funding to cover the costs in the short-term.
Equity Funds	Consultees offered differing views in relation to the appropriateness of the parameters for the equity funds, including: • Most consultees considered that a larger SME equity fund would be beneficial. • A number of consultees indicated that the investment range was broadly appropriate. Indeed, one consultee suggested that if Techstart had the capacity to offer larger investment rounds (i.e. more than £250k), it would have the potential to create healthy competition with the later-stage Access to Finance funds (e.g. Co-Fund NI and Development Funds). • Conversely, a number of consultees suggested that the quantum of equity funding available through Techstart does not provide sufficient financial resources to fund the business for long enough to assemble and embed a high-quality team and to seek out and secure follow-on funding. It was suggested that a 'runway' of at least 18 months is

	required to enable a business to secure Series A funding and that the equity available through Techstart is unlikely to be sufficient to provide cover for this duration. • In this regard, it was suggested that Techstart should have the flexibility to provide up to £1m on a deal-by-deal basis to provide this necessary runway period (even if there were fewer investee businesses as a result). Whilst it was recognised that investee businesses can seek out co-investment to facilitate bigger rounds, it was noted that most Techstart funding rounds have totalled less than £500k because the risks for private investors are so great at the seed stage that the deals should be bolstered by the publicly-backed funding. • Two consultees noted that the lack of competition in the supply of seed funding in NI may potentially result in investee businesses receiving less favourable terms than they would in a more competitive market. However, it was recognised by one consultee that there is an onus on the investee business to be proactive in also seeking funding opportunities outside NI so they are in a better position to negotiate terms. • Both Universities indicated that the maximum funding for any spin-out (i.e. £300k) was too small with examples cited where the Techstart SME fund also funded deals to complete rounds of up to £1.2m in spin-out businesses. It was suggested that University spin-outs should be eligible for up to £750k similar to the SME fund. • It was also suggested that the overall quantum of funding available for the Universities was too low and effectively undervalued the potential of University spin-outs to NI's economic development. However, it was also noted that Innovate UK has established a panel of seed funders (the 'Innovation Accelerator') to focus on pulling-out commercialisation from Universities. • QUBIS suggested that each year there are 2-3 business propositions 'spinning-out' from QUB which would potentially be investable[99]. If 2 of these received £250k funding each year through Techstart then a fund of at least £2.5m would be needed over a 5-year period rather than the £1.5m at present. Or alternatively, a greater quantum than £250k would be more beneficial.

7.3 Role of the Fund Manager

Most consultees agreed that the Techstart NI Fund Manager has been effective to date in terms of:

- Marketing and promoting the funds;
- Developing a pipeline of investee businesses;
- Working in collaboration with the managers of others funds and supports for early-stage businesses (e.g. E-Spark, Catalyst Inc., Development Funds etc.) to develop the overall NI market (albeit it was noted that Techstart should potentially engage more fully with contacts outside of NI).
- Seeking opportunities to leverage co-investment to maximise funding rounds;
- Playing a conducive role in the completion of co-invested deals;
- Providing a good mix of marketing, financial and managerial skills;
- Ongoing monitoring and support of the investee portfolio (over and above the monies); and
- Having a knowledgeable presence within NI for businesses/other funders to engage with and ask questions to.

Indeed, consultees reported that Techstart has a strong portfolio of investee businesses which is a testament to the quality of the fund manager in identifying businesses with high potential and leveraging co-investment to support these businesses to complete deals.

It was suggested that the initial term sheets developed by Techstart were too VC focused, but that lessons were learned and that the documentation associated with the funds is now appropriate.

[99] The Evaluation Team notes that there is evidently a disparity between this statement and the number of businesses that have been supported through the QUB Equity Fund (to date). It would appear that this warrants specific consideration between Invest NI, QUB and the Fund Manager to examine whether greater throughput from QUB is possible. It is understood that for some projects QUB has secured finance from elsewhere and have effectively bypassed the Fund.

Consultees expressed more mixed views about the role of the Fund Manager in terms of the University Funds. For instance:

- A small number of sectoral consultees indicated that the Fund Manager has worked effectively with the Universities to build as much pipeline as could realistically be expected, on the basis that it was their view that the Universities could do more to embed a culture of commercialisation and genuine appetite to spin-out.
- Conversely, the Universities suggested that they have played the leading role in the identification of spin-outs with investment potential and pulling together of investment rounds to date, with it suggested that the Techstart Fund Manager could be more proactive[100].

The Universities suggested that whilst the Techstart Fund Managers are highly effective and experienced in the field of finance, they consider that they possess less expertise relating to technology[101] which, in turn, inhibits their ability to:

- Identify potential IP value; and
- Advise on how best to draw the value out of the business and commercialise it by building an appropriate team around the technology.

Instead, the Universities suggested that they have been relatively self-sufficient in this regard and have presented their spin-out companies to Techstart having already independently formed the team, selected a CEO and prepared them for investment.

7.4 Duplication and Complementarity

On an overall basis, the consultations indicated that the Techstart NI funds have been effective in contributing to the provision of a continuum of funding to support start-ups to achieve their growth potential. Indeed, it was suggested that start-ups in NI are at a comparative advantage to those in some other regions of the UK due to Invest NI's suite of funds and that businesses do not fully appreciate this advantageous position.

Key points to note include:

Relating to start-up supports (e.g. Propel & Accelerator, E-Spark, Springboard, Lean Launchpad Programme etc.)	• It was estimated that c. 15-20 of the businesses within the E-Spark Programme have previously received Techstart PoC grants. It was suggested that the PoC is fully complementary to E-Spark as E-Spark supports businesses to 'take a step back' and think strategically about their market opportunities, whilst the PoC enables them to test their concept to ensure that it is suited to those market opportunities. • One E-Spark business was cited as having received a PoC 18 months prior to subsequently receiving equity through Techstart which supported the business to grow from 2 to 10 employees. • It was noted that many participants of Catalyst Inc.'s Springboard Programme have previously completed PoCs and that these participants are often much better prepared for the programme and for progression than those businesses which have not undertaken a PoC. • Furthermore, the consultee suggested that of the 17 recent Springboard graduates, approximately 12/13 had engaged with Techstart and 6-7 had received equity investment.

[100] It should be noted that this point was discussed with the Fund Manager, who considers that they have been proactive in their engagement with the universities. Evidently, there is a difference in opinion on this point, so there would be merit in both parties more fully articulating their expectations of the other over the remaining fund period.
[101] Again, this point was discussed with the Fund Manager, who's opinion differs as to their level of technology expertise. Again, it would seem clear there would be merit in both parties more fully articulating their expectations of the other over the remaining fund period.

	• Catalyst Inc indicated that they had little oversight of what the IAP comprises but suggested that there was likely to be a degree of overlap with their own provision of investee programmes, so greater collaboration and cooperation going forward could be beneficial[102]. • The University Funds complement the Lean Launchpad Programme whereby the participant spin-outs receive support to form and become investor ready and the equity funds help them to commercialise and grow. It was noted that Techstart could potentially invest alongside the participant businesses.
Relating to Invest NI's loan funds	• The managers of the loan funds (i.e. NISBLF and GLF) confirmed that there is limited (if any) risk of duplication with the Techstart NI Funds as the businesses that access funding through Techstart are typically not at a stage of readiness for repayable debt (i.e. consistently revenue generating).
Relating to the Start-Up Loans Company	• Notwithstanding the point above, it was suggested that the Start-Up Loans (delivered by Enterprise NI on behalf of the Start-Up Loans Company) have a different risk profile[103] to the NISBLF, and has previously invested in recipients of Techstart PoCs, thereby providing a continuum of funding to embryonic innovative businesses.
Relating to Co-Fund/Halo/business angel funding	• It was noted that whilst the business angel market in NI appears to be growing, business angels will only ever be in a position to fund a finite number of businesses per annum so there continues to be excess demand. Furthermore, it was suggested that both the PoC and the equity funds lower the risk profile for business angels investing at a seed stage, so the angel investment may not otherwise be leveraged in the absence of the Techstart NI funds. Specifically, it was suggested that 6/7 businesses received funding from both Halo NI angels and Techstart NI which evidences the complementary nature of the two interventions. • It was however suggested that business angels should be educated more about the terms and conditions of investing alongside Techstart as they will be ordinary shareholders in the investee business whereas Techstart will hold preferential shares[104].
Relating to the Development Funds	• Kernel Capital indicated that it has not yet invested in any businesses which have received Techstart equity, but that it monitors the portfolio and meets with Techstart fund managers regularly to discuss opportunities for businesses which could potentially need growth finance. It was considered that Techstart was complementary to the Development Funds. • Crescent Capital has completed one investment which was led by Crescent and leveraged investment from Techstart. It has also invested in a number of businesses which previously received PoCs and/or equity investment under NISPO but indicated that largely it is too early for equity recipients to have progressed to growth capital stage.

7.5 Impacts

Whilst there has been one Techstart exit to date, the consultees were generally of a view that it is too early to comment on the impacts of the funds. However, the consensus view was that the portfolio of investee businesses appeared to have strong growth potential.

[102] The Evaluation Team notes the Fund Manager should seek all opportunities to develop greater collaboration in the marketplace (and that it is evident that it has achieved this in many aspects of its work). However, in specific relation to Catalyst's investee programmes, we consider that there is, at present, only limited potential for duplication of activity. That is, following the introduction of changes to the IAP, the Fund Manager has tended to run more bespoke seminars and training sessions that are not replicated elsewhere in the NI marketplace.

[103] Regardless of the risk profile adopted by the loan funds, it should be recognised that loans represent debt which must be repaid in the short-medium term, which is a very different funding mechanism than equity investment.

[104] Albeit, business angels can also have preferential shares if they are prepared to forego SEIS/EIS reliefs.

7.6 Additional Stakeholder Recommendations

Key recommendations made by stakeholders included:

- One consultee recommended that Invest NI should ensure that the fund manager for any next phase of Techstart should have offices in London to optimise opportunities to secure follow-on investment and to introduce NI businesses to influential contacts. In this regard, it was suggested that the fund manager should only invest seed funding in a business if it anticipates that there is a clear pathway to the business securing Series A funding (e.g. in 18 months). It was suggested that London offices would enable the fund manager to test the appetite for Series A funding in a business with potential investors and to validate the pathway required.
- Allied to the above, another consultee emphasised the importance of the current Techstart fund manager maintaining close linkages with Pentech Ventures in Great Britain and drawing upon GB, EU and US investor networks to raise awareness of NI's pool of entrepreneurs and to bring investee businesses towards Series A rounds.
- It was suggested that whilst Techstart is very technology-focused at present, there could be potential for the focus to broaden to include some customer service-focused businesses. It was suggested that these can be very attractive investment propositions in some cases.
- The Universities suggested that it would be beneficial if Techstart strengthened its linkages with Invest NI's Proof of Concept to streamline the transition from proof of concept through to commercialisation and spin-out of University businesses.

8. ACHIEVEMENT OF AIMS & OBJECTIVES

Section 3 discusses the extent to which the individual strands of Techstart activity are meeting their (amended) KPIs at June 2017. This section considers the extent to which Techstart is meeting its overall programme level objectives and targets as set out in Section 1.4.6.

Table 8.1: Achievement of Programme Level Objectives (Interim Position)

	Per EA	Evaluation Team's Commentary
Aim	Invest in seed and early-stage businesses with high growth potential and the prospect of exporting	**Achieved.** Techstart through its 3 equity funds and PoC fund has invested in a number of seed and early-stage businesses (and prospective businesses, within the PoC grant portfolio). Given the assessment criteria and controls utilised, all of the investees (and certainly all of the equity fund investees) can be categorised (at the point of investment) as having high growth potential and a strong prospect of exporting.
Anticipated Impacts	At least: 10% of POC recipients progressing to the equity funds.	**Achieved**. At June 1017, 146 individuals/individual businesses had received a PoC grant, which (per the target) would equate to c14-15 PoC recipients progressing to the equity funds. At the end of June 2017, 14 PoC recipients had progressed to the equity funds.
	7% of IAP participants progressing to the equity funds	**Likely to be largely achieved**. The Fund Manager records indicate that 683 individuals from 521 individual businesses have participated in IAP event as of March 2015, with a further 119 individuals participated in IAP events between April 2015 and March 2017. For the period to March 2015, this would equate to 36 IAP participants progressing to the equity funds, with presumably a further cohort of additional individual businesses amongst the 119 individuals in the 2-year period to March 2017. The Fund Manager's records indicate that all 31 equity recipients (as of June 2017) had participated in an IAP event.
	50% of POC recipients participating in the IAP	**Not yet achieved**. The Fund Manager's records indicate that 56 of the 146 PoC recipients (i.e. 38%) had participated in an IAP event (at June 2017).
	16 of the businesses supported by equity funds, progressing to later stage investment	**Not yet achieved/too early to determine.** In the Evaluation Team's view that there was room for greater clarity in terms of what this target meant by later stage funding. Many of the 31 equity recipients have received further funding since receiving Techstart investment, some of which is Series A. The information provided by the Fund Manager indicates that (at June 2017): • 2 investee businesses with initial investments of less than or equal to £150,000 (categorised by the Fund Manager as being Type A investments) have progressed to Series A potential; whilst • 6 investee businesses with initial investments of between £150,000 and £250,000 (categorised by the Fund Manager as being Type B investments) have progressed to Series A potential. If the target is taken to refer to Series A funding, on the basis of it being just 3 years into the programme, there is evidence to suggest that there is potential for this target to be achieved.

Table 8.1: Achievement of Programme Level Objectives (Interim Position)		
	Per EA	**Evaluation Team's Commentary**
	75% of IAP participants self-reporting that they are 'investor aware'	**Unknown/No longer applicable.** As outlined in Section 3, the nature and content of the IAP have changed considerably from that anticipated in the EA. In particular, it is important to note that not all IAP events or seminars are specifically focused on making participants 'investor aware'. However, we note that amongst our survey respondents, three-fifths (60%, N=45) of IAP participants agreed that the Techstart event or seminar that they attended had helped prepare them for investment raising and/or had informed them of some of the available options for their next stage of funding.
Anticipated Outcomes	Enhance employment in high growth businesses by creating 916 gross jobs (313 net jobs) across the investment portfolio	At October 2017, the Evaluation Team estimates that Techstart participants have created 275 gross jobs (112 by the equity recipients and 163 by the PoC recipients). Whilst the extent of achievement against this outcome will not be known for some time, the number of jobs created after 3 years provides comfort that it is achievable.
	Enhance productivity in NI by creating £86.1m of additional net GVA (£52.7m of net discounted GVA)	At October 2017, the Evaluation Team estimates that Techstart participants have generated net additional GVA impacts of between £2,210,964 and £3,731,461 based on evaluation survey. The level of GVA generated based on company account information is significantly less. Inevitably (given that this is an interim evaluation undertaken after 3 years; whilst the projected impacts were made over a 13 year period), it will take some time (years) before the extent to which Techstart has achieved this outcome will become evident. In addition, as noted above employment creation after 3 years is encouraging.
	Create R&D spillover effects in NI of at least £1.7m (central scenario of £4.7m)	Given the level of net additional expenditure on R&D amongst Techstart beneficiaries (£745k at October 2017) and the level projected over the next 2 years (see Section 9.11), the Evaluation Team considers that this target continues to be achievable.
	Create wider and regional impacts including entrepreneurship, innovation, University/industry linkages and real option values.	**Achieved** – Techstart has facilitated the creation of innovative (and R&D active) businesses and has developed strong linkages with the university sector.

9. NISPO ACTIVITY & MONETARY IMPACTS

9.1 Introduction

This section summarises the Evaluation Team's estimates of the gross and net monetary impacts associated with NISPO, with full details presented in Appendix 14.

It is noted that the NISPO Business Case[105] did not make a quantitative assessment of the Initiative's potential economic benefits and there was not a requirement for the manager to monitor economic impact related indicators. Rather, its objectives were activity based and commercially focused. In common with Techstart NI, the key monetary economic benefits (albeit unquantified) were expected to be derived from the equity portfolios.

9.2 NISPO Activity

The Evaluation Team understands that during its rollout, NISPO awarded 258 Proof of Concept grants to 227 individuals/businesses, of which 14 were subsequently involved in one of NISPO's 46 equity fund deals (i.e. an IGF, QUBIF or UIF deal). This is summarised as follows:

Table 9.1: NISPO Activity

	No. Distributed	No. of Unique businesses	Amount £m
PoC	258	227	5.0
IGF	36	36	7.0
QUBIF	5	5	1.0
UIF	5	5	1.0

NB Whilst there were 46 individual equity investments, these were made to 44 unique businesses, with:

- One business receiving both UIF and QUBIF investments; and
- One business receiving both QUBIF and IGF investments.

Invest NI's Terms of Reference identify that a number of the equity investee businesses had previously received a NISPO PoC grant including:

- 10 of the IGF portfolio businesses;
- 3 of the QUBIF portfolio businesses;
- 1 of the UIF portfolio businesses.

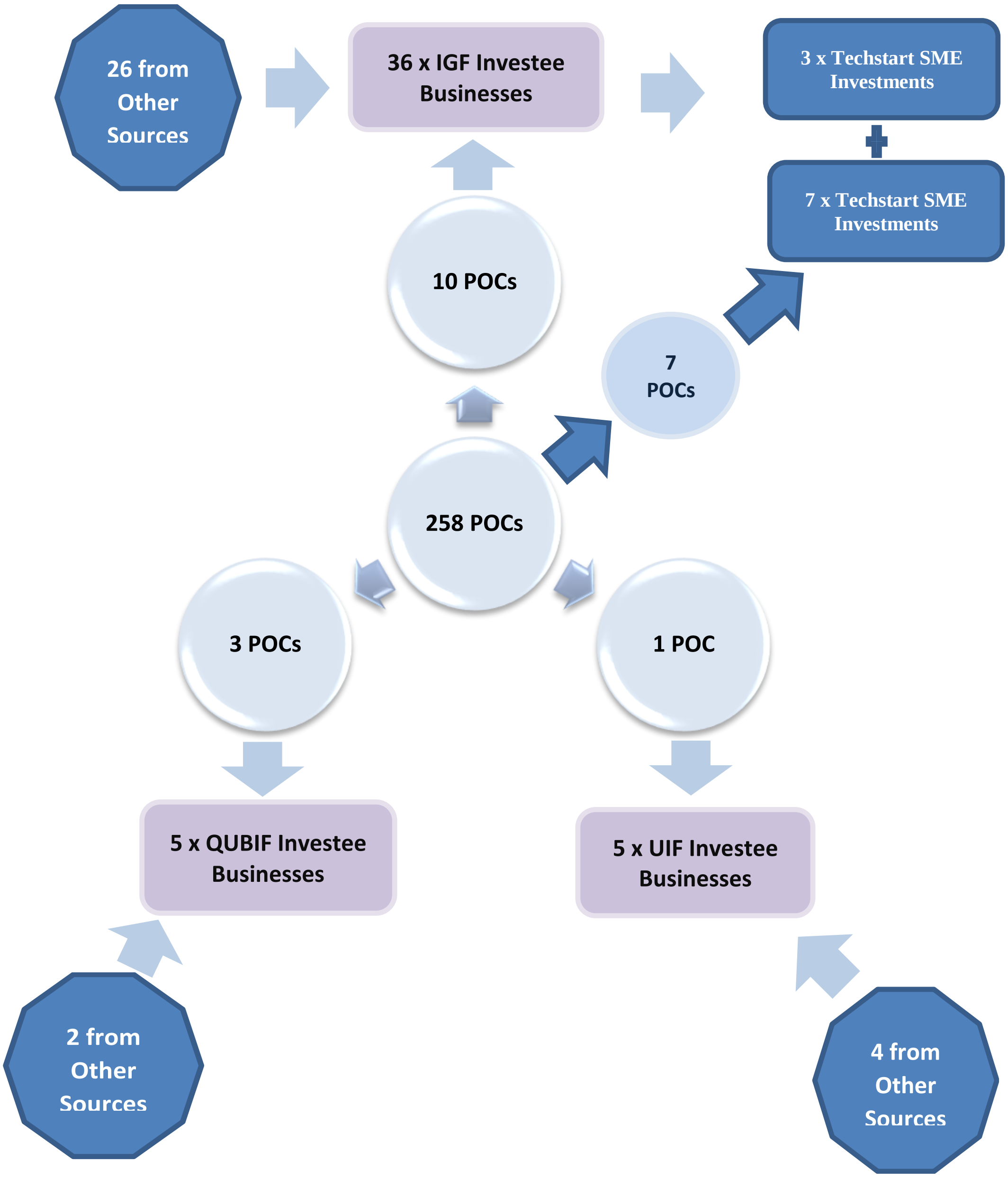
In addition, Invest NI's Terms of Reference indicate that:

- A further 7 NISPO PoC grant recipients went on to receive equity from the Techstart SME fund.
- 3 of the IGF portfolio have subsequently received equity from the Techstart SME fund.

Our understanding of NISPO's activity is summarised diagrammatically overleaf:

[105] Business Case for the Seed Capital Fund in Northern Ireland (Bearing Point, June 2007)

Figure 9.1: Summary of NISPO POC/Equity Activity



9.3 Methodological Approach

In order to assess the gross and net monetary impacts associated with NISPO, the Evaluation Team undertook a period of desk research (primarily to identify, where possible, the trading status of NISPO equity recipients) and primary research with individuals and businesses that received monetary support (either a POC grant or an equity investment) through NISPO.

This activity indicates that half (22 of 44) of the businesses that received an equity investment through NISPO are no longer trading or never reached a position of trading. Appendix 15 provides a summary of those businesses. The Evaluation Team consulted with individuals from 8 of the 22 dissolved NISPO equity recipients. Removing the 22 dissolved businesses leaves a balance of 22[106] NISPO equity recipients for whom some monetary impacts might continue to be realised.

[106] It should be noted that this includes three businesses that went on to receive Techstart equity investment.

It should also be noted that a small number (17 or 6.5%, N=262) of NISPO recipients subsequently went on to receive support through the Techstart programme, including:

- 3 IGF equity recipients went on to receive a further equity investment through Techstart;
- 7 NISPO POC recipients went on to receive an equity investment through Techstart; and
- 7 NISPO POC recipients also received a Techstart POC grant.

It should be noted that in order to avoid double counting, all of the recipients above (N=17) that also received support through Techstart were omitted from the 'NISPO survey and surveyed as part of the 'Techstart survey. As a result, in attributing the full impact associated with recipients that availed of both Funds to Techstart, there will inevitably be some reductions in the level of impacts attributed to NISPO.

However, we note as part of the survey of Techstart recipient, the Evaluation Team spoke to 7 of the 10 NISPO recipients that subsequently received Techstart equity investment. Of these, at the time of surveying 5 (of 7) reported total gross sales prior to the receipt of Techstart finance of only £86,000. The same 5 businesses had total gross sales of £649,000 (at circa October 2017) i.e. a net change of £563,000, of which they attributed £420,000 (i.e. net additional sales of c75%) to Techstart. This high level of additionality associated with Techstart and by inference low level of additionality associated with NISPO should not, in the Evaluation Team's view, be unexpected. That is, it is likely, given that the respective funds at any given point of time (when they were actively being received by the respective businesses) would have been or are (currently, in the case of Techstart) critical to the ongoing operation of the businesses, given their relatively low levels of turnover and the fact that they had circa 21 staff in total.

The NISPO survey activity is summarised below:

Table 9.2: NISPO Completed Surveys

	IGF	QUBIF	UIF	PoC	Total[107]
Total no. of businesses receiving NISPO	36	5	5	227	**262**
Total excluding overlap with Techstart	33	5	5	213	**245**
Total no. of dissolved/dead businesses	18	2	3	unknown	**22**
Total no. of 'live' businesses (re Equity)	**15**	**3**	**2**	**213**	**223**
Of the 'live' businesses					
Number not working	1				**1**
Unwilling to participate				3	**3**
Total Potentials (to call & complete)	**14**	**3**	**2**	**210**	**219**
No. of surveys complete (with dissolved businesses)	6	1	1	26	**34**
No. of surveys complete (of live businesses)	12	1	2	26	**41**
No. of surveys complete	**18**	**2**	**3**	**52**	**75**

The remainder of this section details our findings from the survey of NISPO beneficiaries.

[107] NB The total number of unique businesses is not the sum of the 4 funds, as: 1 business received both QUBIF and UIF investment (with the survey recorded as completed under QUBIF); 1 business received both IGF and QUBIF investment; and 9 POC recipients also received equity funding.

9.4 Development Stage of NISPO Businesses (Before & Currently)

- Given the number of POC respondents, it is perhaps not surprising to note that at an overall level, the majority (61%, N=75) of NISPO beneficiaries' businesses/business ideas were at the 'proof of principle/ proof of concept' stage before receipt of the NISPO support.
- However, two-fifths (39%, N=23) of the businesses that received a NISPO equity investment indicated that they were already trading prior to the receipt of the investment.
- As outlined above, our research indicates that 22 of the 44 businesses that received a NISPO equity investment are still operational. Indeed, 3 of the 22 have subsequently received a Techstart equity investment. However, one of the UIF recipients indicated that their business is currently at the 'prototype/working demonstrator' stage, and as such is operational but not yet trading.
- Less than a fifth (16%) of the 52 POC (only) respondents indicated that their POC project/business is now trading (up from 6% prior to receipt of the POC grant), whilst one respondent whose business had been trading prior to receipt of the POC grant has since sold the business. However, half (50%, N=52) of the POC grant recipients stated that their proposed business did not/ will not start[108], whilst one stated that they had started a business, but it has now ceased trading. The remaining third (34%) of grant recipients stated that they are still at POC stage, are at prototype or product development stage or at market-ready stage (but not yet trading).

9.5 Reasons Why Some POC Businesses/Business Ideas Did Not Start/Progress

The 26 individuals that stated that they did not/will not start their proposed business (or business idea, where they were already operating a business) provided a number of reasons as to why this is the case, with the most frequently cited reasons being that:

- They identified that the idea was not viable/ feasible (58%, N=26);
- They could not access the necessary finance in order to start the business (27%, N=26); and
- They considered that starting their own business was too risky (12%, N=26).

It is noted that one respondent subsequently started a business that was not related to their NISPO POC grant.

9.6 Support Received Prior to NISPO

For those respondents (49 of the 75) whose business idea/business progressed in some fashion, half (50%, N=46[109]) indicated that, prior to receipt of the NISPO support, they had approached other sources of equity finance or other external finance. Of this group, most (78%, N=23) had been successful in receiving investment.

9.7 NISPO's Influence on Business Creation

17% (13 of 75) of respondents were already operating a trading business (that was subject to their NISPO project) prior to the receipt of NISPO support. However, at October 2017, 33 individuals report that they are either:

- Continuing to operate that pre-existing business (8 individuals); or
- Their pre-existing business had now ceased trading (4 individuals); or
- They had since sold their pre-existing business (1 individual); or
- **Started a business and are continuing to operate it (15 individuals); or**
- **Had started a business, but it has since ceased trading (5 individuals).**

[108] NB 6 of the 26 POC recipients whose business idea did not progress were already operating a business that was unrelated to the idea that they were exploring through the POC grant.
[109] One IGF and two POC recipients did not provide an answer.

This indicates that 20 businesses commenced trading after the receipt of NISPO support, 15 of which are still trading.

The net impact (i.e. its additionality) of NISPO in relation to those 20 individuals' decision to start their business after receiving NISPO support, or where relevant, to start their business at 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. That is, the support must allow for deadweight. 'Deadweight' refers to activity that would have occurred without the intervention i.e. the NISPO Programme.

Appendix 17 provides a detailed overview of the Evaluation Team's deadweight/additionality calculations. However, in summary, the outcomes of the analysis are provided below:

Table 9.3: Business Creation Additionality/Deadweight[110]

Fund	Additionality	Deadweight
IGF (N= 9)	32%	68%
QUBIF (N= 1)	13%	87%
UIF (N= 2)	97%	3%
PoC (N= 6)	56%	44%
Overall (N= 18)	**47%**	**53%**

On an overall basis, only 1 respondent indicated that they would have started their business at the same scale and within the timescale regardless of the NISPO support (i.e. representing full deadweight). The remaining 17 respondents indicated that there was partial additionality relating to their decision to start the business, including 7 who indicated they probably (5 individuals) or definitely (2 individuals) would not have started their business in the absence of NISPO support.

9.8 Support Received Since Receiving NISPO

Two-thirds (65%, N=46) of those respondents whose business is trading or is at a pre-start stage indicated that at the time that they received NISPO support or since they had received NISPO support, their business/business idea had received further external investment or other support from private sector sources or public sector organisations.

It is noted that some of the investment received was cited by respondents as being leveraged as part of the NISPO investment, whereas some was received following the completion of the NISPO deal. Reflecting this:

- Appendix 14 Table 14.7 provides an overview of the support businesses leveraged as part of their NISPO deal; whilst
- Appendix 14 Table 14.8 provides an overview of the support that respondent businesses have received since NISPO.

As illustrated, in total the 30 respondents stated that they had:

- Leveraged almost £2.6m of further investment at the time of their NISPO deal, and have
- Received a further £11.5m since the time of their NISPO deal.

[110] This question was only asked to those businesses that started trading after receiving NISPO investment. 2 of the 20 individuals did not respond to this question (1 POC and 1 IGF recipient).

9.9 Access to Finance Deadweight / Additionality

As illustrated in Section 6.8, many of the NISPO recipients have received further finance since they received NISPO support. The net impact (i.e. its additionality) of NISPO on those businesses receiving that finance can only be measured after making allowances for what would have happened in the absence of the support. That is, the support must allow for deadweight. 'Deadweight' refers to activity that would have occurred without the intervention i.e. the NISPO Programme.

Appendix 17 provides a detailed overview of the Evaluation Team's deadweight/additionality calculations, whilst Section 14.8 of Appendix 14 discusses our methodological approach. However, in summary, the outcomes of the analysis are provided below:

Table 9.4: Access to Finance Additionality/Deadweight

Type of fund	Additionality	Deadweight
IGF (N= 14)	45%	55%
QUBIF (N= 2)	5%	95%
UIF (N= 3)	95%	5%
PoC (N= 11)	64%	36%
Overall (N= 30)	**54%**	**46%**

On an overall basis, only 4 of the 30 respondents indicated that they definitely or probably would have received the additional finance (both at the same scale and within the same timescale) regardless of the NISPO support (i.e. representing full or very high levels of deadweight). The remaining 26 respondents indicated that there was partial additionality relating to their business receiving further finance, including 14 who indicated they probably (13 individuals) or definitely (1 individual) would not have received the additional finance in the absence of NISPO support.

The Evaluation Team notes that the level of additionality associated with this metric is higher for Techstart (i.e. 71% compared with 54%). However, we would urge caution in drawing any firm conclusions relating to these findings given both the small populations involved (and similarly small survey populations). Nonetheless, we are of the view that it should be expected that any fund's result on this metric will decline over time. That is as a business progresses and possibly receives multiple investments over a prolonged period of time, the impact of the older investments should be expected to decrease over time, as it is superseded by more recent (and as a result more influential at that time) investments.

9.10 Estimating NISPO's Business Outcomes

Full details of the gross impacts associated with NISPO and the approach taken to estimate those impacts are provided in Appendix 14. However, key points to note are summarised below:

9.10.1 Approach to Grossing Up Impacts

Table 14.10 of Appendix 14 provides an overview of the approach taken to estimate the gross impacts achieved by our survey sample. Salient points to note include:

- The known attributes of the population are based on information provided during the consultations, from Invest NI or from a review of the current 'carrying value' of the NISPO equity investment portfolio commissioned by Invest NI (and undertaken by HNH Corporate Finance, October 2017);
- We have estimated the proportion (i.e. 19%) of NISPO POC recipient businesses that are trading based upon the feedback received from the survey sample;
- 61% of NISPO equity and 19% of NISPO POC recipients respectively reported impacts; and
- However, we have omitted the recipients that went on to receive Techstart support to avoid double counting.

In summary, when calculating the gross impacts associated with NISPO, our survey findings have been grossed up to a total population of 19 NISPO equity fund recipients and 41 PoC grant recipients respectively.

Our consultations with NISPO POC recipients identified one substantial outlier (a standard POC grant recipient). This respondent indicated that the whilst their business had been trading since 2004, the receipt of the POC grant had allowed it to explore a new direction for the business (both in relation to product offering and market serviced), which was subsequently taken and led to substantial turnover and employment growth and the business then being sold in 2013 to a large next-generation cybersecurity multinational. Despite selling the business, the respondent continues to be close to the new business unit and was confident that they were in an informed position to comment upon that unit's current (2017) NI sales figures of c.£11.5m and employment of c.150. The respondent was of the view that none of the sales or employment growth (both prior to the sale or post the sale) would have been achieved in the absence of NISPO (i.e. the respondent considered the impacts to be 100% additional). To be prudent, and on the basis that the respondent is no longer involved in the business and there is no certainty over the support the business has received since 2013, the Evaluation Team has estimated the gross (and net) impacts associated with NISPO under two scenarios – the first that considers the impacts associated with the outlier at 100% additionality and the second at 50% additionality.

9.10.2 *Impact Deadweight / Additionality*

The net impact of the NISPO support (i.e. its additionality) on recipient 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 the intervention.

Please note that given that most evaluations are undertaken sometime 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 interventions) may have had an impact on a business' performance. Therefore, an impact additionality measure was used to ascertain 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' [111]:

Table 9.5: Impacts Additionality/Deadweight

Type of fund	Additionality	Deadweight
IGF (N= 12)	40%	60%
QUBIF (N= 1)	7%[112]	93%
UIF (N= 1)	95%	5%
PoC (N= 10)	63%	37%
Overall (N= 24)	**50%**	**50%**

[111] See Appendix 17 for further details.
[112] NB There was only 1 respondent to this aspect of the survey.

9.11 **Net Additional Business Outcomes**

Please note, the net additional impacts associated with the survey sample applied the 'additionality' factor at an individual respondent level to provide a greater degree of accuracy. The Evaluation Team's estimates of net additional impacts associated with NISPO (excluding those businesses that subsequently proceeded to receive a Techstart equity investment) are detailed below[113]:

<u>Net Additional Sales Impacts</u>

The Evaluation Team estimates that the receipt of NISPO support has directly contributed to the creation of between £30.6m and £45m of net additional sales (Appendix 14 - Table 14.18) between 2010 and 2017, with a further minimum[114] of £14.8m expected to be achieved per annum over the next two years (to 2019).

Table 9.6: Net Additional Sales Impact for the Population (N=60) (£)

	2010	2011	2012	2013	2014	2015	2016	2017	Total (2010-2017)			2019 (Forecast)
									incl. outlier at 100% additionality	incl. outlier at 50% additionality	excl. outlier	
IGF (N=15)		-	593,750	748,125	1,198,625	1,718,000	2,451,125	4,276,875	**13,183,800**	**13,183,800**	**13,183,800**	5,298,625
QUBIF (N=3)		-	-	-	5,250	21,000	31,500	52,500	**110,250**	**110,250**	**110,250**	420,000
UIF (N=1)		-	-	-	-	-	47,500	28,500	**76,000**	**76,000**	**76,000**	0
POC (excl. outlier) (N=40)		-	-	17,317	289,277	748,169	1,530,527	2,559,759	**4,590,433**	**4,590,433**	**4,590,433**	9,095,919
POC Outlier (N=1)		66,667	133,333	200,000	2,942,691	5,685,381	8,428,072	11,170,762	**28,626,905**	**14,313,453**	**-**	-
Total		**66,667**	**727,083**	**965,442**	**4,435,843**	**8,172,550**	**12,488,723**	**18,088,396**	**44,944,703**	**30,631,251**	**16,317,798**	**14,814,544**

113 Further details provided in Appendix 14 and 22.

114 Only 58% of respondents were able to provide a forecast. Therefore, actual sales are likely to be greater, if projected sales levels are achieved.

Net Additional Sales Impacts by Geographic Markets

Businesses reported the following proportion of sales impacts in NI, GB and export markets.

Table 9.7: Proportion of Sales Impacts (at 2017) in NI, External and Export Markets			
	NI Sales	GB Sales	Export Sales
IGF	12%	25%	63%
QUBIF	0%	0%	100%
UIF	30%	30%	40%
POC (excl. outlier)	32%	54%	14%
Outlier	0%	1%	99%
Total (excl. outlier)	**14%**	**28%**	**57%**
Total (incl. outlier)	**5%**	**11%**	**85%**

Appendix 14 Table 14.20 provides an overview of the net additional sales impacts by geographic markets. This analysis indicates that depending on which scenario is considered for the outlier, NISPO has directly contributed to the generation of between £23.5m and £37.7m of sales in export markets.

Net Additional GVA Impacts

Given that the majority of respondents within the survey sample are in the ICT sector the net additional GVA impact of NISPO has been calculated using the ICT (Information and Communication) sector average of 50.8%[115], which suggests a net additional GVA impact of between £15.6m and £22.8m.

Table 9.8: Net Additional GVA Impacts of the Population, using ICT Sector Average (N=60)											
	2010	2011	2012	2013	2014	2015	2016	2017	Total		
									incl. outlier at 100% additionality	incl. outlier at 50% additionality	excl. outlier
IGF			301,625	380,048	608,902	872,744	1,245,172	2,172,653	**5,581,142**	**5,581,142**	**5,581,142**
QUBIF					2,667	10,668	16,002	26,670	**56,007**	**56,007**	**56,007**
UIF							24,130	14,478	**38,608**	**38,608**	**38,608**
POC (excl. outlier)				8,797	146,953	380,070	777,508	1,300,357	**2,613,684**	**2,613,684**	**2,613,684**
Outlier (N=1)		33,867	67,733	101,600	1,494,887	2,888,174	4,281,460	5,674,747	**14,542,468**	**7,271,234**	**-**
Total		**33,867**	**369,358**	**490,444**	**2,253,408**	**4,151,655**	**6,344,271**	**9,188,905**	**22,831,909**	**15,560,675**	**8,289,441**

[115] Source: NI Non-Financial Business Economy 2015 Provisional Results (Annual Business Inquiry), published 02/12/2016

Net Additional Employment Created

The Evaluation Team estimates that the receipt of NISPO support has directly contributed to the creation of between 134 and 206 of net additional FTEs (Appendix 14 - Table 14.23) of whom 23 have salaries above the NI Private Sector Median.

Table 9.9: Net Additional Employment Impact for the Survey Sample (N=24) and Population (N=60)

	Survey Sample (N=24)		Population (N=60)		2019 (Forecast) FTEs for the population[116]
Net Employment	**FTEs**	**No. above PSM**	**FTEs**	**No. above PSM**	
IGF	24	6	29	8	42
QUBIF	1	1	2	2	4
UIF	1	-	1	-	1
POC (excl. outlier)	7	3	29	13	49
Outlier @ 100% (N=1)	145	-	145	-	-
Total (incl. outlier at 100% additionality)	**177**	**10**	**206**	**23**	**96**
Outlier @ 50% (N=1)	73	-	73	-	
Total (incl. outlier at 50% additionality)	**104**	**10**	**134**	**23**	**96**
Total (excl. outlier)	**32**	**10**	**62**	**23**	**96**

Net Additional Spend on R&D

The net additional spend on R&D potentially incurred by businesses is £753k.

Table 9.10: Net Additional Spend on R&D for the Survey Sample (N=24) and Population (N=60)) (£)

Net Spend on R&D	Survey Sample (N=24)	Population (N=60)	2019 (Forecast for Population) [117]
IGF	186,100	232,625	271,250
QUBIF	-	-	-
UIF	-	-	-
POC	127,180	520,949	327,692
Total	**313,280**	**753,574**	**598,942**

[116] Only 58% of respondents were able to provide a forecast.
[117] Only 58% of respondents were able to provide a forecast.

9.12 Summary Conclusions

In summary:

- The NISPO fund invested £14m as follows:

Initiative	£
Invest Growth Fund (IGF)	£7m
QUBIF and UIF	£2m
Proof of Concept (PoC) Grant Fund	£5m

- This sum excludes the Fund Manager's fees of £3.9m, costs associated with the IRP and IPEU, Invest NI staff costs and any other financed raised at the same time i.e. co-investment;
- The Evaluation Team understands that 262 unique businesses received support across the various funds that comprised NISPO.
- Of the 262 unique businesses, 44 received an equity investment. Our research indicates that half (22 of 44) of the businesses that received an equity investment through NISPO are no longer trading or never reached a position of trading.
- 3 of the NISPO equity recipients and 7 NISPO PoC grant recipients did, however, go on to receive a further equity investment through Techstart;

Excluding those NISPO (equity investment or PoC grant recipients) that went on to receive Techstart equity investments, our findings indicate that across the equity and POC recipients:

- The receipt of NISPO support has directly contributed to the creation of between £30.6m and £45m of net additional sales between 2010 and 2017, with a further minimum[118] of £14.8m expected to be achieved per annum over the next two years (to 2019).
- Given that the majority of respondents within the survey sample are in the ICT sector the net additional GVA impact of NISPO has been calculated using the ICT (Information and Communication) sector average of 50.8%, which suggests a net additional GVA impact of between £15.6m and £22.8m between 2010 and 2017. This is expected to increase to a minimum of between £30.6m and 37.8m by 2019.
- It should be noted however that our consultations with NISPO PoC recipients identified one substantial outlier. The outlier accounts for between £7.3m and £14.5m of the net additional GVA impact recorded between 2010 and 2017.
- The receipt of NISPO support has directly contributed to the creation of between 134 and 206 of net additional FTEs of whom 23 have salaries above the NI Private Sector Median.

[118] Only 58% of respondents were able to provide a forecast. Therefore actual sales are likely to be greater, if projected sales levels are achieved.

10. BENCHMARKING

10.1 Introduction

Public Sector measures to provide firms with access to finance can take many forms. Key amongst these is support for the provision of venture capital (equity) and debt finance. Typically, these types of measures are not considered as substitutes in that they are intended for and are normally used by firms at different stages of their development:

- Equity finance (particularly venture capital) is usually associated with businesses which have great potential for growth but which are high risk. Such businesses may be at an early stage and lack cash flow and security in order to obtain debt finance.
- Debt finance is a widely used and relatively inexpensive way through which a firm can raise finance. It tends to be utilised by lower risk businesses. Loans and overdrafts are the most common forms of debt finance.

In considering the benchmarking analysis it is important to recognise that publicly-backed equity finance funds do not operate in isolation and that in any given region (e.g. NI) there are likely to be a myriad of sources of funding/ access to finance initiatives operating, including (but not necessarily limited to) senior debt lending, equity providers, venture capitalists/ business angels, crowd funders etc.

As such, a publicly-backed equity finance fund will only ever serve to fill a specific need within the wider marketplace and the activities of the fund will be subject to a range of external demand and supply factors including:

Levels of Bank Lending to SMEs	A key factor which impacts on the activities of a publicly-backed equity finance fund is the levels of bank (or other) lending to SMEs which exist in a given region. Whilst traditional lenders publicise lending to SMEs, it may be the case that banks/ lenders in certain regions are less risk adverse in supplying finance to viable start-ups and established businesses.
Appetite in the marketplace for risk capital	It is widely recognised that businesses within NI have historically been dependent upon grant funding and traditional bank lending to finance growth plans. Risk capital, therefore, represents a new alternative for many businesses in NI.
SME demand for equity versus debt	The levels of activity and corresponding impacts arising from equity finance funds are highly dependent on the balance of demand amongst the business base for debt finance versus equity finance.
Levels of Cooperation in the Marketplace	The levels of equity finance activity demonstrated in any specific region are subject to levels of engagement and cooperation between different funders and referral organisations in ‘bringing together’ viable propositions for syndicated deals.

On the basis of the above, it is not possible to conclusively benchmark the Techstart Programme with any individual funds in other regions, without fully assessing the demand and supply factors throughout the entire marketplace as part of a wider market research study.

However, the following analysis provides a high-level analysis and comparison of the Techstart Programme with more than five publicly-backed finance funds elsewhere. This analysis considers a range of key metrics across each fund (where appropriate information was available) to provide an indication of areas of commonality and key differences in the structure and activity of the funds delivered, and in turn to assess whether there is any merit in considering potential adaptations to the Techstart Programme. The interventions that we have chosen for benchmark purposes are[119]:

- Enterprise Ireland HPSU Feasibility Grant;
- Enterprise Ireland Competitive Start Fund (CSF);
- Enterprise Ireland Innovative HPSU Fund and Seed Capital Funds;
- Welsh Government Technology Commercialisation Fund;
- Development Bank of Wales Welsh Technology Seed Fund;
- Scottish Venture Fund.

[119] Further details on each of the comparators are attached as Appendix 16.

Table 10.1: Benchmarking Summary

	Grants			Equity					
	NI	**RoI**	**Wales**	**NI**	**RoI**			**Wales**	**Scotland**
	POC Grant	**HPSU Feasibility Grant**	**Technology Commercialisation Fund**	**Techstart Equity Funds**	**Competitive Start Fund (CSF)**	**Innovative HPSU Fund**	**Seed Capital Funds**	**Welsh Technology Seed Fund**	**Scottish Venture Fund (SVF)**
Funder	Invest NI	Enterprise Ireland	Welsh Government	Invest NI	Enterprise Ireland	Enterprise Ireland	Enterprise Ireland	Welsh Government	Scottish Enterprise
Fund Manager/ Delivery Agent	Pentech Ventures	Enterprise Ireland	SMARTCyrmu Team (within Welsh Government)	Pentech Ventures	Enterprise Ireland	Enterprise Ireland	Delivery partners (e.g. ACT Venture Capital and Frontline Ventures)	Development Bank of Wales	Scottish Investment Bank
Size of Fund/ Programme	£3.6m	Could not be confirmed[120]	No set budget (but represents a small part of the Welsh Government's overall R&D budget)	£17m seed equity fund and £3m across 2 x University seed funds	€6m in 2017	c. €25m per annum	• AIB Start-Up Accelerator Fund - €13m • Frontline Ventures -€60m	£7.5m	£75.4m approved across the SVF and the Scottish Co-investment Fund (2015-18) – SE estimated that c. £40m was for SVF
Size of Fund Per Capita	£1.93 (midyear 2016 pop. 1.862m)			£9.13 (midyear 2016 pop. 1.862m	€1.25 per annum (mid-year 2017 pop. 4.793m)	€5.22 per annum (mid-year 2017 pop. 4.793m)	• AIB - €2.71 • Frontline - €12.52	£2.41 (midyear 2016 pop. 3.113m)	£7.40 (£40m against midyear 2016 pop. of 5.404m)
Grant or equity?	Grant			Equity	Equity	Equity	Equity	Equity, Debt or Mezz	Equity
Composition of Fund (% Publicly-Backed where applicable)	Up to 100% public	50% public	75% public	Up to 100% public	€50k award must be matched by at least €5k of new cash investment	Up to 50% of investments can be public-funded	Up to 50% of investments can be public-funded	Requires private sector match – to date 36% of TSF was private	Up to 50% of investments can be public-funded
Investment Range	£10k mini-grants or £25k grants	Up to €15k	Up to £15,000	£50k - £250k with up to £750k follow-up through the SME fund or up to £300k follow-up through the University funds	€50k awards	Up to €500k of public funds in each investment and up to €1m over 3 years (or €1.25m if a regional business)	• AIB - €100k to €1m per investment • Frontline - €150k to €6m per business	£50k to £150k	£10k - £500k
% equity stake acquired	N/A			Negotiated	10% ordinary equity stake	Negotiable but EI cannot convert shares to more than 10% ordinary equity and does not sit on Board.	Negotiated		

[120] Following a number of requests, Enterprise Ireland indicated that this information was confidential in nature and therefore could not be provided.

Table 10.1: Benchmarking Summary

	Grants			Equity					
	NI	**RoI**	**Wales**	**NI**	**RoI**			**Wales**	**Scotland**
	POC Grant	**HPSU Feasibility Grant**	**Technology Commercialisation Fund**	**Techstart Equity Funds**	**Competitive Start Fund (CSF)**	**Innovative HPSU Fund**	**Seed Capital Funds**	**Welsh Technology Seed Fund**	**Scottish Venture Fund (SVF)**
Typical Target Audiences	Technology-based SMEs with high-growth potential and potential University spin-outs	New start-up company or individual entrepreneur to investigate the viability of a new export orientated business or proposition	Innovative businesses wishing to test the technical and commercial feasibility of a business concept	Technology-based SMEs with high-growth potential and potential University spin-outs	Segmented calls for key audiences e.g. female entrepreneurs, international entrepreneurs, regional businesses, experienced professionals, certain sectors etc.	Innovative HPSUs (at least 15% of operating costs relating to R&D expenses)	• AIB – Export-oriented start-ups in emerging sectors • Frontline – Fintech, big data, infrastructure, artificial intelligence, machine learning	Technology start-ups and early-stage businesses	Companies from start-ups, early-stage to expanding businesses seeking funding to develop products and/or markets
Eligible costs (where applicable)	Third-party costs to progress market/ concept development work and the cost of the entrepreneur's own labour.	Salaries and overheads, travel and subsistence, consultancy fees, trade fairs, accelerators, prototype/materials	Initial market assessments, patent checks, IPR validation, desk research – typically as the first stage of further R&D	N/A	Salaries, travel, consultancy fees and other expenditure as detailed in the application	Costs required to achieve the overall (rather than elements) the HPSUs business plan	N/A		
Total number of investments	147 grants across a 35-month period	Could not be confirmed[121]	5 in the 16/17 financial year	28	Up to 15 awards under each call	Typically 80 per year	Could not be confirmed[122]	40 investments in 27 businesses between 2014 and 2017	Could not be confirmed[123]
Average Value of Investment from the Funds	£18,367[124]		£14,049	£196,429[125]	€50k each	€312,500[126]	To be confirmed – however, EI advised that it would be in excess of £250k	£2.3m was invested during 2016/17	

[121] As above, following a number of requests, Enterprise Ireland indicated that this information was confidential in nature and therefore could not be provided.
[122] Ibid.
[123] Scottish Enterprise confirmed that this information was not publicly available at this time and therefore could not be included within the Evaluation of Techstart.
[124] Averages for POC based on 147 businesses receiving £2.7m of grants across a 35-month period.
[125] Averages for Techstart equity funds are based on 28 investments (22 SME Fund and 6 University funds) equating to £5.5m of funding across a 35-month period.
[126] Based on an estimated 80 investments equating to €25m per annum.

The previous analysis and the attached appendix showed that each of the regions considered (ROI, Wales and Scotland) operated grant and equity funds for seed and early-stage businesses during the period under review, which were broadly comparable to the Techstart suite of funds in terms of offering finance of between £10,000 and £250,000 to businesses with high-growth potential. This suggests that there was market failure relating to finance for such businesses throughout NI and the benchmark regions within this particular investment range.

Key points to note in relation to the previous analysis of benchmarks include:

Fund Manager/ Delivery Agent	Whilst Pentech Ventures is responsible for the delivery of the POC grants, other grant programmes considered were delivered directly by the public-sector body. Indeed, in Wales and Scotland, Feasibility Grants which are comparable in aims to the Techstart POC are delivered by R&D personnel, similar to Invest NI's Innovation Vouchers or Grant for R&D Programmes. Typically, the public-sector body enters into a partnership with a seed or venture capital fund to deliver the equity component, similar to the approach taken for the Techstart Programme. However, it is noted that Enterprise Ireland directly delivers the Innovation HPSU Fund and is ultimately responsible for assessing and approving the investments.
Size of Funds	Whilst there is variation in the size of comparable funds supported in other regions, it is noted that a number of funds (e.g. the £7.5m Welsh Technology Seed Fund and the €13m AIB Start-Up Accelerator Fund in RoI) are broadly in line with the quantum of the SME equity fund provided through Techstart. On a per capita basis, it is noted that the Techstart equity funds (estimated to equate to £9.13 per capita) are broadly comparable in size to the Scottish Venture Fund (£7.40 per capita), but almost twice that of the Innovative HPSU Fund (€5.22 per capita per annum).
Grant or equity	Whilst RoI and Scotland provide finance by either grant or equity, it is noted that the Welsh funds can be provided by way of debt, mezzanine or equity depending on the unique characteristics of the business and any co-investors.
Composition of the Fund	Across the benchmarks considered, typically private sector match funding is required for each investment. For instance, Enterprise Ireland will only invest up to 50% of the total value across its range of equity funds, and even the CSF awards require the business to provide at least €5k of funding towards the business plan activities.
Investment Range	Each of the funds considered has the potential to offer comparable levels of investment to the funds supported under Techstart. However, it is noted that a number of the funds (e.g. Enterprise Ireland's Seed Capital Funds) have much greater investment ranges (e.g. up to €6m under the Frontline Ventures Fund). Through discussions, Enterprise Ireland advised that deals are more typically above the range equivalent to £50k-£250k on the basis that these businesses are often somewhat more developed and therefore lower risk.
Equity Stake	Similar to the Techstart equity funds, typically the fund manager negotiates the fund's equity stake on a deal-by-deal basis with the recipient business, although Enterprise Ireland has capped its potential stake of ordinary equity capital in CSF and Innovative HPSU Fund businesses at 10%.
Target Audiences	Each of the regions has products which are aimed at supporting high-growth potential innovative businesses. However, it is noted that Enterprise Ireland has further segmented its CSF to encourage entrepreneurs from target groups (e.g. female, international or experienced entrepreneurs and start-ups from particular sectors to establish HPSUs).
Eligible Costs	The costs which are eligible under the Techstart POC broadly align with those eligible under Enterprise Ireland's HPSU Feasibility Grant. However, it is noted that the Welsh Technology Commercialisation Fund and the Smart: Scotland Feasibility Grant (as per the Appendix) are more overtly focused solely on R&D costs.
Average Investment Size	Whilst limited data is available, it is noted that the average fund investment provided through Enterprise Ireland's Innovative HPSU Fund and Seed Capital Funds were in excess of the £50k-£250k investment range as per the Techstart funds. Furthermore, on the basis that these Funds each require at least 50% private match funding, the total deal size could potentially have been considerably higher than a deal fully-funded through Techstart.

10.2 **Summary Conclusions**

The Evaluation Team considers that caution should be taken when seeking to elicit lessons for NI in relation to the scale and performance of equity funds elsewhere, as the scale of market failure and need and demand within one region is unlikely (in our view) to be replicated exactly in another. A considerable number of factors influence this conclusion, including:

- The number, scale and sector profile of businesses in a given region;
- Appetite in the marketplace for risk capital; and
- Levels of cooperation in the marketplace.

Ultimately, full market/regional studies would be required to fully compare and contrast the performance of the Techstart Programme with similar products elsewhere, but such depth analysis is beyond the scope of this project.

However, what is clear from our benchmarking review is the following:

- The funds within the Techstart Programme exhibit many areas of commonality with other funds throughout the UK and the Republic of Ireland, which suggest that similar market failures relating to access to finance exist elsewhere for start-ups and early-stage technology businesses. This perhaps provides further evidence of a continuing need for government intervention to provide access to finance for these businesses.

- However, Invest NI is unique in providing a suite of 'wrap-around' support akin to that provided through the Techstart Programme incorporating POC grants, investor awareness support and equity finance for SMEs and university spin-outs, with the other regions considered providing similar support across a range of different initiatives. Notwithstanding this, our research indicates that the structure of Techstart has been effective in providing a coherent progression route for start-ups which might not be achieved to the same extent in the event that the individual components were more disjointed.

- Furthermore, Invest NI is the only body considered which provides a 100% contribution towards the equivalent grant or equity offering. Whilst the level of private sector match funding is relatively minimal in some cases (e.g. a €5k contribution towards the €50k CSF offer), it was noted by consultees that the requirement for at least some private sector investment can provide an early indication of the market viability of the proposition.

- The Evaluation Team notes that specific challenges faced by women in accessing finance to start-up and grow businesses emerged as a theme through the consultation with Techstart participants and strategic stakeholders. Enterprise Ireland has recognised similar challenges amongst its entrepreneurship eco-system and as such has not only established a source of finance which is ring-fenced especially for female entrepreneurs (i.e. a £750k CSF call), but has also established a dedicated Female Entrepreneurship Unit.

  Whilst underrepresentation in, and specific challenges faced by, women could potentially represent a broader issue in the NI eco-system than relating solely to Techstart; the primary and benchmark research indicates that Invest NI should seek to identify if there are specific barriers to females starting-up and growing high-potential businesses and provide appropriately tailored solutions to overcome these. Specifically, similarly to Enterprise Ireland, there may be merit in considering the establishment of a source of finance targeted solely at females.

11. CONCLUSIONS & RECOMMENDATIONS

11.1 Conclusions

11.1.1 Overarching Conclusion

On an overall basis, the Evaluation Team considers that Techstart has successfully embedded itself within both the access to finance and business start-up ecosystems within NI. Our consultations with beneficiaries and stakeholders indicate that it straddles both. We note this given that the primary aim of Techstart is its 'investment' role[127], and much of its KPIs relate to the number and quantum of investments made, and whilst we consider that the fund is successfully meeting that aim and, for the most part, its stated KPIs at this interim juncture, such targets may not fully reflect the value or 'added value' that Techstart is delivering (to date). That is, and not to negate later conclusions and recommendations for improvements, it is evident that Techstart, through the auspices of its Fund Manager, is playing a role within NI that goes beyond simply investing in suitable prospects, and is providing considerable added value to those prospective businesses/businesses through amongst other means:

- Providing a supportive environment for prospective/early-stage entrepreneurs to validate the need for their suggested product/service and potential market demand and to develop a plan to grow their business, whilst maintaining a commercial focus on the fund's ultimate goals;
- General commercial advice and signposting, facilitating beneficiaries to navigate the many and varied uncertainties and unknowns that are encountered at the seed and early stages, including advising on management skills requirements, supporting Board and management team building, supporting the introduction of appropriate governance procedures and structures;
- Specific technical advice and knowledge sharing including through the use of specialist supports, contacts and role models, and through a variety of channels;
- Facilitating access to a wide network of supports (including other funds), organisations and knowledgeable individuals.

We note that our many conversations with Techstart beneficiaries indicate a very substantial number of instances where bespoke and specific advice has been provided by the Fund Manager, and the very positive feedback from many recipients as to the impact that such engagement with the Fund Manager has had upon their businesses and indeed upon the beneficiaries as individuals (i.e. how they now go about running their businesses or addressing businesses issues)

11.1.2 Achievement of Objectives

Techstart is a 10-year programme of activity and it is anticipated that its economic value/impact is anticipated (per the Economic Appraisal) to extend for up to 3 years beyond that period. This evaluation has been conducted at an interim stage, 3 years into the programme's rollout. Nonetheless, at this early juncture, evidence collated indicates that the programme is successfully meeting (or has strong potential to) its stated aims and objectives and the various KPIs that have been established. For example, at October 2017, the Evaluation Team estimates that Techstart participants have created 185 net additional FTE jobs, compared with a 13-year programme level target of 313 net jobs.

In relation to the programme's investment related KPIs, the one area of activity that is behind target is the value of investments. Whilst it is recognised that the funds should work on a commercial basis, and investment should only be made within the fund's investment criteria, this metric will require constant monitoring over the life of the investment period and appropriate corrective actions taken where appropriate. It should, however, be noted that the acceleration of follow-on activity as the portfolio grows should go some way to addressing this issue.

[127] Specifically, Techstart's stated aim is to "invest in seed and early stage businesses with high growth potential and the prospect of exporting".

11.1.3 *The Integrated Fund Model*

All evidence indicates that the integrated fund model works well in theory, and for the most part in practice. That is, some aspects of the programme's operations might need minor alteration to ensure that they fully address the programme's needs (see Section 11.1.4). Encouragingly, there is clear evidence that the theoretical 'enterprise escalator' has worked well in practice with individuals/businesses availing of multiple strands of support (e.g. IAP and/or PoC grant and/or equity fund and/or other external support) with each contributing in different ways to the advancement of a business idea or business development and growth.

11.1.4 *The Delivery Model*

For the most part, the delivery model (including the amended investment parameters) implemented by Invest NI and the Techstart Fund Manager appear to be robust and appropriate, with the Fund Manager implementing effective management and operating structures, including:

- The application and appraisal processes;
- Engagement with participating businesses and Invest NI;
- Financial management and output monitoring arrangements (which are of a high standard).
- Risk management (which have a number of safeguards in place);
- The management/delivery of the European Regional Development Funding (ERDF) elements (e.g. the administrative arrangements including vouching requirements and expenditure eligibility).

However, some areas that might need attention include:

- The funding limits associated with the university funds;
- The Fund Manager's engagement with the university sector (recognising that changes may be required both by the Fund Manager and the two universities, to ensure that the available support is maximised and further recognising that steps have been taken to address this is the latter half of 2017);
- Ensuring that appropriate technical expertise is available to ensure that all technological business propositions are given appropriate consideration;
- Addressing any perceptions that the fund does not treat all groupings of applicants in the same manner (save within the boundaries of the funds' investment criteria).

11.1.5 *Impacts Generated*

As noted within Section 11.1.1, the Evaluation Team considers that it would be remiss to focus solely on Techstart's monetary economic impacts (certainly at this interim stage) given the very positive feedback from beneficiaries relating to the impact that the support has had upon them and their businesses. Nonetheless, at the time of writing, whilst many of the businesses supported are beginning to achieve market traction, the Techstart programme (on an overall basis) has not yet begun to generate a positive return. This, however, is typical of funds of this nature at its stage of development, with positive returns not typically seen until after 3 years. However, given the importance of the GVA metric to the programme's overall success, it may be prudent for Invest NI to conduct a short review on an annual basis that considers the annual sales generated by portfolio businesses and the GVA results from accounts information (over and above the value of investment made) to ensure that both are on a strong growth trajectory. It is noted that the fund manager does collect this information and provide it to Invest NI as part of its annual reporting requirements.

We note also that our review of the NISPO funded businesses indicates that a very small number of the portfolio businesses might ultimately generate the majority of any economic GVA impacts.

In addition to generated economic impacts, in the medium to long-term, there is potential for the equity investments to yield positive financial returns to Invest NI, reducing the financial cost of the intervention to Invest NI.

11.1.6 Economy, Efficiency & Effectiveness

Whilst it is very early in Techstart's implementation to fully determine its economy, efficiency and effectiveness, we have provided below a viewpoint at this interim stage:

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.	In relation to the funds, the original composition of the Techstart Fund was determined based upon market need and demand as assessed through demand for the legacy NISPO funds and other consultations undertaken by the Economic Appraisal Team. It was later rescoped with the aim of providing even better economy (i.e. it was considered that the objectives of the PoC fund could be met utilising smaller grants) and effectiveness (i.e. it was considered that the aims & objectives of the fund could be better met through the introduction of more equity finance). In relation to the fund manager, the contract was publicly and extensively promoted, with Invest NI selecting the bidder that was determined to have the potential to provide the best 'value for money' (i.e. the best combination of both qualitative considerations, methodology/experience, and costs). In relation to both the fund and its management, it appears that appropriate inputs have been obtained at least cost.
Efficiency relates to measures that are concerned with achieving the maximum output from a given set of inputs.	Notwithstanding the reduction in the PoC grant budget, our discussions with Invest NI and the Fund Manager indicates that all applications for both PoC grant funding and Techstart equity finance are robustly assessed so as to ensure that all monies provided are necessary and not surplus to essential requirements. In this regard, it is the Evaluation Team's view that Techstart is achieving the maximum output from a given set of inputs.
Effectiveness measures are concerned with showing the extent to which aims, objectives and targets of the project are being achieved.	The extent to which Techstart will be 'effective' will only truly be known after many years (10-13) have passed. However, the Evaluation Team considers that the fund is making positive progress towards meetings its aims and objectives.

11.1.7 Compliance with GBER

The monitoring materials maintained by the Fund Manager indicate that the Fund is fully compliant with Articles 21 and 22 of GBER 2014.

11.1.8 Lessons from Elsewhere

Benchmarking evidence suggests that publicly supported grant and equity funds (that require private-sector match funding) for seed and early-stage businesses are commonplace in the UK, EU and other similar regions, albeit Invest NI's integrated fund model (under the management of a single Fund Manager was somewhat unique amongst the benchmarks). Specific funds that were considered in GB and RoI were found to be broadly comparable to the Techstart suite of funds in terms of offering finance of between £10,000 and £250,000 to businesses with high-growth potential, perhaps reflecting a consistent market failure relating to finance for such businesses throughout the UK and Ireland within this investment range and nature of business. Albeit, Invest NI is the only body (considered as part of the benchmarking review) that provides a 100% contribution towards the equivalent grant or equity offering. Whilst the level of private sector match funding is relatively minimal in some cases (e.g. a €5k contribution towards the €50k CSF offer), it was noted by consultees that the requirement for at least some private sector investment can provide an early indication of the market viability of the proposition.

Of particular note:

- There are some indications that the average level of initial investment in the Republic of Ireland regularly exceeds the £250k limit that is a feature of the Techstart funds. Given feedback relating to the limitations of such a limit (i.e. that such an amount does not allow a company sufficient time to develop without needing to source additional monies if it has a team, premises etc. in place, which puts the business under pressure at an early juncture);
- Enterprise Ireland has further segmented its CSF to encourage entrepreneurs from target groups (e.g. female, international or experienced entrepreneurs and start-ups from particular sectors) to establish HPSUs. Such segmentation or perhaps additional supports for specific groups might warrant exploration by Invest NI, particularly given the feedback from some groupings of beneficiaries e.g. women.

11.1.9 NISPO's Impact

The Evaluation Team understands that 262 unique businesses received support across the various funds that comprised NISPO. The NISPO POC and equity investment provided totalled £14m, plus Fund Manager costs of £3.9m (excluding any other finance raised at the same time i.e. co-investment, as well as IRP, IPEU, and Invest NI staff costs).

Of the 262 unique businesses, 44 received an equity investment. Our research indicates that half (22 of 44) of the businesses that received an equity investment through NISPO are no longer trading or never reached a position of trading. Three of the NISPO equity recipients and 7 NISPO PoC grant recipients did, however, go on to receive a further equity investment through Techstart.

Excluding those NISPO (equity investment or PoC grant recipients) that went on to receive Techstart equity investments (whose impacts have been captured under the Techstart impact assessment), our findings indicate that:

- The receipt of NISPO support has directly contributed to the creation of between £30.6m and £45m of net additional sales between 2010 and 2017, with a further minimum[128] of £14.8m expected to be achieved per annum over the next two years (to 2019).
- Given that the majority of respondents within the survey sample are in the ICT sector, the net additional GVA impact of NISPO has been calculated using the ICT (Information and Communication) sector GVA average of 50.8%, which suggests a net additional GVA impact of between £15.6m and £22.8m between 2010 and 2017. This is expected to increase to a minimum of between £30.6m and £37.8 by 2019.
- To date between 47% and 64% of GVA benefits have been concentrated in one POC recipient company.
- The receipt of NISPO support has directly contributed to the creation of between 134 and 206 of net additional FTEs of whom 23 have salaries above the NI Private Sector Median.

[128] Only 58% of respondents were able to provide a forecast. Therefore actual sales are likely to be greater, if projected sales levels are achieved.

Of note, as a potential indicator of Techstart's future performance, it is noted that the Economic Appraisal of Techstart had applied the following assumptions relating to the future performance of the equity recipients:

- 30% of companies would 'fail' (resulting in no employees after two years);
- 30% of companies would 'survive' (resulting in six employees after two years which remains constant throughout the 6 year period prior to exit);
- 30% of companies would 'thrive' (resulting in increasing employees each year throughout the 6 year period prior to exit with 28 employees by Year 6); and
- 10% of companies would 'excel' (resulting in increasing employees each year throughout the 6 year period prior to exit with 60 employees by Year 6).

The Economic Appraisal indicated that these estimates were based on the actual performance, at that time, of NISPO I companies. Our review of the performance of NISPO businesses in October 2017 provides the following profile:

Profile of NISPO Equity Recipients (using definitions presented in the EA)		
No. of Employees	**Definition per Techstart EA**	**% of NISPO Equity Recipients**
0	Fail	50%
1-5	Between Fail and Survive	22%
6-27	Between Survive and Thrive	25%
28-59	Between Thrive and Excel	3%
60+	Excel	0%

This indicates that a smaller proportion than originally forecast may be responsible for generating the majority of benefits.

11.2 Recommendations

The Evaluation Team's recommendations are:

1. Based upon our review of the prevailing strategic context, stakeholders' view and beneficiary feedback relating to the level of market failure, the current level of demand (including pipeline) for the support, as well as other interventions (both public and private) in the space, Invest NI should continue to implement similar interventions going forward.

2. Consider augmenting some elements of the programme's delivery model, including:

   (i) Increase the quantum of equity funding available through Techstart (for individual deals/investments) so as to ensure that a business will have sufficient financial resources to fund the business for long enough to assemble and embed a high-quality team and to seek out and secure follow-on funding, particularly Series A funding;
   (ii) Increasing the funding limits (and perhaps the fund size) associated with the university funds. Albeit, it might be prudent to firstly further consider why the prospective pipeline suggested by the university stakeholders is not presently coming through the Techstart programme;
   (iii) Ensure that appropriate technical expertise is available to ensure that all technological business propositions are given appropriate consideration;
   (iv) Providing greater flexibility relating to the available size of the PoC award on a case-by-case basis.
   (v) Introduce more frequent call for PoC application (e.g. quarterly).
   (vi) Assess whether steps can be introduced to ensure that potentially strong business ideas are not stymied by having to meet costs upfront before claiming back PoC funding.

3. There is evidently a difference of opinion between the university stakeholders and the Fund Manager as to the extent of the Fund Manager's degree of proactivity in engaging with the university sector

and also relating to the relative strength of the Fund Manager knowledge of the technology sector. In relation to this, there would be merit in both parties more fully articulating their expectations of the other over the remaining fund period;

4. Address (perhaps through a proactive communication campaign) any perceptions that the fund does not treat all groupings of applicants in the same manner (save within the boundaries of the funds' investment criteria). In addition, and whilst perhaps beyond the scope of Techstart in isolation, Invest NI should ensure that appropriate steps are being taken to facilitate access to finance and support to all prospective client groupings, including female-led enterprises (potentially looking to the activity being introduced by Enterprise Ireland in this regard).