



Gníomhaireacht Bainistíochta an Chisteáin Náisiúnta
National Treasury Management Agency

Ciste Infheistíochta Straitéisí d'Éirinn
Ireland Strategic Investment Fund

Economic Impact Report H1 2016

December 2016



Highlights H1 2016

Committed **€2.4bn to Irish investments** (total €6.7bn including third party capital) with **€1.2bn of investments**

Employment supported by ISIF increased by over **1,000** to almost **19,000 jobs**. Most of these new jobs from the SME sector and the **regional split of employment is 42% Dublin/58% ex-Dublin**.

Gross Value Added (**GVA**), at **€304 million** is running **13%** above the 2015 rate. This figure represents the fund's **economic impact** on the Irish economy.

Strong pipeline with several transactions across the portfolio set to be approved before the end of 2016

ISIF investing across Three Strategic Drivers

ISIF's **€2.4bn**
has unlocked
third party capital
leading to a total
commitment of
€6.7bn to Ireland

1. Enabling Ireland
*Future-proofing and
strengthening the economy*



€339m
Infrastructure



€450m
Water



€79m
Energy



€475m
Real Estate

2. Growing Ireland
*Supporting engines of
growth*



€355m
SME



€75m
Food & Agri



€108m
Direct Equity

3. Leading Edge Ireland
*Positioning key sectors to
lead, innovate and
compete on a global level*



€447m
Venture



€92m
Innovation/
Other

Summary Metrics – Irish Portfolio

		31 Dec 2015 12 months	30 June 2016 6 months	
Capital	Discretionary Portfolio (Global ¹ + Irish Portfolio)	€7,859m	€7,976m	+1.5%
	ISIF – Capital Committed	€2,165m ²	€2,420m ²	+11.8%
	Project Size in Ireland/Co-investor Multiple	€5,364m/2.5x	€6,663m/2.8x	+24.2%
	Market Value of Capital Invested	€1,028m	€1,188m	+15.6%
	ISIF Capital Deployed by Region	54% Dublin/46% ex-Dublin	55% Dublin/45% ex-Dublin	
Jobs	Employment	17,940 jobs	18,984 jobs	+5.8%
	Wage Bill	€505m	€656m ³	+30.0%
	Employment by Region	40% Dublin/60% ex-Dublin	42% Dublin/58% ex-Dublin	
Economic Activity	Turnover	€1,229m	€1,167m ³	-5.1% ⁴
	Exports (as a % of Turnover)	29%	33%	
	GVA (Profit + Depreciation + Wage Bill)	€538m	€609m ³	+13.2%

Good progress across all metrics, continuing to deliver on “double bottom line” mandate and proactively support Irish projects and businesses

¹ Global Portfolio will be transitioned to investments in Ireland over a number of years






² There is some time lag between the achievement of economic impact and the commitment to an investment. Typically, economic impact is generated when there is a drawdown on committed capital and this can be months/years after a commitment to an investment.

³ Annualised figure based on 6 month survey. Increases may be due to i) better management of confidentiality issues around economic impact data, ii) a degree of seasonality and/or iii) underlying growth of investments.

⁴ Decrease in turnover is largely due to reduced Irish Water turnover because of increased government subvention. Excluding Irish Water turnover is +6.9%

Continued progress in volatile times

- **ISIF committed €255m to new investments in H1** (+12% vs. December 31st 2015). This was well diversified across the portfolio with 9 transactions in the €15 - €45m range.
- The **market value** of the ISIF's Irish portfolio rose by net €160m or +16% vs. December 31st 2015 (+€196m gross). This was due to new drawdowns (+€162m), distributions (-€36m) and capital gains (+€34m) across the portfolio.
- The **economic impact** and employment created by ISIF's investment is different from traditional government expenditure. This is because the resources are **returned with a gain** at the end of the period and these effects can be seen as an additional incremental benefits. The returned capital can then be **recycled** into other beneficial projects.
- In H1 2016 the Irish economy held up relatively well. However, global markets were volatile and, in particular, the local investment climate was impacted by fears over June's **Brexit** vote in the UK. The surprising result has and will continue to create uncertainty in Ireland and internationally.

€255m Commitments H1 2016		
 €35m	 €35m	 €25m
 €15m	 €15m	 €45m
 €44m	 Not announced €20m	 €21m

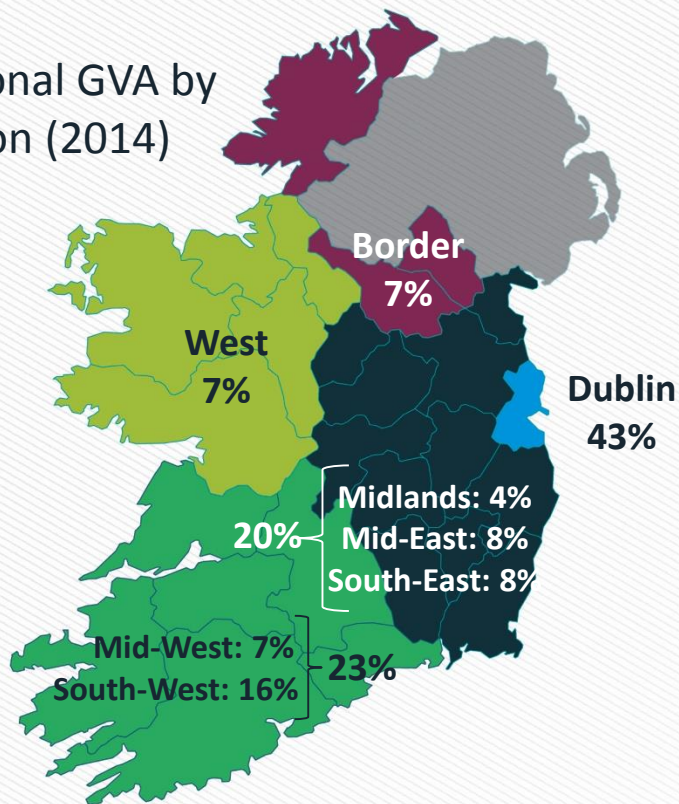
Snapshot of Underlying Investees H1 2016



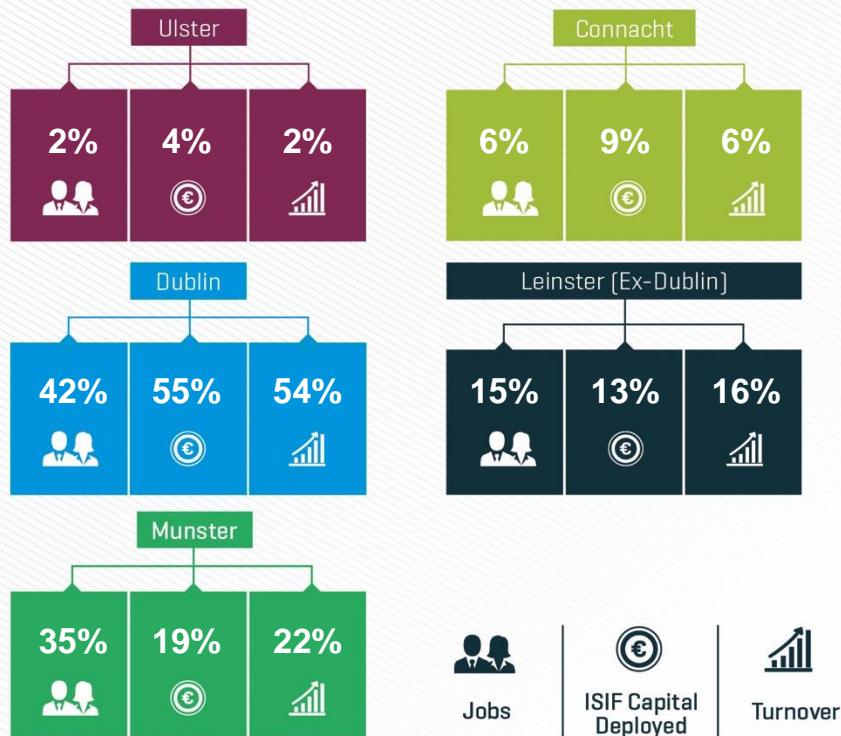
ISIF supporting
115 Irish-based
companies/
projects
through
commercial
investments

(Appendix 2 for
full list)

National GVA by Region (2014)



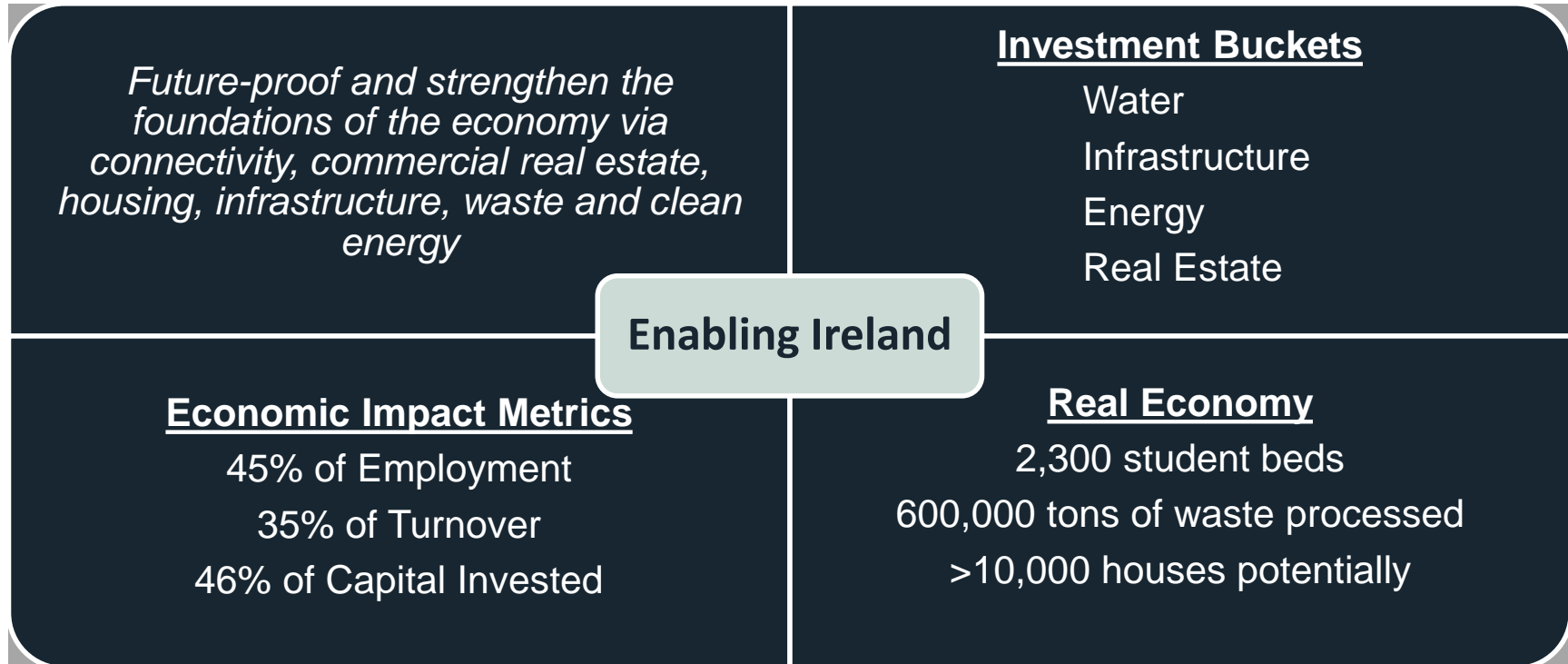
ISIF Regional Economic Impact 2016



Regionally balanced with 58% of jobs supported and 45% of capital invested outside of Dublin ¹

¹ Dublin accounted for 43% of Irish GDP in 2014, with ex-Dublin 57% (CSO)

1. Enabling Ireland



1. Enabling Ireland – Housing and accommodation



Activate has to date provided site and working capital finance for the delivery of over **800 homes**

Ardstone has acquired sites to deliver up to **1,250 new homes**

Ardstone and Activate combined have **potential to unlock 10,000 – 15,000 new homes**



Provision of over **2,000 Student accommodation units** across 3 DCU campuses, alongside significant transformation of campus infrastructure

More student accommodation opportunities in pipeline, at similar scale

1. Enabling Ireland – Commercial Real Estate



- ISIF is involved in providing finance for retail, office and construction development projects in Ireland
- Accelerating the delivery of prime **Grade-A office space** – urgently required for FDI opportunities – with Quadrant
- WLR Cardinal Fund is the only long-term, fully capitalised provider of **real estate mezzanine** finance in Ireland
- Opportunities to provide **financing for Urban Renewal projects** in towns and cities across Ireland, directly and through commercial real estate finance facilities. This includes a joint venture agreed with Kilkenny County Council.

1. Enabling Ireland – Infrastructure and Energy

The Fund has made a €250m commitment to the **Irish Infrastructure Fund** with three investments completed including the Dublin Convention Centre

ISIF has made significant investments in **renewable wind energy**, including Cyclone Wind Farm (through the IIF), NTR and Gaelectric (through Bluebay)



Supported Irish Water¹ in its first full year of operations, which involved essential repairs and new capital investments nationwide

Dublin Waste to Energy capacity to process up to **600,000 tonnes of waste** when complete, the facility will generate **clean renewable energy** to **80,000 homes**

¹ Irish Water accounts for 26% of ISIF's invested capital as of 30th June 2016 and generated 36% of jobs, 38% of wages and 29% of turnover during that period.

1. Enabling Ireland – Connectivity

Recently announced **€335m Connectivity Fund** with the aim of enabling and enhancing Ireland's **physical, virtual and energy connectivity** completed first two investments



Developer and operator of **newly completed and modern subsea fibre-optic** network interconnecting New York, Dublin and London

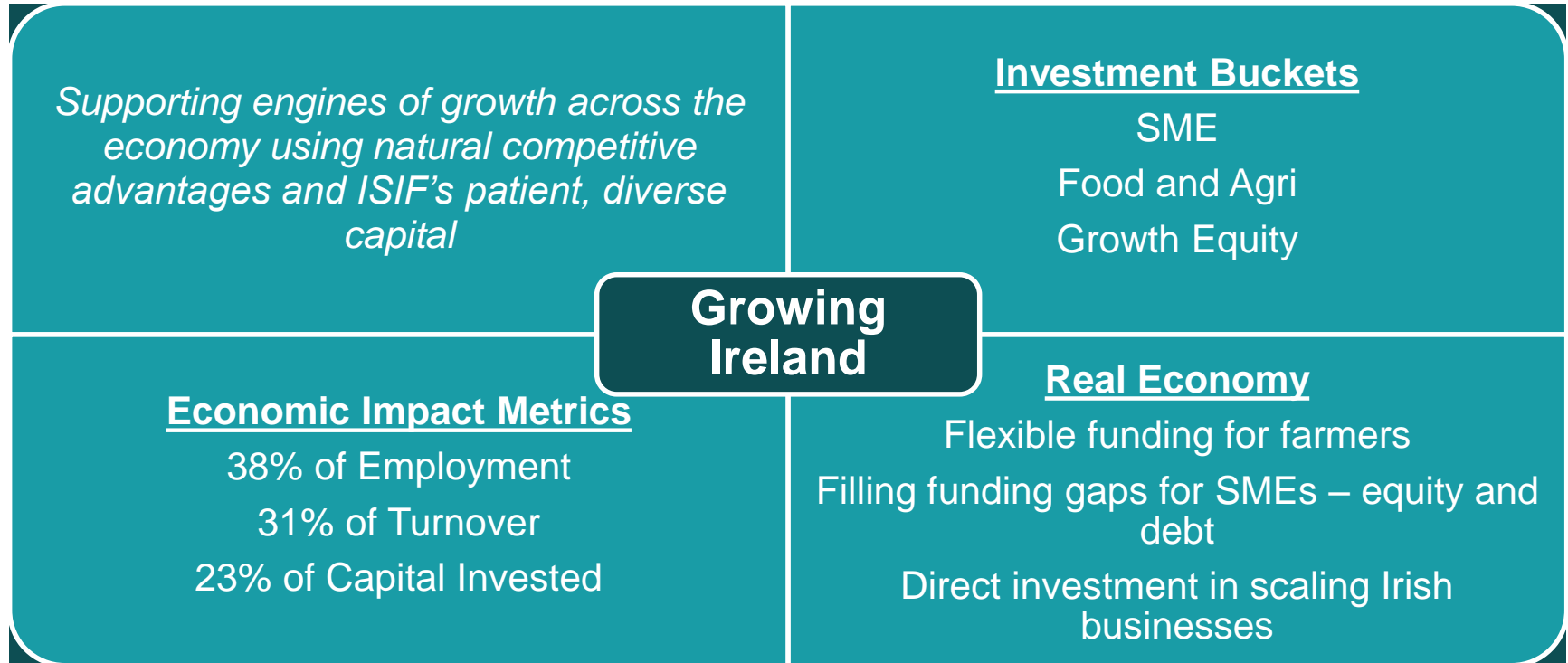


Strategic investor in €400m bond issuance facilitating the **delivery of a new runway** at Dublin Airport

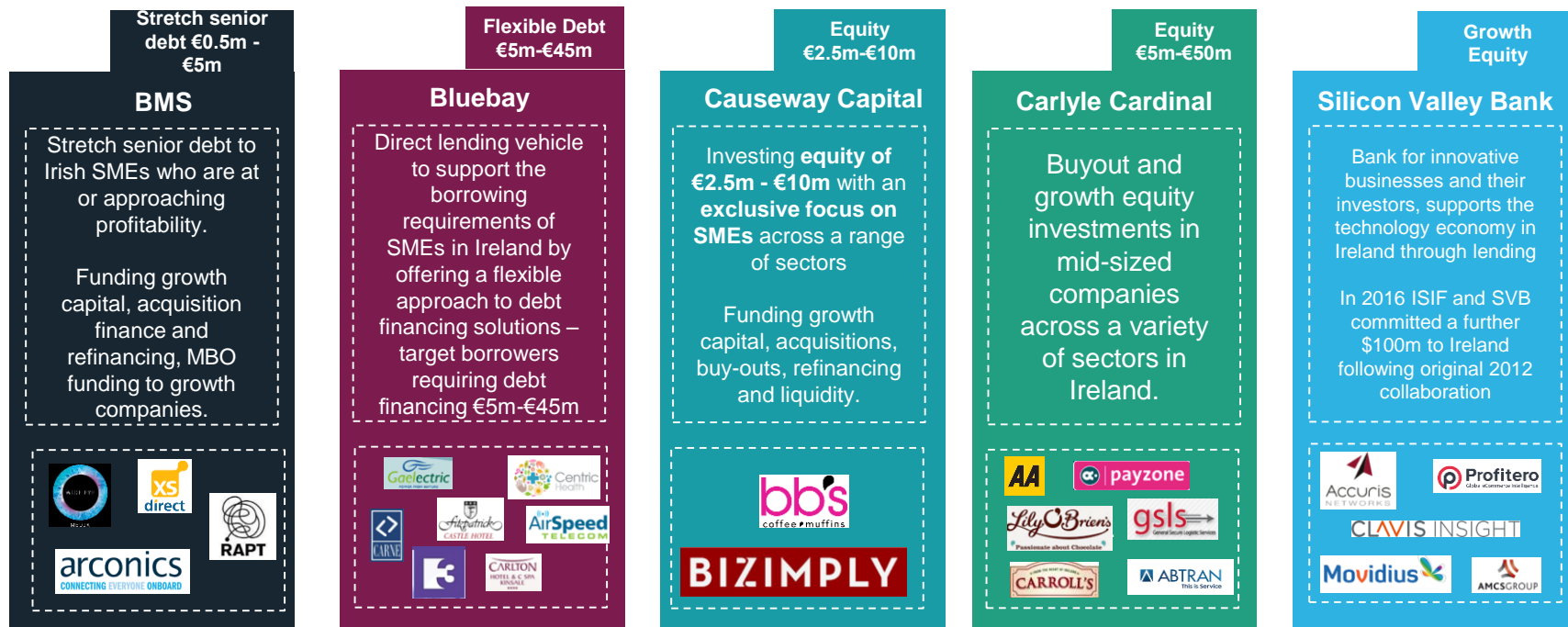


Separately, ISIF (through the Irish Infrastructure Fund) supports Towercom, which has a mast network providing **nationwide landline and wireless communication**

2. Growing Ireland



2. Growing Ireland – Scaling Irish Companies

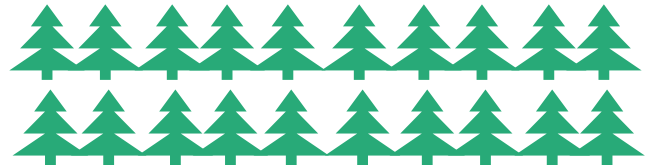


Supporting SMEs across
the capital structure

2. Growing Ireland – Agriculture and Food

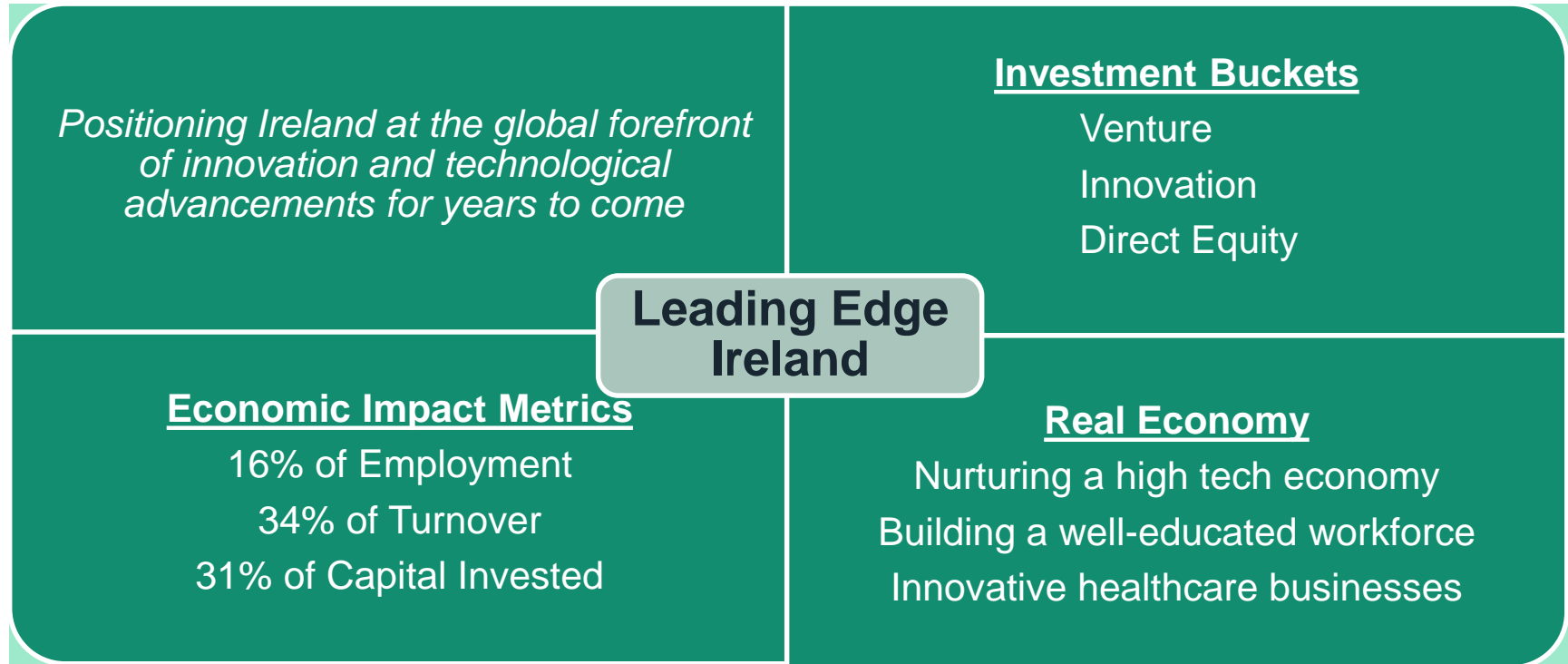


ISIF expects to follow up its investment in the First Forestry Fund with a substantial commitment to an additional forestry Fund that plans to deliver significant **afforestation in Ireland**



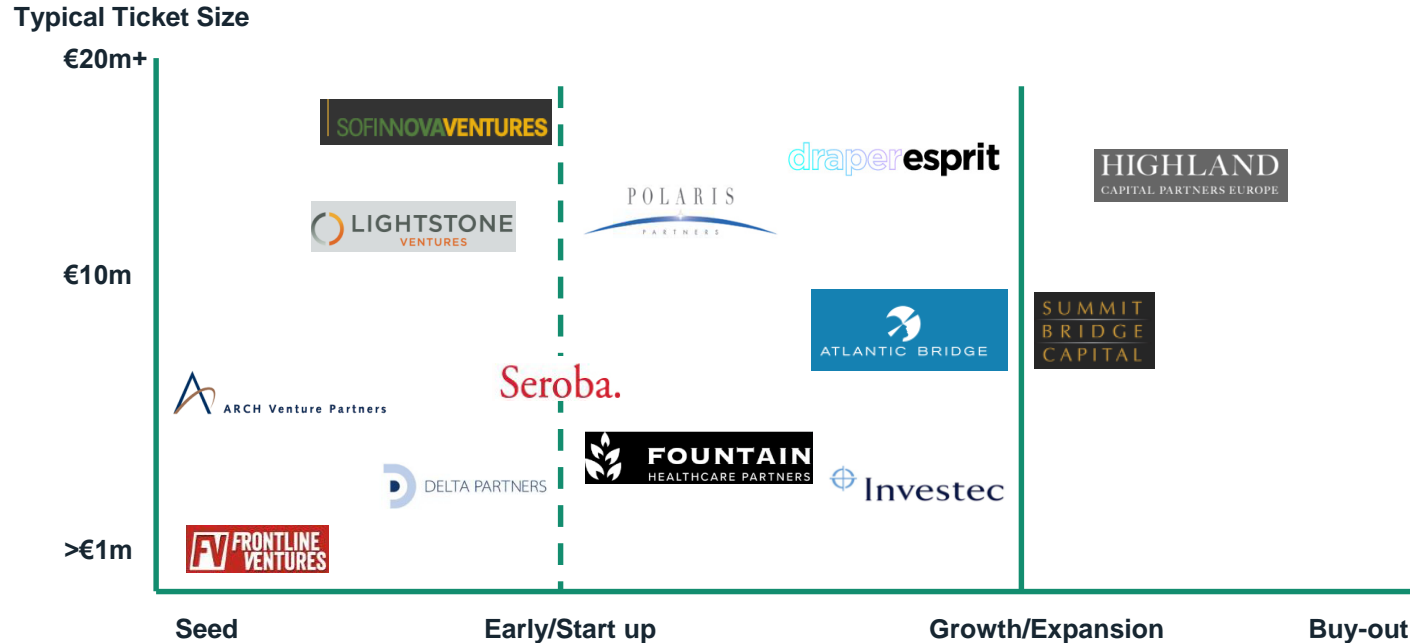
¹ Subject to regulatory clearance

3. Leading Edge Ireland



3. Leading Edge Ireland - Venture Capital

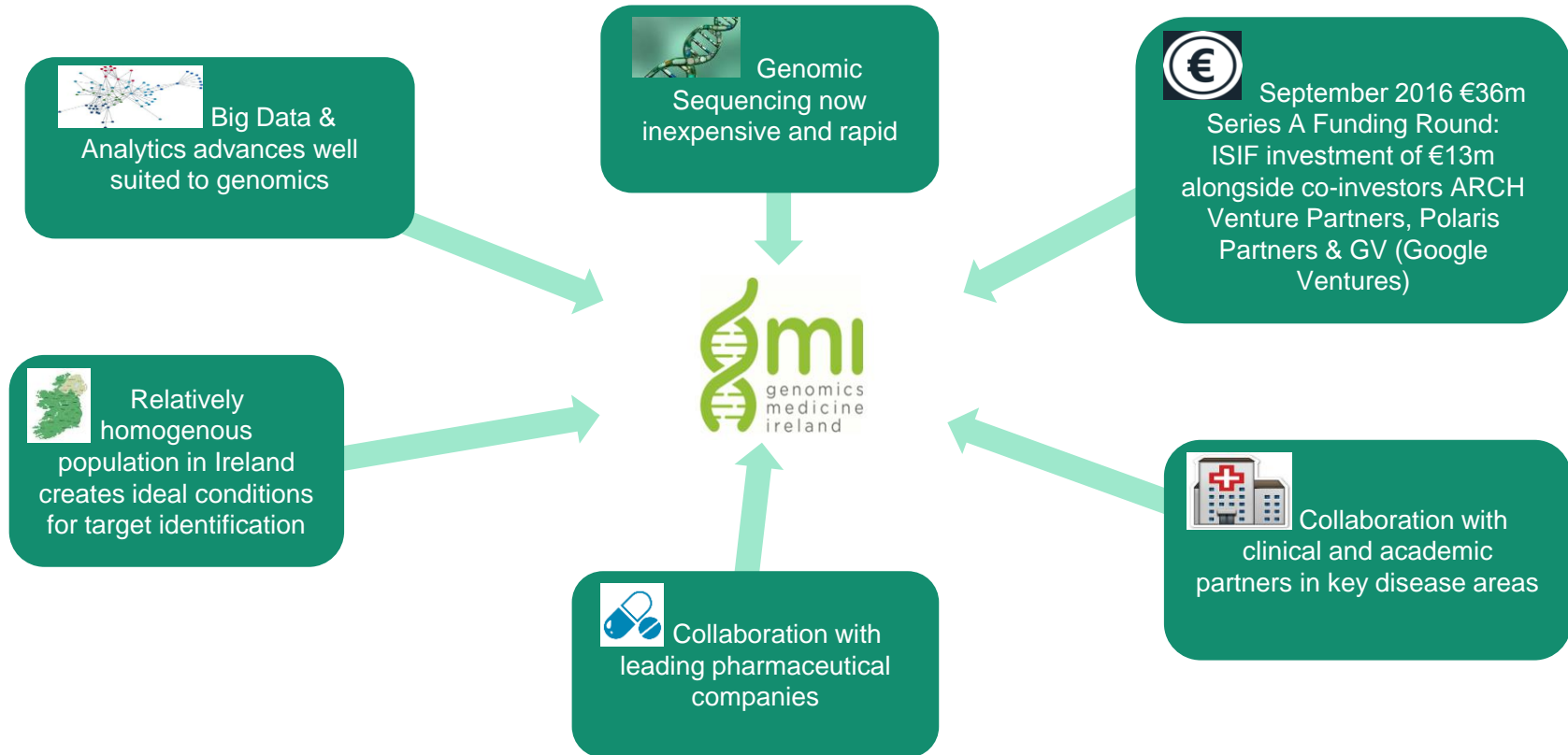
ISIF has invested in over 20 Venture Capital Funds



ISIF's broad involvement supports the VC ecosystem in Ireland

3. Leading Edge Ireland – GMI Case Study

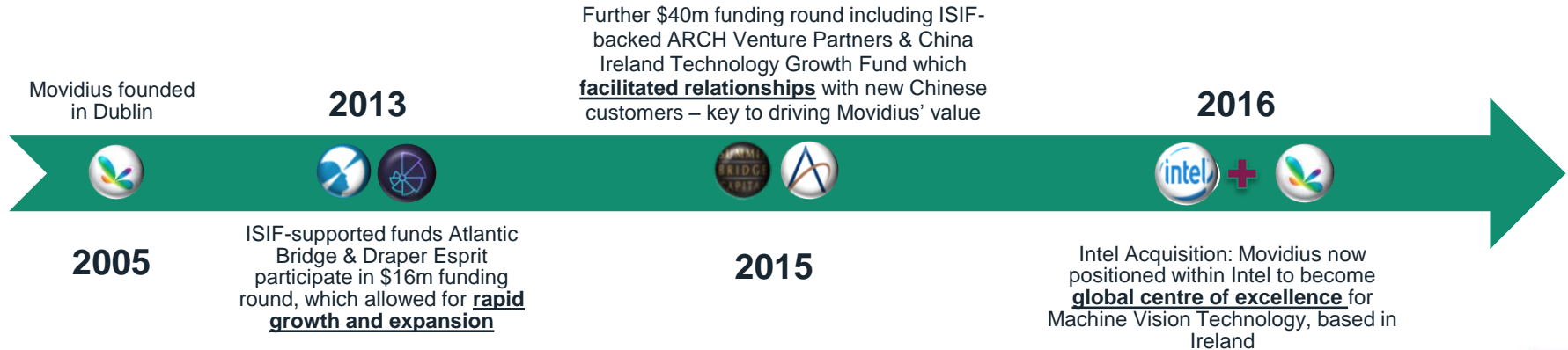
GMI to build rich genomic database reflective of Irish population to drive development of novel therapeutic drugs and diagnostics, in collaboration with leading pharmaceutical companies and Irish Healthcare System



3. Leading Edge Ireland – Movidius Case Study

ISIF-backed technology company Movidius is Ireland's biggest success story in recent years

- Irish start-up which has become a global leader in **Machine Vision Technology** – technology that allows a computer to “see”
- Applications in Virtual/Augmented Reality, Drones, the Internet of Things and Security Markets
- Customers include Google, DJI & numerous other high profile firms
- ISIF has supported Movidius at various stages along its maturation through 4 of its venture fund investments
- In September 2016 Intel bought Movidius in a deal valued at close to \$400m, with the aim of establishing it as a **global centre of excellence** for machine-vision technology, based in Ireland



Appendices

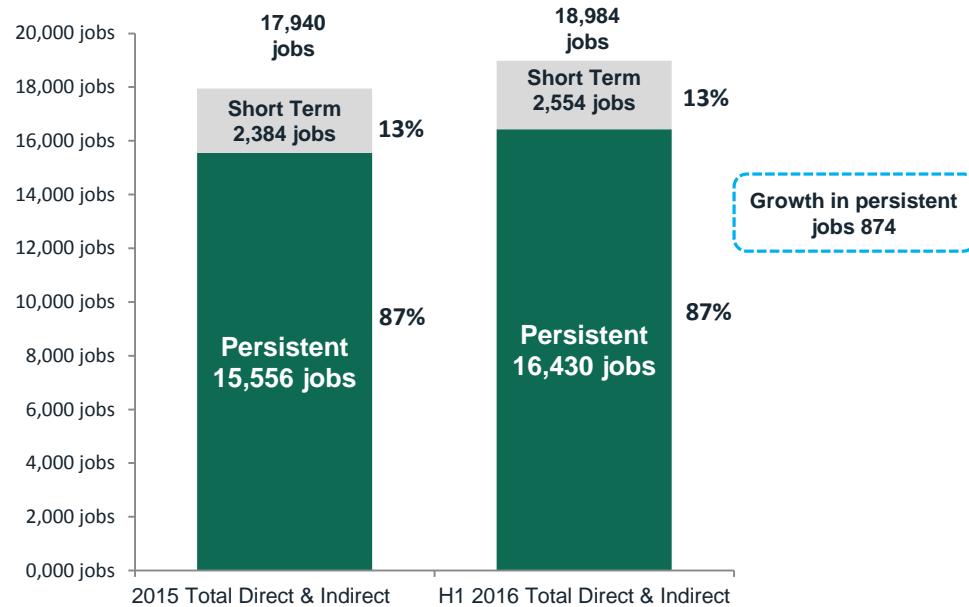


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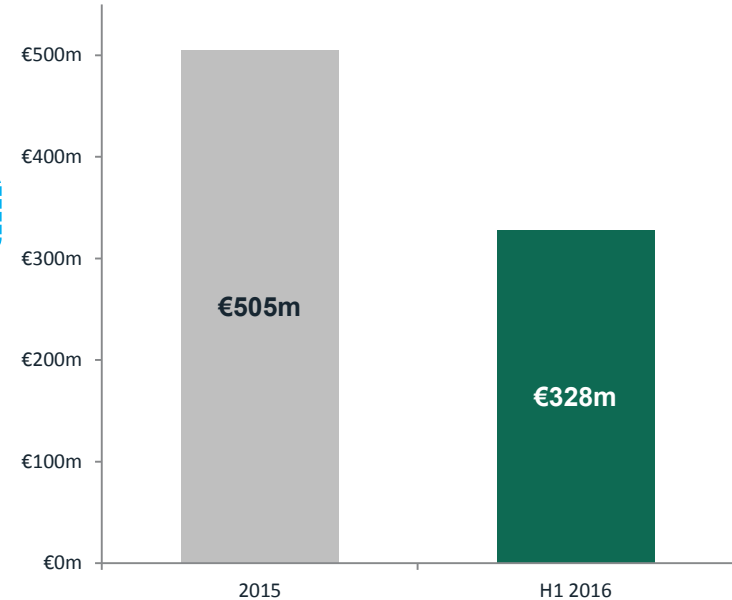
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Appendix 1 - Underlying Data (Employment)

Irish Based Employment



Irish Based Wage Bill¹

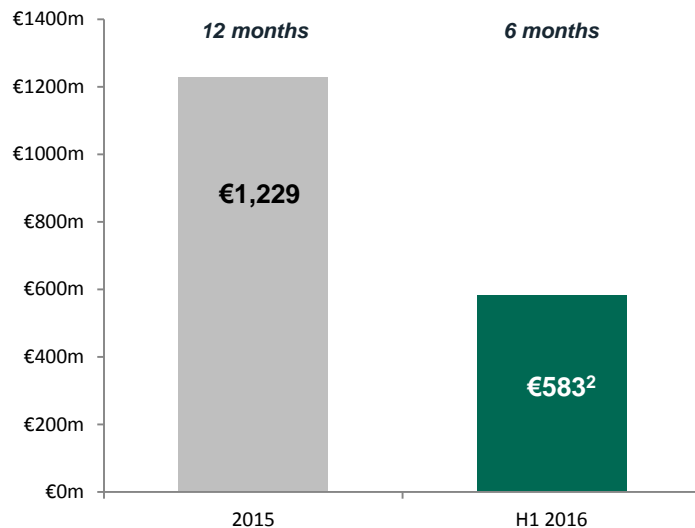


1,600 jobs for every €100m invested

¹ On an annualized basis the 2016 wage bill is €657m

Appendix 1 - Underlying Data (Turnover and Exports)

Underlying Investee Turnover Analysis¹



¹Turnover generated from underlying investees that contribute no economic impact in Ireland is excluded (e.g. foreign businesses). Additionally, turnover does not necessarily capture all of the economic impact benefits associated with an investment – many of the early stage companies in the ISIF portfolio are at pre-revenue stage.

²Turnover is €1,167m on an annualised basis – this is down on 2015 due to increased Irish Water subvention, which we exclude from our figures.

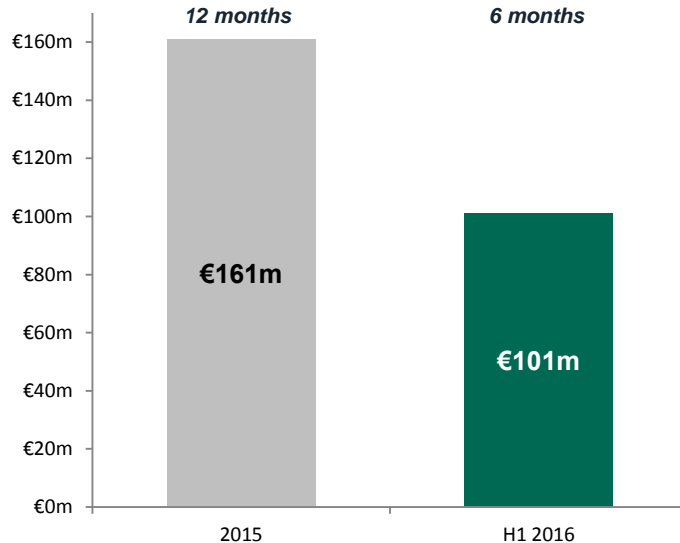
Exports H1 2016



Significant turnover generated from underlying investees despite the number of early stage companies, with a significant portion of turnover from exports (33%)

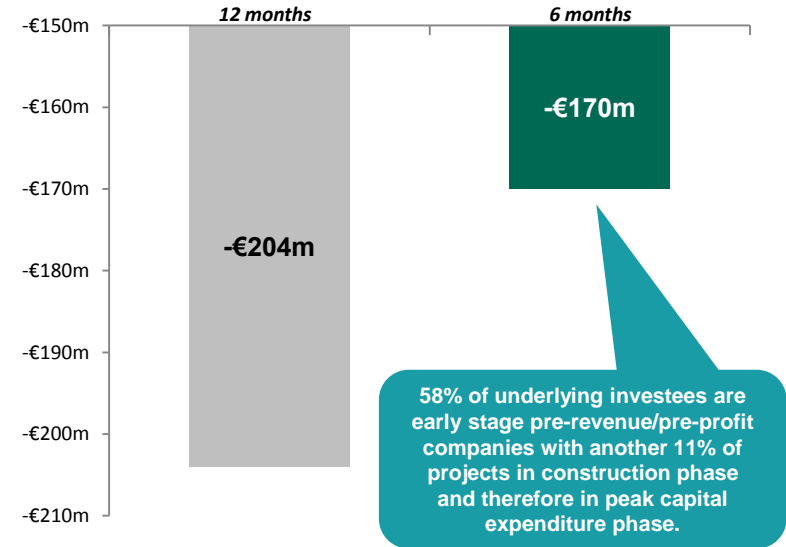
Appendix 1 - Underlying Data (Profitability Analysis)

Underlying Investees Earnings (Profitable¹)



¹The profitable category accounts for profits but also includes mature companies which have made a loss.

Underlying Investees Earnings (Pre-Profit²)



²The pre-profit category is for early stage businesses.

Early stage investees/projects in construction (69% of investees) initially generate low levels of economic activity but should improve as businesses transition from the start-up stage to the growth/expansion stage.

Appendix 2 – Assumptions, Methodology and Disclaimer

Assumptions and Methodology

1. The NTMA collected data on 115 underlying investees. While economic impact data is somewhat complicated, the NTMA has adopted a structured approach to the collection and analysis of the data.
2. Underlying investees are either direct or indirect (i.e. through Funds), the economic impact data is gathered through a semi-annual survey process of the direct and indirect underlying investees. The economic impact of an underlying investee is only included once i.e. where the ISIF has more than one indirect investment in an underlying investee the duplicate economic impact is removed from the analysis.
3. There is some time lag between the achievement of economic impact and the commitment to a investment. Typically, economic impact is generated when there is a draw down on committed capital and this can be months/years after a commitment to an investment.
4. The NTMA completes a check of all survey data for reasonableness. However, the NTMA is reliant on the underlying investees to provide accurate data and is not in a position to verify the data submitted.
5. Surveys provided in USD were converted to EUR, income statement metrics were converted to EUR using a 6 month average FX rate sourced from Bloomberg.
6. The regional distribution of capital deployed (slide 7) is weighted based on the capital deployed as at 30 June 2016 and data provided by the underlying investees detailing the location/regional activities of the underlying investee/project. Where underlying investees operate on a nationwide basis, the capital deployed is weighted by population, this population data is sourced from the Central Statistics Office.
7. The regional distribution of underlying investees employment and turnover (slide 7) is based on data provided by the underlying investees detailing the number of jobs and turnover generated regionally. Where underlying investees operate on a nationwide basis and a reliable regional employment split is unavailable, the total jobs and turnover is weighted by population.
8. The majority of underlying investees (109 out of 115 underlying investees) provided the number of jobs and wages paid as at 30 June 2016 directly. There are some exceptional cases where the data was unavailable and the following assumptions were applied:
 - i. In the case of construction projects where reliable headcount was not available, we evaluated the drawn capital of the project over the 6 month period to 30 June 2016 and applied a Construction Industry Federation multiplier to the capital expenditure to estimate the number of employees. All of these employees are accounted for in the short term employment numbers (slide 21).
 - ii. In the case of construction projects where third party/contracted headcount was provided but a wage bill was not available, an average wage was applied to the third party/contracted headcount. The average wage by sector was sourced from the CSO.
 - iii. In a small number of cases where survey data was unable to be completed for an underlying investee, a pro-rata figure based on 2015 figures was taken.
9. In line with industry standards, an indirect employment multiplier is applied to direct jobs. The NTMA calculation of employment multipliers is based on CSO methodology and verified by CSO (slide 21).
10. Exports are weighted based on turnover and an estimate provided by the underlying investee of the percentage of turnover generated from exports (slide 22).
11. The underlying investee profitability analysis (i.e. the earnings before interest and tax) is split between early stage companies, which have not yet made a profit, and more mature companies, which can either be profitable or loss-making (slide 23).

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Appendix 3 – Summary of Underlying Investments (1/4)

Fund/Company/Project	Company/Project	Principal Product/Service
Activate	Activate (One project as of 30/06/16)	Residential Development Finance
AMCS	AMCS	Supplier of smart resource software and vehicle technology solutions for the waste, recycling and resource industry
Arch	Carrick Therapeutics Evolv-x Genomics Medicine Ireland Movidius	Drug development targeting cancer resistance Novel electronic materials derived from a self-learning, closed-loop synthetic reactor system Products and services derived from advanced genomic research, analysis & global partnerships A fabless semiconductor company in computer visioning sector
Atlantic Bridge	Boxfish Civic Fieldaware Movidius Srvve	Developer of second screen television platforms Internet of Things Provider of mobile, cloud-based field service solutions A fabless semiconductor company in computer visioning sector Mobile marketing automation software platform
Bluebay (BICC 1)	Abrahebabra Investments Airspeed Telecom BB Muffins Carne Global Financial Services Centric Health Excelsys Gaelectric Kenmare Bay Killiney Hotels (FitzPatrick Castle Hotel) Knockfargal Ltd Mainstream Renewable Power Magnet Rye River	Leading fast food franchise owner and operator in Ireland with five trading businesses Irish broadband provider offering high performance internet for enterprise, public sector and SME business Chain of coffee and muffin retail stores across the UK and Ireland Provider of governance and oversight solutions within the asset management industry Healthcare services business providing (i) diagnostic imaging; (ii) primary care and (iii) medical recruitment services Designer and manufacturer of high power density high efficiency power supplies Irish-based developer of onshore wind farms in Ireland and the US and offshore wind farms in Ireland Hotel accommodation, Food & Beverage, Leisure Centre, Self-Catering Hotel and conference centre 4* hotel in Kinsale, Co. Cork Leading player in the global renewable energy development market focusing on wind (onshore and offshore) and solar power Irish telecommunications company providing data, voice and IP services to business and residential customers . Irish Craft Beer brewer and agent distributor
BMS	RAPT Touch Ltd Wide Eye Media XS Direct	Touch Technology Cinema Advertising Car Insurance
Carlyle Cardinal Ireland	Abtran Carroll Cuisine General Secure Logistics Services (GSLs) Lily O'Briens Payzone	Business Process Outsourcing Production and distribution of sliced cooked ham and other food products Cash-in-transit and money processing Manufacturer and distributor of chocolate Multi-channel payment solutions
Causeway Capital	BB Muffins Bizimply	Chain of coffee and muffin retail stores across the UK and Ireland Cloud based workforce management platform
China Ireland Growth Technology Fund	Accuris Networks Novaerus	WiFi off-load and roaming technologies Airborne Pathogen Control Technology 'As a Service' and Data Insights for Healthcare Facilities
DCU	DCU Student Accommodation	Student Accommodation Delivery
Covanta	Dublin Waste to Energy	Thermal waste treatment and electricity production

Appendix 3 – Summary of Underlying Investments (2/4)

Fund/Company/Project	Company/Project	Principal Product/Service
Delta Partners	Betapond	Marketing app provider for social networks
	BriteBill	Provides bill presentment solutions to telecommunications and utility companies
	Clavis	Reference data quality solutions
	Cleverbug (CleverCards)	Personalised greeting cards and gifts
	Davra Networks	Management system for Internet of Things devices for Cisco distributed networks
	Digit Game Studios	Online multiplayer multiplatform games
	Homestay	Accommodation portal
	Luzern Solutions	Online retailer and online store provider for new and refurbished goods
	mADme	Mobile advertising solutions
	Mobatravel (MobaCar)	Online car rental software platform
	Neuravi	Developer of clot retrieval medical devices
	Sim Travel	Local sims for international travellers
Draper Esprit	What Clinic	Medical treatment search portal
	Zapa Technologies	Telecom expense and value management
	Datahug	SaaS relationship intelligence management/CRM platform
	GetBulb	Data visualisation software
First Forestry Fund	Mobile Travel Technologies	Develops mobile apps, mobile web and mobile technology products for airlines and travel management companies
	Movidius	A fabless semiconductor company in computer visioning sector
First Forestry Fund	First Forestry Fund	Invests directly in forestry plantations diversified across Ireland
Fountain	Inflection Biosciences	Developing small molecule therapeutics for the treatment of cancer.
	Innocoll	Collagen based drug delivery platform
	Mainstay Medical	Manufacturer of medical device for treatment of chronic lower back pain
	Neuravi	Developer of clot retrieval medical devices
	Opsona Therapeutics	Developer of drugs for the treatment of autoimmune and inflammatory diseases
	Trino Therapeutics	Drug Discovery and early drug development company that focuses on anti inflammatory therapeutics
Frontline	Vivasure Medical	Research and Development medical device company
	Barricade Security Systems Ltd	Intrusion Detection as a Service
	Boxever Ltd	SaaS customer intelligence platform for airline and travel industry
	BuildingEye	Planning permission tracking
	CurrencyFair Ltd	P2P Currency Exchange
	Drop	Connected kitchen products

Appendix 3 – Summary of the Underlying Investments (3/4)

Fund/Company/Project	Company/Project	Principal Product/Service
Frontline Ventures	Linked Finance	P2P SME lending marketplace
	Love & Robots Ltd	3D Printing Technology
	PageFair Ltd	Ad-blocking software
	Pointy	Putting shops online automatically
	Qstream, Inc.	Mobile Sales enabling service
	Boxfish	Software for marketers to target TV audiences
	AQ Metrics	Risk/Compliance Technology
	Verify	Drone technology
Highland Europe	AMCS	Software solutions for the waste management industry
	Malwarebytes	Anti-malware software
Investec Ventures	Accuris Networks	WiFi off-load and roaming technologies
	AMCS	Software solutions for the waste management industry
	Betapond Ltd	Marketing app provider for social networks
	BlueTree	Developer of GPS fleet software, telematics and vehicle tracking solutions
	BriteBill	Provides bill presentment solutions to telecommunications and utility companies
	Davra Networks	Management system for Internet of Things devices for Cisco distributed networks
	Diona Technologies	Diona is addressing the demand for mobile solutions in the HHS market
	Ferfics	The company designs and develops components (radio frequency switches)
	HeyStaks Technologies	HeyStaks enables users to collaboratively search the web using search engines
	Mick's Garage	The company e-tails car parts and is Ireland's leading on-line car-parts retailer
	Rainmaker Business Technologies	Provider of business intelligence and performance software to the airline sector
	RAPT Touch	Develops multi-touch screen technologies for incorporation into large screens
	SilverCloud Health	SilverCloud Health Limited provides online therapeutic solutions via tailored clinical programs
	Terminal Four Solutions	Developer of enterprise web content management software for the higher education market globally
Irish Infrastructure Fund	Vearsa	Helps traditional publishers distribute electronic copies of their books ("eBooks")
	Zamano	Zamano is a mobile marketing and mobile products company
	Convention Centre Dublin	Ireland's only purpose built convention centre positioned on the banks of the River Liffey in the centre of Dublin
	Cyclone Wind Farm Portfolio	Portfolio of 10 wind farms located in both the ROI and NI, generating electricity for sale into the Single Electricity Market
Irish Water	Towercom Limited	Largest independent telecom tower / mast owner in the Republic of Ireland and owns/controls 406 telecom tower/mast sites
	Irish Water	National service provider of water and treatment of wastewater
Lightstone Ventures	FIRE1	Developing a novel, therapeutic medical device for a major unmet medical need
	Alexo Therapeutics	Developer of novel biologics with goal of discovering new drugs to help the human immune system to eradicate cancer

Appendix 3 – Summary of Underlying Investments (4/4)

Fund/Company/Project	Company/Project	Principal Product/Service
Malin	Altan	Develops, manufactures and markets generic injectable drugs
	AN2H Discovery	Designs novel small molecule therapeutics
	Emba Medical	Develops vascular embolisation devices
	Emba Neuro	Develops embolisation devices for application in neurovascular field
	Seranus	Specialises in in-licensing, registering and commercialising certain approved therapeutics to address unmet needs in the African market
	3D4 Medical	Develops medical, educational and health fitness apps
NTR Small Wind	2 Rol Projects	Wind Energy
Polaris Partners	Boxever	SaaS customer intelligence platform for airline and travel industry
	GMI	Human genomic sequencing
	Novaerus	Manufacturer of wall mounted airborne pathogen control devices
	Profitero	Competitive pricing, intelligence and e-commerce insights for brand manufacturers and retailers
Seroba Kernel	Heart Metabolics	Biopharmaceutical development company focusing on clinical development of a therapy for hypertrophic cardiomyopathy
	Novate Medical	Convertible vena cava filter for prevention of pulmonary embolism
	Opsona Therapeutics	Developer of drugs for the treatment of autoimmune and inflammatory diseases
	PQ Bypass	Medical devices required to perform a percutaneous femoro-politeal bypass procedure
	Veryan Holdings	Development of stents with a unique 3D geometry, for treatment of vascular disease
Silicon Valley Bank*	Fifteen underlying investees – bank confidentiality precludes disclosure of borrower names	
Sofinnova	Innocoll	Collagen based drug delivery platform
Swrve	Swrve	Mobile marketing automation software platform
WLR Cardinal*	Investment 1	Apartment development
	Investment 2	Commercial real estate
	Investment 3	Commercial real estate
	Investment 4	Commercial real estate
	Investment 5	Commercial real estate
	Investment 6	Commercial real estate
	Investment 7	Commercial real estate

**Note: this appendix does not include a small number of investees where confidentiality precludes disclosure of investee names.*

Note: this appendix excludes investments where capital is committed but not invested as at 1 June 2016

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