PROJECT I

POSITIONING IRELAND AT THE FOREFRONT OF GLOBAL START-UP INNOVATION

AVOLON

CONTENTS

FOREWORD

Ireland may be a small island nation but we still play a leading role in world commerce. We can all be proud of our impact and our influence which is felt wherever global capital flows. Ireland's economic advantages are many, but what can differentiate us is our ability to adapt, to be nimble, when both threat and opportunity arise. We in Avolon believe both challenges are with us now. This is why we have developed *Project i*, a white paper that has Ireland's best economic interests at its core.

At Avolon we are passionate about our obligation to help and enable entrepreneurial endeavour. Given our start-up success we feel a responsibility to promote innovation and encourage other Irish companies to scale, delivering economic benefits to stakeholders, investors and to Ireland itself.

With *Project i* we wanted to understand how Ireland compared and contrasted with the best start-up eco-systems in the world. We did that by sending teams of executives around the world to meet stakeholders in Paris, Stockholm, Berlin, London, Boston and San Francisco.

Project i is intended to be a straightforward diagnostic of the health of Ireland's start-up ecosystem when compared to the best in class around the world. With the check-up comes practical recommendations outlining what we can do to improve our standing globally in the short, medium and long term.

We believe the next phase of growth in the globalised digital business world will be led by tech start-ups and as a consequence much of this paper's concentration is on this crucial sector. The digital arena is where Ireland must excel.

There has been similar papers over the past number of years, many of them calling on governments to take action. *Project i* is designed not to criticize, but to strategically critique and encourage. While our paper highlights where we feel changes are needed within our ecosystem and ecoculture, it underlines the need for collective action, with all stakeholders working in cohesion and collaboration.

Project i identifies the successful cornerstones we already have in place within our economy. Our educational system, our global reputation for business leadership and our diverse Irish diaspora network are just three existing foundations that must be leveraged proactively to help deliver the conditions in which our start-ups can thrive.

This paper recommends developing further building blocks around areas like tax incentivisation and infrastructure that can bring further benefits to companies seeking formation, growth and scale.

Project i does envisage a cost to these measures but we are confident our economy, our country as a whole, would recoup the investment many times over in areas of job and wealth creation, not to mention the wider social benefits a thriving innovation culture would bring.

I want to thank a number of my colleagues who helped develop this paper with me, specifically Tom Lynch who led the Avolon team of Dick Forsberg and Emmet Moloney. We were also assisted by Colin Keogh, whose expertise in Irish innovation and ecosystems proved invaluable.

Project i would not have been possible either without the contributions of so many people who kindly gave of their time to meet and talk with us. Among them were a number of Irish diaspora, all keen to offer their insight on how we can become a global start-up leader.

As the only English speaking country in the world's largest trading block, with a global reputation for business acumen, imagination and work ethic, we are uniquely placed to be a global start-up leader. This paper is our contribution to that goal, and our research - as laid out within this paper - demonstrates that achieving it and all of the societal benefits that travel with it, requires the commitment of our educators, government, business community and diaspora.

The challenges are real but the goal attainable and we believe the benefits; keeping our best and brightest, attracting our diaspora home, driving employment, increasing government revenue and energizing our youth, are worth the effort. I hope you agree.

D. Slattery

Dómhnal Slattery
Chief Executive Officer

EXECUTIVE SUMMARY

BACKGROUND

Ireland is recognised as having many of the resources and support infrastructure attributes required to attract, sponsor, nurture and guide burgeoning Tech and Fintech start-ups. These are businesses that create substantial economic value not only for their investors, but also for the communities in which they have developed and become established.

However Ireland does not currently possess the necessary mix of all of the essential elements required to be positioned amongst the global leaders in start-up ecosystems, as such organic systems are termed, where success is measured by economic value-add, often expressed through their market capitalisation.

This white paper investigates the health of the start-up ecosystem in Ireland and compares it to *best-in-class* facilities globally, of which San Francisco, and more specifically Silicon Valley, is the clear frontrunner.

Boston, Stockholm, Berlin, London and Paris have also developed significant expertise and infrastructure, ranking them amongst the leading international start-up hubs. The analysis, conclusions and recommendations contained in this paper are based on visits to all of these cities and interviews with key stakeholders (detailed in Appendix 1) in an effort to gain insights into their success.

THE ESSENTIALS FOR SUCCESS

Avolon's team identified five stages in the evolution of successful start-up businesses with each one being underpinned by culture. It is these *best-in-class* templates that informed *Project i's* recommendations.

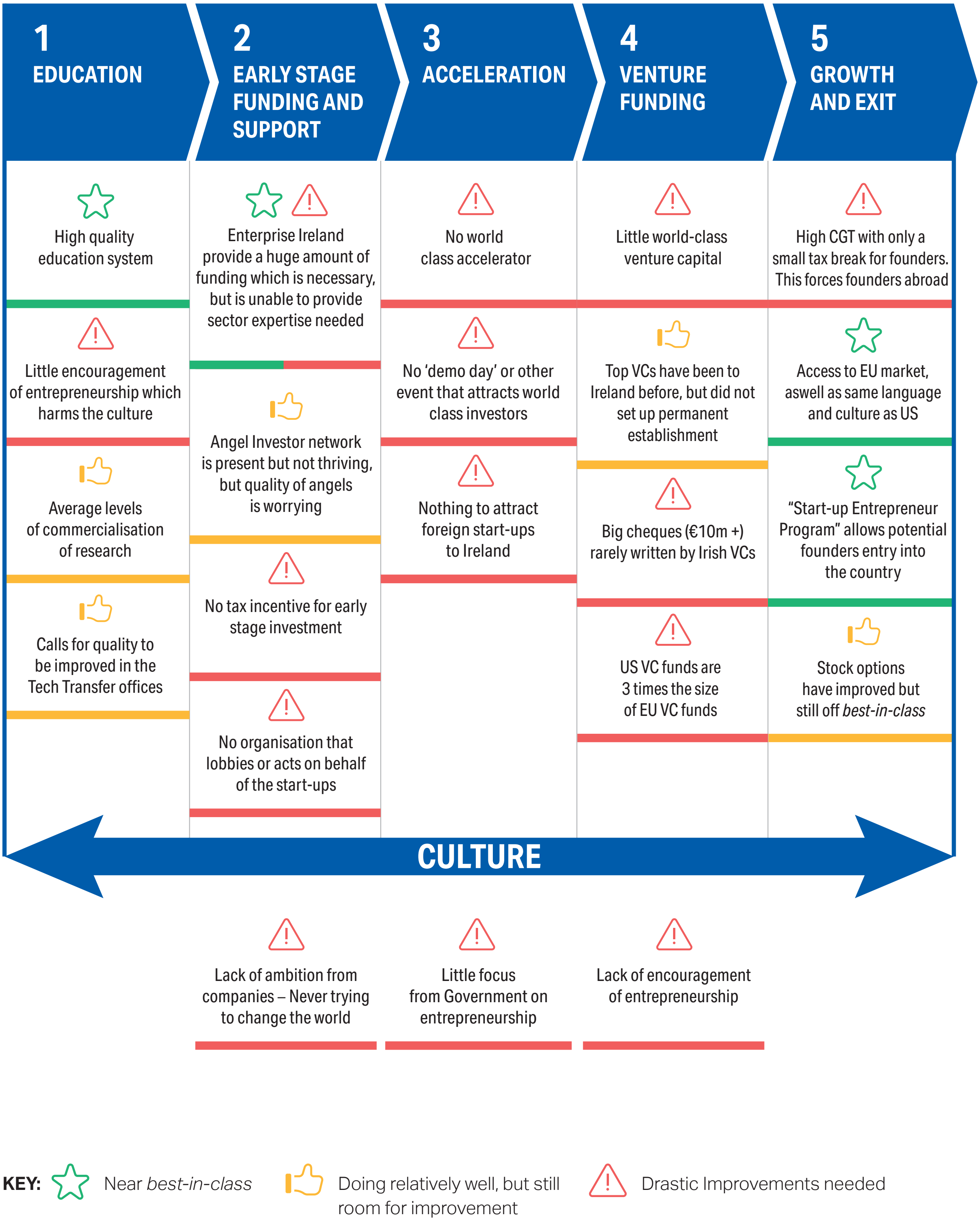
These five are;

1. **Education**
2. **Early Stage Funding and Support**
3. **Acceleration**
4. **Venture Funding**
5. **Growth and Exit**

Each is summarised in Appendix 2 and discussed in the following chapters. The traffic light in chart 1 highlights where Ireland currently performs, highlighting the need for some or, in many cases, substantial improvement and change relative to the *best-in-class* ecosystem.

> *This white paper investigates the health of the start-up ecosystem in Ireland and compares it to best-in-class facilities globally, of which San Francisco, and more specifically Silicon Valley, is the clear frontrunner.*

CHART 1: IRELAND



Executive Summary (continued)

CULTURE

Culture underpins each of the five stages. Ireland faces two significant obstacles to success through cultural differences that exist relative to *best-in-class*. These are a lack of ambition when pitching for start-up investment and an understanding that in the most successful ecosystems, failure is part of the enterprise culture.

EDUCATION

While Ireland does well due to our high-quality educational infrastructure, there is little focus on entrepreneurship in the curriculum. We are delivering highly motivated and talented graduates, but we are not equipping them with the necessary tools to make the transition from idea to investment. Story-telling, which is a core element in Irish art and culture, must be developed in entrepreneurs to world-class standards and should be specifically taught in schools.

The smooth commercialisation of PHD research is also a challenge for our campuses. One extremely positive initiative in Ireland is the proposed Trinity Grand Canal Innovation District (GCID), which envisages a new €1,000,000,000 TCD technology and innovation campus in the heart of Dublin. The project is intended to be a collaboration between all of the universities in Ireland, a facility like this is a strategic imperative in our country.

EARLY STAGE FUNDING AND SUPPORT

The successful US model sees all early stage funding provided privately, however this is not replicated in any other country reviewed and most models globally require significant government intervention. Early stage funding and support in Ireland is dominated by Enterprise Ireland.

This agency injects significant capital into our ecosystem but shoulders too much of that burden and as a result is often is limited where scale is needed. The UK have introduced an attractive tax break for angel investors which has seen a large increase in early stage funding and this is the blend of public/private funding Ireland needs to encourage.

Private funding can often bring with it mentor networks that can be harnessed into a powerful support system. Ireland's global diaspora network offers huge potential in this sphere and we must trigger their involvement here at home.

The optimum solution for Ireland is a blend of government and private sponsorship, with an emphasis on growing the private sector through incentives, whilst dialling back the present government agencies. This allows the Government's intervention to stimulate the market, while the allowing private market forces to act.

Harnessing the global business diaspora through the creation of a business network comprised of these business people would create a powerful support system for start-ups as they scale and move into international markets, with a Silicon Valley-based network providing a vital conduit to enable Ireland to become a leading external feeder to the Valley. There have been attempts in the past but the network needs full time staff to ensure the long term sustainability of it.

ACCELERATION

Accelerator programs play a significant role in all successful ecosystems around the world by not only propelling indigenous start-ups, but also attracting foreign start-ups. Station F, a facility we visited in Paris is designed to hold over 30 accelerator programs under one roof along with other key stakeholders and has acted as a catalyst to supercharge the French start-up ecosystem.

Whilst several established accelerator programs exist in Ireland, none have the critical mass that defines success in other global markets, either in terms of funding or in their ability to access world class mentors. There is a clear need for a best in class facility in Ireland and we note the ambition of The Trinity GCID to establish such an accelerator.

VENTURE FUNDING

Access to Venture Funding is the oxygen every ecosystem needs and Ireland currently struggles to provide the necessary environment to nurture our start-ups, which results in a sizeable number seeking capital overseas far too early in their incubation.

Silicon Valley is the world leader in this sector and we believe that partnering with their unrivalled venture capital resources is a viable alternative for Irish start-ups. Elsewhere we can also seek the removal of regulatory restraints that discourage Irish individual pension funds from investing into these funds.

GROWTH AND EXIT

Ireland's recognition of risk-taking does not extend to its tax regime, which fails to adequately reward employees and founders for their innovation, bravery and sacrifice. This represents a lost opportunity to ensure start-ups remain in Ireland. The remedy is meaningful changes to a tax system that urgently requires incentivisation at its heart.

Furthermore, founders who realise their exits in Ireland are more likely to reinvest capital back into our ecosystem.

IRELAND AS A START-UP HUB

Project i is intended to be a roadmap to positioning Ireland at the forefront of global start-up innovation. This long-term vision for Irish start-up culture needs to be a privately funded and self-sustaining model. The short term actions as outlined in *Project i* however will require both leadership and State funding, therefore they must be driven by Government.

This in turn requires value for the taxpayer and a return on investment. The prize is Ireland Inc as a global player in start-up innovation, bringing with it economic and social dividends that will cross generations.

KEY RECOMMENDATIONS

The recommendations summarised below are expanded upon in the respective sections in the paper.

CULTURE

- Government must lead by example, championing Ireland's commitment to creating a world class start-up ecosystem. Leaders should spend time in Silicon Valley and other centres of excellence to engage with tech leaders and Ireland's business diaspora with the goal being to better understand the *best-in-class* practices.
- Prevailing Irish attitudes that place narrow limits on ambition must be changed, starting with Government itself but reaching into the start-up founders' community – thinking and dreaming big should be the default position. Furthermore, failure must start to be embraced – another big cultural change for Ireland. The stigma of failure is a major deterrent for budding entrepreneurs in Ireland, resulting in an exodus to more forgiving environments.

EDUCATION

- Entrepreneurship should be included in the school curriculum from an early age, teaching basic skills and opening eyes to the opportunities for developing ideas. Recognising that such a change will take a generation to deliver results, teaching should also be introduced on an extra-curricular basis and delivered informally within regular day-to-day classroom activities. Provision of additional educational elements, such as primary school entrepreneurship programs, multi-university start-up challenges, Start-up Weekends and Start-up Weeks should also be incorporated into school programmes to promote the entrepreneurship mentality.
- Communications skills should be at the heart of third level entrepreneurial skills training – telling the story and the vision with passion and conviction is key to investor buy-in.
- Universities should run much more competitions to encourage students to create and develop their own start-ups, with winning teams rewarded with access to early stage capital.
- *'Start-up Summer Schools'* would additionally offer students the opportunity to work on their start-ups risk free, with access to training, guidance and a level of mentorship.
- Establish a start-up training program, where individuals who may not have a business idea but who want to work in a start-up are given broad training, equipping them with the skills to work effectively in a start-up environment. This would also serve as a go-to source of recruitment talent for founders.
- A consistent, codified and simplified process for the commercialisation of PhD research through the TTOs is required. TTO support should not come with conditions and universities should therefore not take equity positions.

EARLY STAGE FUNDING AND SUPPORT

- The mandates of the IDA and other Government Agencies must be revisited to include specific support for this new breed of start-ups. This in turn will require a change in their current performance metrics, enhancing the focus on job creation with a stronger emphasis on economic value-add for the start-up sector.
- EI should look to utilise secondment and other collaboration programs between other government agencies to increase the expertise of existing EI workers. The potential here is greatest around emerging technologies.
- EI should upgrade its selection and funding disbursement processes to improve the quality of successful start-up applicants and introduce improved systems for monitoring deliverables.
- In the longer term, EI should seek to eliminate all direct company funding and provide funding solely through private VC firms by investing into the private funds.
- EI should focus on *'Founder Mentors'* to help their start-ups rather than consultants. These are mentors with direct experience, who can empathise with the entrepreneurs and really supercharge their growth.

- Ireland must develop a broad and well-connected angel investor network, with the capital and the expertise to supercharge early stage start-ups. This will require an investor tax break scheme specific to early stage businesses that allows risk-taking to flourish by encouraging potential angels to invest.

- Greater use of the European Angel Fund should be secured by extending access on a national level and increasing the pool of angel investors to raise the level of expertise available across a broader range of sectors.

- Ireland should establish a single *'go to'* agency for the start-up community. This agency would lobby on behalf of start-ups and provide administrative support for start-up businesses.

- Introduction of an *'entrepreneurship secondment'* to encourage budding founders to take an unpaid leave of absence from their employer to develop their start-up ideas, knowing that they still have their job security.

- Establish a global structured network to harness Ireland's international business leaders as mentors of Irish start-ups as they scale and move into international markets. Start with a Silicon Valley network to strengthen Ireland's potential as its key start-up feeder.

ACCELERATION

- Invest in the establishment of a world-class accelerator in Ireland, with focus and resources to attract global investors, mentors and founders.

- A *'Station F'* facility that brings everything together is needed in Ireland as it would put out a statement of intent to the rest of the world about our intention to become a leading start-up hub. Furthermore, it would attract investors, mentors, and start-ups to Ireland. If executed well, Trinity's new hub could be the answer in this respect.

VENTURE FUNDING

- Irish VC firms should be encouraged to seek partnerships with international VCs, sharing insight into potential deal flow and gaining access to international networking opportunities.

- Amend existing pension fund investment regulations or utilise *"fund of funds"* mechanisms to stimulate a significant increase in the level of pension fund capital invested into VCs. This will become increasingly important from 2022, when the pension auto-enrolment program commences.

- Establish an Ireland-focused development fund to support the growth and expansion of Irish companies, founders or entities at home and overseas, with capital sourced from Ireland's top business people and from Government funding.

GROWTH AND EXIT

- Develop tax efficient ways help founders attract high quality employees, including share option schemes for start-ups that are flexible and easy to implement.

- Extend the STEP to include key employees as well as founders.

- Increase lifetime limit on Entrepreneurial relief to encourage founders to *'exit'* in Ireland, and therefore reinvest their capital in Ireland.

- Furthermore, changes to Capital Gains Tax system in Ireland are required to prevent start-ups from moving elsewhere to exit and also encourage them to subsequently re-invest in Ireland.

Key Recommendations (continued)

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STAGES IN THE EVOLUTION OF SUCCESSFUL START-UP BUSINESSES ARE KEY TO THE PROCESS, WITH EACH ONE BEING UNDERPINNED BY CULTURE

1 EDUCATION

2 EARLY STAGE FUNDING AND SUPPORT

RECOMMENDATIONS

1 Education

- Focus on entrepreneurship in education and implement extracurricular activities into education
- Teach communication skills
- Start-up summer school
- Start-up training program
- Rethink commercialisation process

2 Early Stage Funding and Support

- Focus on *'Founder Mentors'*
- Get EI to create synergies through collaborations with other Government agencies
- Develop thriving angel investor network
- Create *'go to'* agency for start-ups
- *'Entrepreneurship Secondment'*

CULTURE

3 ACCELERATION

World class accelerator that focuses on scaling internationally

New facility similar to *'Station F'* in France

4 VENTURE FUNDING

Get Irish VCs partnering with foreign VCs

Get pension funds investing in Irish VCs

'Irish Development Fund'

5 GROWTH AND EXIT

Simple share option scheme targeted at start-ups

Extend STEP

Implement changes in Irish CGT system and increase attractiveness of *'Entrepreneurial relief'*

Focus on entrepreneurship

Encourage failure

Global scale and ambition

UNLOCKING IRELAND'S POTENTIAL

Technology has come to impact lives and businesses 24/7 on a global scale and in a variety of ways, many of which may be hidden from view, but are none the less indispensable. The world today does not even closely resemble the world of 20 years ago and will be equally far removed from the world of 20 years in the future. The fast-changing digital environment presents boundless opportunities for new tech businesses to start up and grow in a climate of constant technological advancement. Global technology superpowers such as the USA and China are in the forefront and advancing rapidly, providing funding, support and market opportunities for companies that are appropriately equipped to exploit them.

This paper investigates the unique characteristics of Tech Start-ups, the nature of support they look for from an ecosystem, the value to Ireland of participating in a meaningful way and the measures needed to unlock the potential of an Irish Start-up Ecosystem and place Ireland prominently on the map of Global Ecosystems.

Ireland has the potential to develop a world-class start-up ecosystem, benefitting from access to the single EU market, as well as sharing common language and cultural characteristics with the USA, the largest single market in the world. Market accessibility is one of the key selling points to attract start-ups, allowing them to test and develop locally before launching in scale in the EU or USA. However, in terms of start-up ecosystems worldwide, Ireland does not currently feature on the map – other key ingredients are absent.

Two unique characteristics of the new breed of tech start-ups set them apart from the traditional business model. First is their ability to scale up in a way that has not been seen before. For example, in 2018 Bird, a start-up based in California making scooters, raised a $150,000,000 funding round at a $1,000,000,000 valuation. What made this remarkable was that the company was only 15 months old, making it the fastest company ever to achieve *'Unicorn'*[1] status. Many other companies have scaled exponentially in a short period of time and do not conform to the traditional stable growth model.

The second unique differentiator is their mobility. In terms of assets, many of these start-ups consist of no more than the founders and their laptops, so there is nothing tying them down to one country. This mobility makes a positive ecosystem crucially important, since start-ups will choose to move to the most favourable ecosystem.

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In order to build a picture of the essential characteristics of a *world-class* ecosystem, the leading centres were identified and site visits made, with interviews of key practitioners conducted at each location. The clear global leader is San Francisco, and more specifically, Silicon Valley. Boston is a strong contender in North America and Stockholm, Berlin, London and Paris are all well-developed and successful start-up hubs in Europe. Other start-up hubs, including Israel, Hong Kong, Singapore and China were not visited, either due to time constraints or because they are not directly comparable to Ireland. For example, Israel has developed a significant capability, but primarily associated with their military research programs.

All of the leading countries have been proactive in developing their start-up hub capabilities, but, with a rich history in the space, Silicon Valley has established a commanding lead. Their ecosystem is extremely favourable across a range of factors and set apart by its culture. Boston benefits from the presence of two of the world's leading universities - MIT and Harvard. In Europe, London leads the field, with Berlin and Paris (whose emergence as a start-up hub has been recent) close behind.

[1] *Companies with $1,000,000,000 valuation*

A total of 82 practitioners were interviewed in the research phase of the investigation (Appendix 1). They provided valuable insights into each of the key elements of start-up ecosystems, allowing a comprehensive picture to be built up of the common factors present in each of the locations and facilities.

There are five key stages of a world class start-up ecosystem, with culture being the foundation of each stage:

- **Education:** Education has an enormous influence on the population and needs to inspire future generations to pursue entrepreneurship. In the most successful ecosystems, the universities have acted as catalysts to the ecosystem, with a large amount of '*spin-out*' companies being founded at this stage.
- **Early Support:** It is essential to provide both early stage funding and support to start-ups to help their transition from idea to viable business. A thriving angel investor network is an important source of capital and expertise for early stage companies.
- **Acceleration:** World class accelerators provide start-ups with the capital, mentorship and access to networks needed to propel their growth and maximise the chances of further investment.
- **Venture Funding:** High quality, smart capital must be available to start-ups as they look to scale up. Smart capital combines investment with the expertise, mentorship and access to networks required to scale.
- **Growth & Exit:** In order to scale, start-ups need to attract employees. An effective way to do so is by issuing share options, but this must be tax efficient for the employee so that they can benefit. Furthermore, when a founder decides to exit through a sale or IPO, they should be rewarded for their risk-taking and sacrifice, not be punished by a harsh tax environment.
- **Culture:** Culture lies at the core of each of the foregoing five key elements. Without the right culture, the process will fail. The right culture encourages start-up creation, nurtures ambition and accepts failure without stigma.

The following sections in this paper correspond to each of the above development stages. Each section addresses three questions:

1. **what does best in class look like?**
2. **what is the current environment in Ireland? and**
3. **what are the key measures needed to improve Ireland's ecosystem?**

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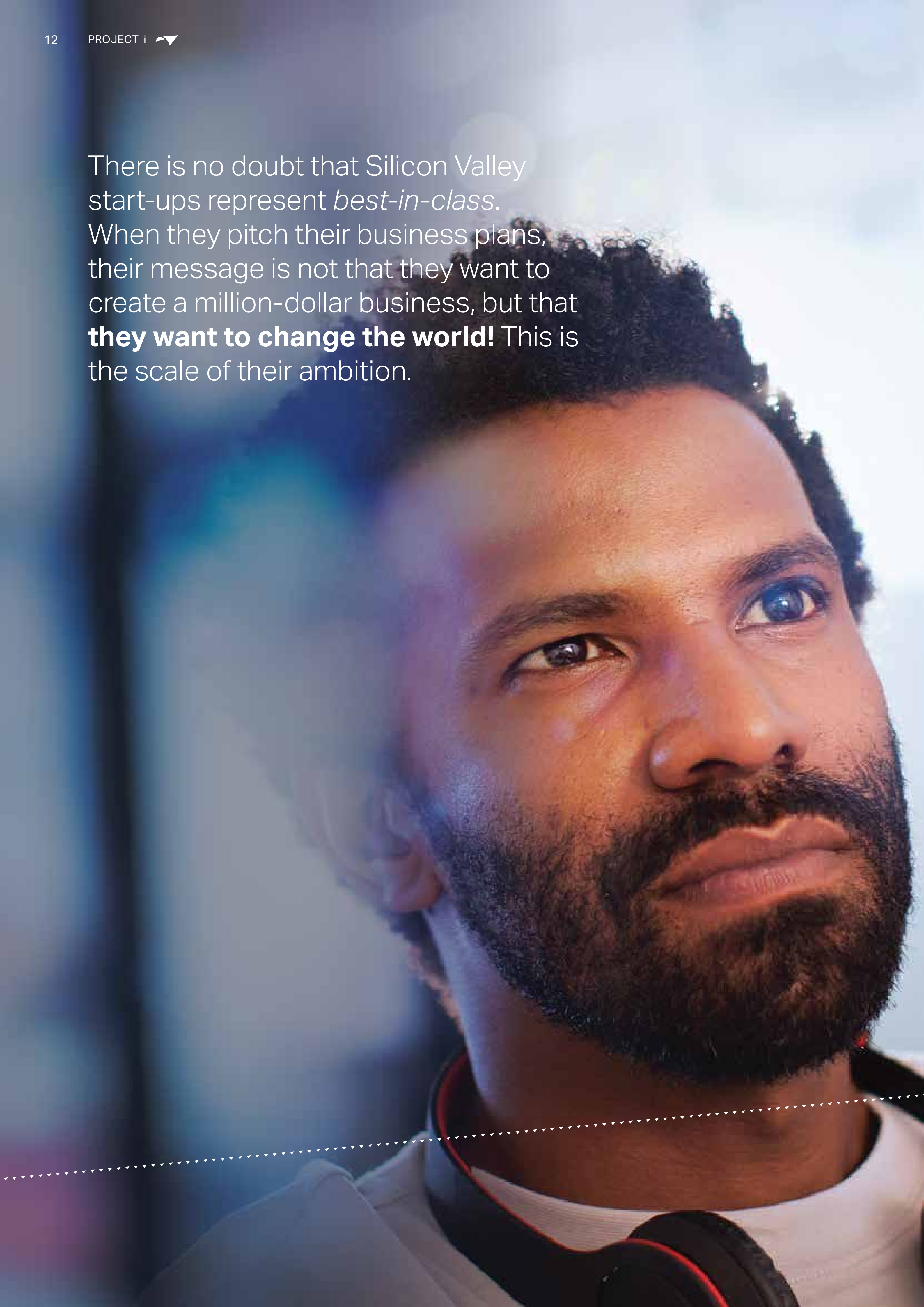

There is no doubt that Silicon Valley start-ups represent *best-in-class*. When they pitch their business plans, their message is not that they want to create a million-dollar business, but that **they want to change the world!** This is the scale of their ambition.

CHAPTER 1
CULTURE

CULTURE

WHAT DOES *BEST-IN-CLASS* LOOK LIKE?

There is no doubt that Silicon Valley start-ups represent *best-in-class*. When they pitch their business plans, their message is not that they want to create a million-dollar business, but that they want to change the world! This is the scale of their ambition.

In an environment of success, failure is a necessary milestone on the journey.

In Boston, MIT is set apart from others by their cultural approach to failing. It is clearly understood that failure is part of the entrepreneurial journey, so they are not afraid to fail and instead aim to *'fail fast'* and learn from the experience. In the words of an entrepreneur based in MIT, *"the soup of a successful ecosystem is to enable people to fail"*. This sort of mentality helps early stage founders deal with failure, pivot into new opportunities and create the next big thing. In an environment of success, failure is a necessary milestone on the journey. One US entrepreneur stated that she had been unable to obtain venture capital because she could demonstrate no experience of failing.

'FailCon' is a conference that aims to break down the taboo of failure by providing a platform for people who have failed to discuss their learning experience with others who have taken similar entrepreneurial journeys. Started in San Francisco in 2009, FailCon has extended its global reach to include France, Israel, India and Spain.

France has seen the biggest shift in culture, and this has been led by President Macron. He has placed a strong emphasis on start-ups which has resulted in a significant shift in attitude towards start-ups in France, creating a culture where more than 20% of graduates now go on to work for start-ups, compared to just 2-3% five years ago. President Macron has also developed close connections within Tech leaders and hosts a dinner for Tech CEOs ahead of the World Economic Forum in Davos. These initiatives at the highest political level have been instrumental in putting France on the map as a tech hub.

The first step in improving the start-up ecosystem in Ireland is for the Irish Government to put specific focus and emphasis on start-ups.

WHAT IS THE CURRENT ENVIRONMENT IN IRELAND?

Ireland has an impressive track record in attracting many of the leading technology, internet, pharmaceutical, life science and financial services companies. However, while these companies are prolific employers of skilled professionals, they have created an over-reliance on large multinational companies to provide employment and account for a high percentage of the entrepreneurial talent in the country.

For high-performance professionals, making the decision to move from a well-paid, secure career in a large multi-national to create or join a start-up is more difficult in Ireland than in the leading Tech hubs. In Ireland, the initial downsides (lower salary, lack of job security, uncertainty, personal financial risk) are not adequately compensated by future upsides (tax efficient share incentives, capital gains tax exemptions). In situations like this, potential founders, co-founders and employees will either stay in their secure tech job or will relocate to an environment with better early stage support.

Culturally in Ireland there is a clear stigma around failure that has a negative effect on entrepreneurship. This is especially true for entrepreneurs who have failed and are looking to bounce back. This cultural trait, embedded in many Irish people, puts people off starting their own business and the *'fear of failure'* serves to stifle entrepreneurship.

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WHAT ARE THE KEY MEASURES NEEDED TO IMPROVE IRELAND'S START-UP CULTURE?

Recommendation 1.1

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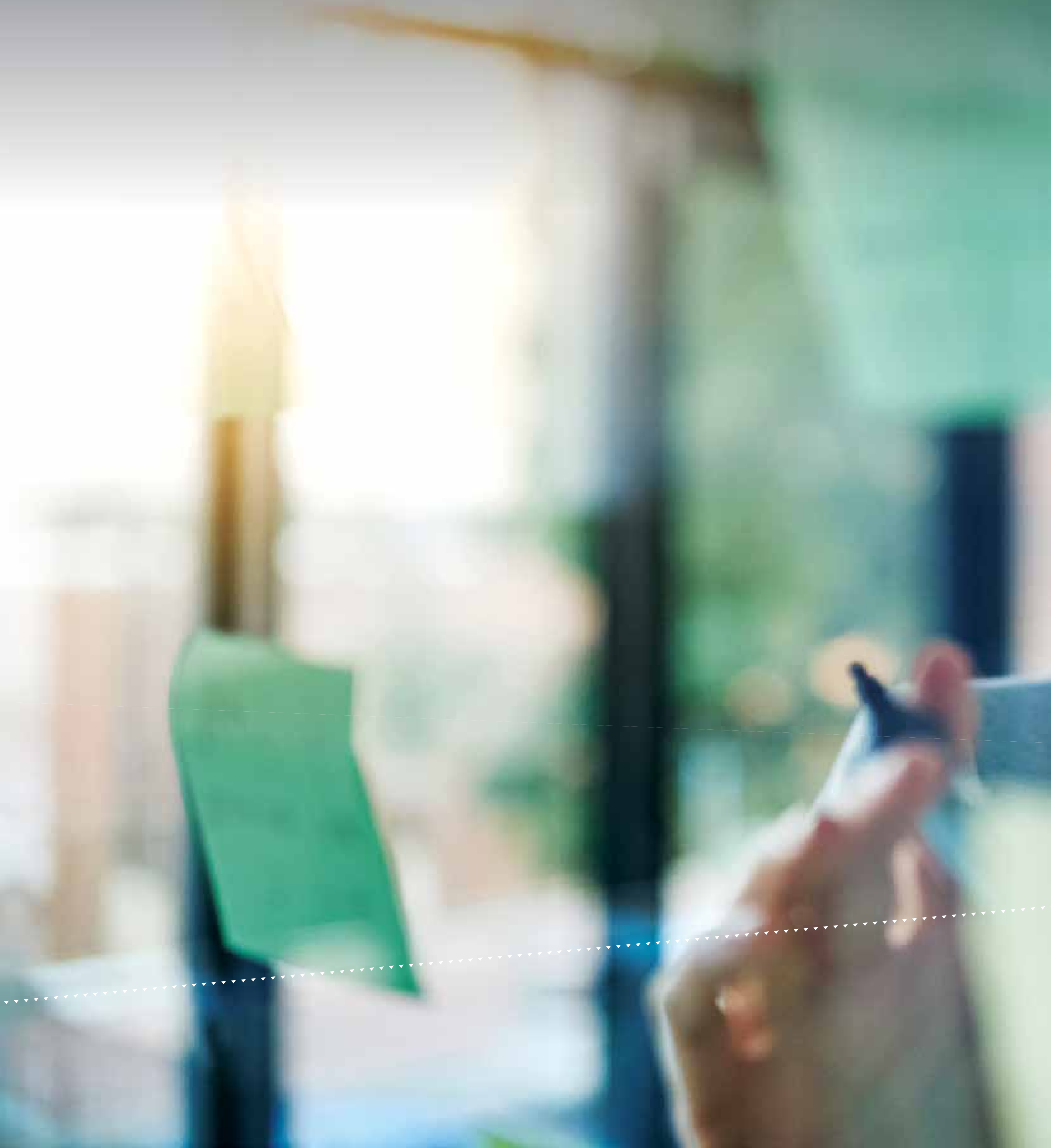
Leaders should also be vocal about their support and enthusiasm for start-ups, hosting events with leaders in Technology to drive a change in the culture towards start-ups.

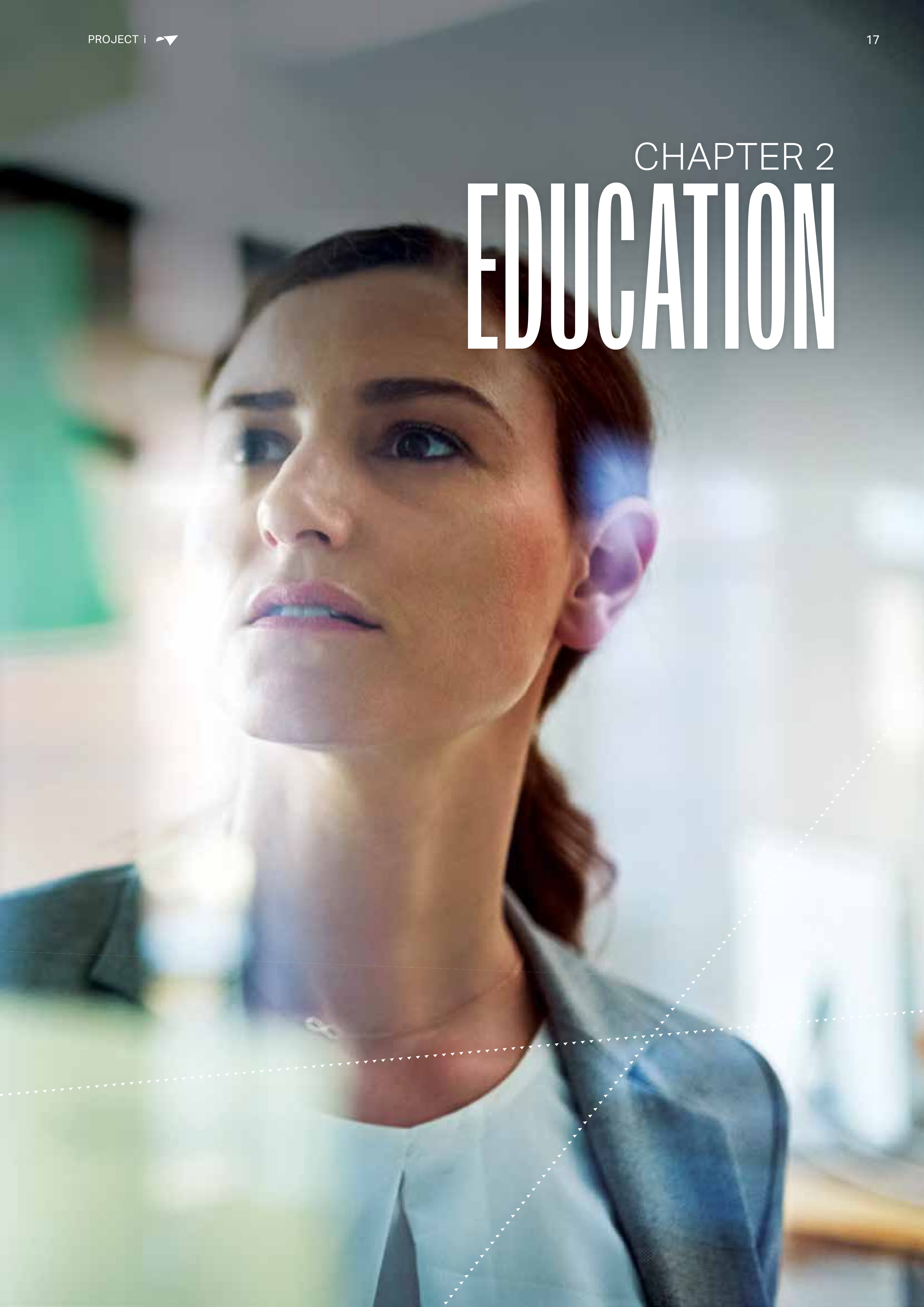
The first step in improving the start-up ecosystem in Ireland is for the Irish Government to put specific focus and emphasis on start-ups. Government leaders have to spend time in Silicon Valley, connecting with key individuals in the space to understand the key elements of best practice and to promote Ireland as a Tech hub. Leaders should also be vocal about their support and enthusiasm for start-ups, hosting events with leaders in Technology to drive a change in the culture towards start-ups. Announcing the Government's intention to increase the focus on start-ups would be picked up as a statement of intent by Ireland.

Recommendation 1.2

Ireland's start-ups must be taught the value of ambition and learn to talk up their plans and ideas. They must also overcome the stigma of failure and embrace disappointment as part of a wider development process. Again, the cultural changes required needs to be led by government, which should no longer be constrained by Ireland's perceived limitations, but rather build on what has been achieved globally on the broader business world.

The goal of education in a start-up ecosystem is to **produce highly capable talent pool** that is encouraged from an early stage to solve problems and be entrepreneurial.





CHAPTER 2
EDUCATION

EDUCATION

WHAT DOES *BEST-IN-CLASS* LOOK LIKE?

The goal of education in a start-up ecosystem is to produce highly capable talent pool that is encouraged from an early stage to solve problems and be entrepreneurial. Students must be encouraged to be creative and innovative throughout their education and be inspired to want to be the best they can be, whether through creation of their own enterprise or by working for an enterprise.

There are multiple way to promote entrepreneurship in students – at the most fundamental level, it can be taught and encouraged. There is wide consensus that teaching entrepreneurship should begin at a young age.

The approaches that have proven successful range across the spectrum, from seeking to rethink the education ethos, such as "INUubatoredu", which replaces the traditional lecturing format with a more hands- on approach, to initiatives like "Lemonade Day", a US nationwide initiative where kids set up their own lemonade stand for a day, while they are guided through a 14-step business process, from early stage planning to calculating their revenue and costs. In each case, the goal is simply to introduce kids to entrepreneurship through a real-world experience and getting them to think about creating jobs rather than just getting a job.

World class ideas need world class communications. Founders need to be able to articulate the vision, need to make that vision understood and need to excite passion when talking about their vision, so that investors buy into that vision and their start-up idea. Entrepreneur focussed classes and training must include communication, essentially the art of story-telling, in their curriculum.

Another successful approach adopted by educational institutions is through competitions. MIT uses *'$100,000 competitions'* to encourage students to create and develop their own start-ups. Winning teams are rewarded with access to early stage capital ($100,000), but the process of developing a start-up is experienced by all the participants.

There are two key benefits to these competitions:

- Start-ups are created and developed. The vast majority of these companies will fail or be discontinued, but there is great value in getting students used to setting up their own business and identifying the key elements and processes, while developing and refining a business plan and pitch.
- These competitions have become a key part of the student calendar in MIT and excitement builds around them. This engrains a culture of entrepreneurship in the students.

In the best institutions, collaborations between subjects and faculties in universities is actively encouraged.

For example, when business schools collaborate on joint projects and courses with engineering schools, the student start to mix, allowing interactions that result in future CEOs finding their CTOs and vice versa. This diversity builds the teams' skills base, making much stronger early stage founding teams, increasing their chances of gaining funding, traction and ultimately success.

PhD research that offers a new contribution to a specific field often has significant commercial value, ideally suited to development and delivery by business start-ups led by members of the research team. There are many examples globally of research projects that have been turned into successful businesses, where academia has embraced the benefits of commercialisation over keeping the research within an academic setting for the purpose of publishing papers.

These institutions have established Tech Transfer Offices ("TTOs") to transfer the benefits of the knowledge and Intellectual Property ("IP") to the public domain by releasing the research-based IP from university ownership to commercial development and use in the private sector. Start-ups negotiate with the TTO to licence the IP from the university, or the university will take an equity stake in the start-up, or frequently a combination of both. The process is broadly similar in every university, but the best-in-class differentiator is the quality of the people working in the TTOs.

MIT's commercialisation of research is amongst the best and complements their strong innovation and commercialisation culture. MIT utilises an "Academic Entrepreneurship Model", in which the TTO takes an active role in connecting academic entrepreneurs with venture capitalists and then gives them relative free reign on management of the venture. In return, the university takes an equity stake, with a focus on getting the knowledge and technology into society and creating an economic impact in the community. Their financial returns come from large endowments which are created after success of the start-ups. The 10-step commercialisation model used by MIT is shown in Appendix 3.

WHAT IS THE CURRENT ENVIRONMENT IN IRELAND?

The quality of education in Ireland is excellent, resulting in a highly skilled workforce and world leading research that can compete on a global level. This can be used to differentiate Ireland from many other countries, as it is something that is difficult and time-consuming to develop. The movement of converting the Institutes of Technologies (Its) to Technological Universities (TUs) is welcome as combining the efforts of these institutions will result in a better overall impact on the ecosystem.

At the same time, little emphasis is placed on entrepreneurship by teachers and lecturers throughout the education system. The Leaving Certificate is restrictive in terms of encouraging creative thinking and innovation and there is no early age focus in this area.

One extremely positive initiative in Ireland is the proposed Trinity Grand Canal Innovation District (GCID), which envisages a new €1,000,000,000 TCD technology and innovation campus at a 5.5 acre site near Grand Canal Quay and Macken St in Dublin. The project is going to be a collaboration between all of the Universities in Ireland, with the vision being the cross-fertilisation and nurturing of ideas between companies, researchers and entrepreneurs while, in the process, it will become an international magnet for talent, investment and jobs.

The project is hoping to develop further the *'clustering effect'* that has already started in the Grand Canal Dock area. The need for a facility like this is a strategic imperative in Ireland and this plan has both the backing of key stakeholders and the scale to really have an impact on the Irish ecosystem.

It has the potential to put Ireland on the start-up map, and critically give investors and other stakeholders a reason to come to Ireland. Something that is currently lacking.

Ireland scores about average when it comes to commercialising research on a *'per €100,000,000 of funding'* basis. There have been calls for the quality of personnel in the TTOs to improve, as bureaucratic practices can cause momentum to be killed in spin-out companies. Intellectual property and University *'spin outs'* are governed by the National IP Protocol 2016, which oversees all Tech Transfer policies and gives universities a broad remit, which they can tailor to their specific needs. Around 70% of the funding for research is provided either by the government or by the EU, which has conditions about the ownership of any resulting IP, stating that the university must own it.

Education (continued)

WHAT ARE THE KEY MEASURES NEEDED TO IMPROVE IRELAND'S EDUCATION ENVIRONMENT?

Recommendation 2.1

Ireland must develop a much greater focus on entrepreneurship, from the earliest stages of education, teaching basic business skills and opening student's eyes to the opportunities for developing ideas. However, this change will not deliver short-term results and it may take a generation before the positive impact of this is seen. Teaching entrepreneurship does not fit the mantra of the current education systems, particularly around grading. In many cases, it is not possible to grade entrepreneurship, and therefore, it does not fit into the *'end of semester'* exam cycle that Ireland's education system is based on. Recognising the limitations of the current system, it is recommended that teaching should be introduced on an extra-curricular basis and delivered on a more informal basis within regular day-to-day classroom activities.

Events that provide additional educational elements, such as primary school entrepreneurship programs, multi-university start-up challenges, Start-up Weekends (where individuals attend and are put in teams to create a start-up over a weekend) and Start-up Weeks should be incorporated into school programmes to help promote the entrepreneurship mentality in Ireland.

> *Universities should run more competitions to encourage students to create and develop their own start-ups, with winning teams rewarded with access to early stage capital.*

Recommendation 2.2

A critical element of the entrepreneurial process is communications – story telling.

This must be taught and therefore included in the core entrepreneurship curriculum from secondary level onwards.

Recommendation 2.3

Universities should run more competitions to encourage students to create and develop their own start-ups, with winning teams rewarded with access to early stage capital. The potential success of these programs is best seen in MIT.

Recommendation 2.4

'Start-up Summer Schools' would additionally offer students the opportunity to work on their start-ups risk free, with access to training, guidance and a level of mentorship. By providing a small amount of capital, equivalent to the amount that students could earn working a summer job (c. €4,000), students would be encouraged to enter the program, which would operate as a *'pre-accelerator program'* dealing with companies at their earliest stage.

The selection criteria should be based on the quality of the idea and the potential of the entrepreneur. Since the vast majority of these budding companies will likely fail, a key principle is that it is more important at this stage to develop the entrepreneur than to develop the start-up.

Recommendation 2.5

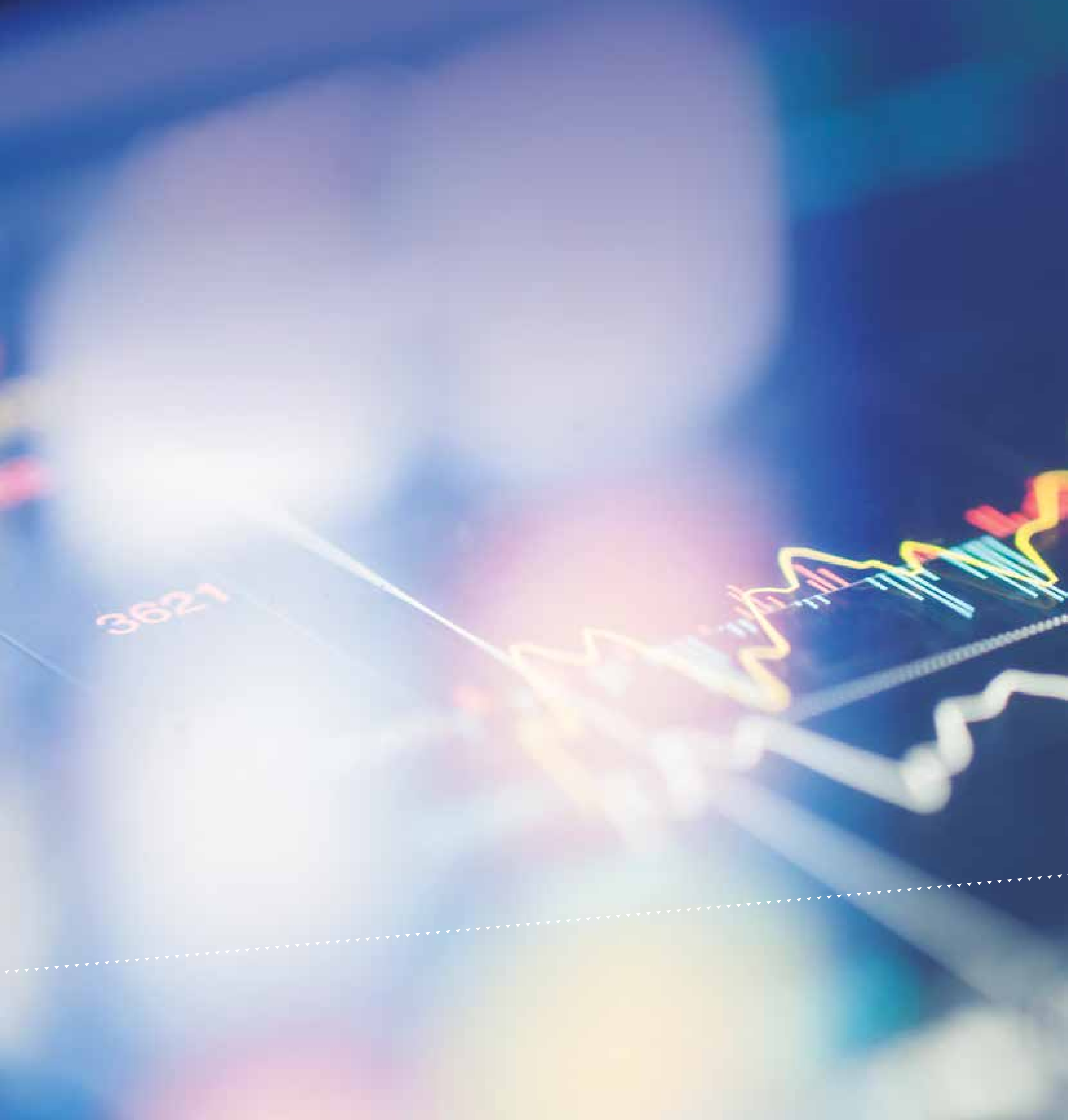
In Ireland, the only focus of entrepreneurship is for potential founders – there is no structured avenue for individuals who would like a career in a start-up, but do not have an idea. For a start-up trying to recruit talent there is also no *'go to'* place where they can access candidates that are suited and trained to work in a start-up.

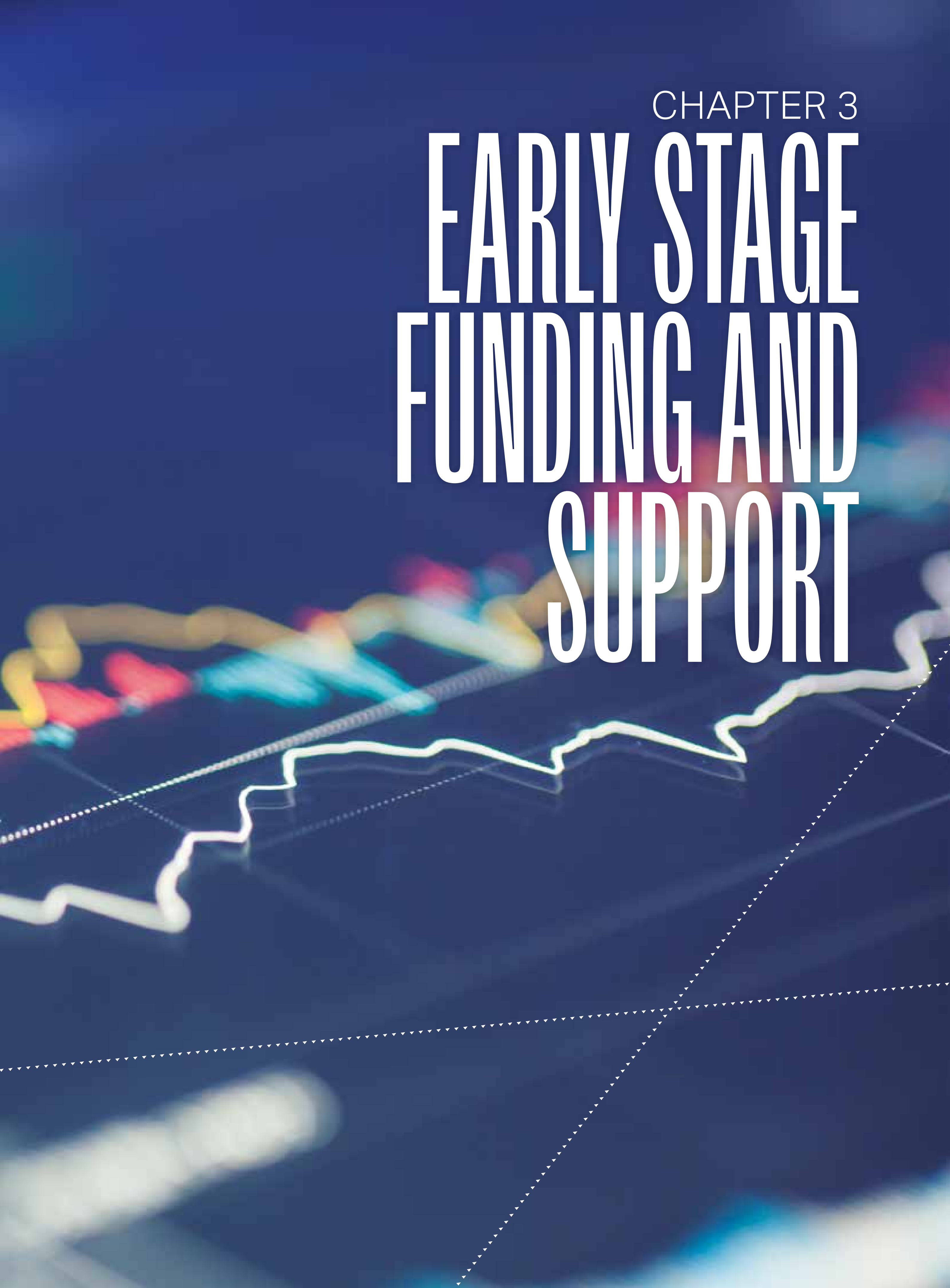
A solution to this problem is a *'start-up training program'*, where individuals who may not have a business idea but who want to work in a start-up are given broad training in all aspects of working in a start-up, equipping them to work effectively in a start-up environment.

Recommendation 2.6

A consistent, codified and simplified process for the commercialisation of PhD research through the TTOs is required, with the overall goal being to maximise the commercialisation of research in Ireland. TTO support should not come with conditions and universities should therefore not take equity positions. The University has to realise that their financial return is not going to come from a 10% equity stake that will just get diluted down to near zero. The reward will come from the endowment packages after a founder has successfully exited the company.

The best early stage funding and support models provide access to initial seed capital and support to allow entrepreneurs to **develop their early ideas**.





CHAPTER 3

EARLY STAGE FUNDING AND SUPPORT

EARLY STAGE FUNDING AND SUPPORT

WHAT DOES *BEST-IN-CLASS* LOOK LIKE?

The best early stage funding and support models provide access to initial seed capital and support to allow entrepreneurs to develop their early ideas. Early stage funding is provided by both public and private sources. In the US it is solely private capital, while in the rest of the world a significant amount of public funding is provided. One key reason for this difference is that the US has a more mature start-up industry and a better culture of investing in early stage start-ups.

best-in-class is the US model, where funding is provided solely by the private market. The absence of public funding results in early stage companies having to compete for private venture funding from the outset. This competition for capital, which is not typically required in order to receive public funding and support, improves the quality, polish and professionalism in those companies that survive past the early stages.

The main sources of early stage funding in the US are:

- **The "3Fs":**
  Friends, Family and Fools generally invest less than €50,000
- **Angels:**
  Invest anywhere between €10,000 and €1,000,000
- **Super Angels:**
  Act like small funds investing in groups
- **Venture Capitalists:**
  Operate institutional rounds funding from €250,000 upwards
- **Crowdfunding:**
  Selling shares to large volumes of investors through online platforms

The absence of government intervention at this funding stage is unique to the US. In all other countries, including all EU countries, significant government intervention is required at this stage to fill the void.

France is considered to be the global leader in public funding, which is available at all stages of development. Initial innovation funding and support is available through grants, recoupable advances and interest free loans, in addition to access to seed capital and bridging loans for innovative products and ideas.

Early stage equity investment is also available, directly or through partner funds. After the initial investment stage, BPI (France's Public Investment Bank) provides access to business financing through flexible term loans, supported property and equipment leasing contracts and longer-term financing options such as growth loans, profit sharing loans and refinancing of public or private receivables. BPI's key differentiator is the quality of its people, having consciously decided to employ private sector workers to break the *'government agency'* image.

BPI also provide guarantees to banks to facilitate the financing of SMEs at the riskiest stage of their development. BPI can provide guarantees to cover 40-70% of SME loans during the creation, transmission, innovation, international expansion or development stage. BPI may also take minor equity stakes in growth businesses, from seed to transfer stages, investing alongside other public or private funds. BPI also acts as a development agency, supporting and financing the expansion of companies into and out of France.

Another key element in start-up ecosystems is a powerful angel investor network, where San Francisco is the clear *best-in-class* due to its unique culture. The presence of a large numbers of successful founders who have *'exited'* and now possess the capital, expertise and network required to propel start-ups support Silicon Valley's unique environment.

The UK is an excellent example of a strong, replicable angel investor network. The UK Government's Seed Enterprise Investment Scheme ("SEIS") and Enterprise Investment Scheme ("EIS") incentivise large numbers of individuals to become angel investors in early stage companies. The EIS focusses on established businesses looking to expand, while the SEIS is for start-ups. These schemes give investors access to tax relief on qualifying investments, with greater relief given to the SEIS to reflect the elevated start-up risk.

As well as funding, early stage businesses need support through mentorship to guide and challenge them about strategic issues. There are two types of mentors:

1. **Corporate Mentors** – These are leading industry figures in their field and are normally senior figures in large corporations.
2. **Founder Mentors** – These are entrepreneurs who have set up their own companies and most likely successfully *'exited'*. These mentors can empathise with other founders, as they have specific experience dealing with similar issues.

While both types of mentors are valuable (in different ways), it is the founder mentors that can really supercharge the growth of early stage companies. In Y Combinator (the world's leading accelerator program), for example, not only are the vast majority of the mentors *'Founder Mentors'*, in fact, the majority of the mentors had gone through the Y Combinator program and successfully *'exited'*. This shows the value that the world's leading accelerator places on successful *'Founder Mentors'*.

WHAT IS THE CURRENT ENVIRONMENT IN IRELAND?

The early stage funding environment in Ireland is dominated by state grants. A number of early stage funding mechanisms are available in Ireland, but navigating the bureaucracy can make it challenging to access these funds.

The Local Enterprise Office ("LEO") is the first-stop for entrepreneurs looking to start their own businesses. The LEO provides financial and non-financial support for businesses, but predominantly deals with small, local businesses in the domestic economy.

Since its formation 20 years ago, EI has enjoyed substantial success in fulfilling its core remit to develop and grow Irish businesses in global markets. As the Irish economy has grown over intervening years, Irish companies, products and brands across many sectors have become widely recognised around the world, in no small part thanks to the efforts and focus of EI. The government agency is also recognised as a leading provider of early stage funding and support in Ireland and is widely involved in supporting and promoting entrepreneurship and start-ups generally.

> *EI has a significant impact on the start-up ecosystem and the capital that they inject into the ecosystem is absolutely critical given the severe lack of alternative early stage funding sources.*

From a funding perspective, EI support ranges from small grants, including feasibility study grants of up to €15,000, to a Competitive Start Fund ("CSF") which provides a start-up with €50,000 in return for a 10% equity stake. For businesses looking to raise the first significant round of capital, the High Potential Start-up ("HPSU") program offers up to €250,000 of *'matched funding'*, where the start-up also has private investors, thereby encouraging the involvement and engagement of VCs. EI also invests capital directly into private VC funds.

EI has a significant impact on the start-up ecosystem and the capital that they inject into the ecosystem is absolutely critical given the severe lack of alternative early stage funding sources. However, this government intervention into what should be a competitive private market means that nearly anyone can get funding and a €500,000 company valuation (through the CSF), leading to a distorted market which can affect future valuations.

As the global economy accelerates further into the digital age, the skills and experience required to promote and develop the ascendant new technology sector (encompassing multiple associated prefixes such as Fin-, Agri- and Med-) continue to move away from EI's well tried and tested core competencies. The organisation's generalist approach to helping as many start-ups as need assistance across all industries and through every stage of their development is not attuned to the specific requirements of tech start-ups, whose needs are significantly different from those of traditional businesses.

Early Stage Funding and Support (continued)

Consequently, EI cannot be considered world-class in its ability to nurture, develop and grow potential tech sector business ideas in scale. The agency is impacted by budgetary constraints that limit its own ability to attract and retain top-class talent, while EU State Aid rules result in bureaucratic processes that lead to frustration for employees and for start-ups.

EI's access to mentors is an additional limiting factor. The agency has a large pool of "mentors", but the majority are private consultants offering advisory services, rather than entrepreneurs and founders with the hands-on experience of the start-up world that can supercharge the growth of start-ups.

Although EI's limitations have not been barriers for the majority of start-ups that have taken advantage of their support, this path is not taken up by all start-up companies. The two most recent Irish unicorns, Stripe and Intercom, both elected to avoid the bureaucracy and perceived limitations of EI and, in its current form, EI is unlikely to attract future disrupters or the next Google.

For Irish investors in established businesses, an Enterprise Investment Scheme ("EIS"), similar to the UK EIS, gives investors a 40% tax break over a three year holding period (30% in year one, and 10% after the three year period). However, this scheme has not been used to date to help start-ups as its complex process has restricted its use to lower risk investments in SMEs who are looking to expand. There is no tax incentive scheme specifically aimed at investors in early stage companies. A comparison of the tax incentive schemes around the world is attached in Appendix 4.

One Irish initiative promoting angel investing is the HBAN angel investor network, where individuals invest in syndicate funds which are then invested into start-ups. The investors are also expected to provide non-financial support to the start-ups. This initiative allows individuals to invest in start-ups while giving them portfolio diversification and lower risk concentration. HBAN is run by the Dublin Business Innovation Centre, whose ethos is to help start-ups along every stage of the journey, providing a range of services including mentoring, incubation space and capital. The HBAN is a positive initiative that has encouraged a greater number of individuals to start angel investing and we particularly welcome their new program to encourage more female angel investors.

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In addition, under the European Angel Fund, pre-approved angel investors can get access to a fund from the European Investment Fund ("EIF") whereby investors can match any personal investment with capital from the EIF, provided that the investment is made on a pari passu basis. At the moment, seven approved angel investors in Ireland share a pool of €40,000,000 (increased from €20,000,000 in November 2018). This is a positive initiative which increases the attractiveness of investing for relevant individuals, and it should look to be upsized to increase the impact on the ecosystem.

In terms of administration, it is easy to set up a company in Ireland and, once set up, it is relatively easy to run the company (in terms of filings, etc.) which is positive for start-ups. Furthermore, the financial support provided by EI and other tax schemes (in particularly, the SURE scheme[2]) means that creating a start-up in Ireland is relatively low risk. This makes Ireland a *'Sandbox for entrepreneurs'*, where they can fail with little financial down-side, although a significant amount of work is needed on the culture and the stigma surrounding failure.

[2] *Start-up Refunds for Entrepreneurs (SURE) → This is a scheme that allows individuals in Ireland setting up their own business to claim a refund of income tax paid on up to €100,000 of gross earnings in each of the previous six years.*

WHAT ARE THE KEY MEASURES NEEDED TO IMPROVE IRELAND'S EARLY STAGE FUNDING AND SUPPORT ENVIRONMENT?

Recommendation 3.1

There must also be a top-down shift in the attitude towards start-ups so that all stakeholders are on the same page regarding both the encouragement of indigenous start-ups and on attracting foreign start-ups. In practice, this could mean expanding the mandate of the Irish Development Agency ("IDA") to include early stage start-ups in addition to their current focus on established multi-nationals. Ireland is small. It is critical to attract foreign start-ups so that we can hit the critical mass of start-ups that supercharges our ecosystem.

Recommendation 3.2

EI employees are thought to be *'generalists'* rather than *'specialists'*. Recognising that Ireland has some of the top talent in Universities as well as other public and private organisations, EI should try to leverage this to create synergies. The potential is greatest here around emerging technologies.

Utilising secondment programs into and out of EI would allow state workers to broaden their skills and increase their capacity to help start-ups. Furthermore, developing working relations with other government agencies (in particular, the IDA) could help Irish start- ups when they are moving abroad.

Recommendation 3.3

EI should upgrade its selection and funding disbursement processes to improve the quality of successful start-up applicants and ensure good start-ups get allocated funding, rather than start-ups with a well written application form.

Early Stage Funding and Support (continued)

Recommendation 3.4

Furthermore, improved transparency needs to be introduced for monitoring deliverables, which should focus on economic value-add rather than job creation. EI's annual report is too high level and not granular on the key metrics for success.

Recommendation 3.5

In the longer term, EI should seek to eliminate all direct company funding and provide funding solely through private VC firms by investing into the private funds. This model would allow EI to continue to inject capital into the ecosystem (which currently is absolutely critical), but also allow private market forces to act on the market.

Recommendation 3.6

Founder mentors should be tapped by EI to supplement the generalist consultants currently utilised. An advisory council comprising Irish entrepreneurs and business leaders should be established to provide EI with guidance in the sourcing, selection and implementation of top tier mentors.

Recommendation 3.7

Ireland must develop a broad and well-connected angel investor network, with both the capital and the expertise to supercharge early stage start-ups. An investor tax break scheme is required specific to start-ups (less than 2-3 years old, or pre-revenue) that encourages potential angels to invest.

The UK SEIS is a good, proven model to use, having incentivised people who would not normally fit the typical angel investor profile to start angel investing. In many cases, these investors are accountants and lawyers who also have significant expertise relevant to start-ups. Simplification of the application, on-boarding and reporting structures is a must to ensure it is attractive to start-ups.

Recommendation 3.8

Greater use of the European Angel Fund should be secured by extending access on a national level and increasing the pool of angel investors to raise the level of expertise available across a broader range of sectors. Because the angel investors also have *'skin in the game'*, their interests are aligned with those of government, removing any concerns over abuse of the system.

This could also be implemented on a national level with the vision for this *'Irish Angel Fund'* is to achieve a pool of 50+ angel investors to supercharge the amount of capital deployed into the ecosystem and raise the engagement of the angel investors. One potential downside might be that, as the investors are investing their own capital, they may be overly cautious with the scale of their investment.

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Recommendation 3.9

Ireland should establish a single *'go to'* agency for the start-up community. This agency would lobby on behalf of start-ups in a similar way that the Irish Farmers Association supports the agricultural sector. The agency would also provide administrative support to start-ups on matters such as company registration, visas for employees, tax deadlines.

This is a role provided in France by La French Tech, which has been successful and has an excellent reputation in the start-up community. Small administrative matters can take up a significant amount of time for start-ups while adding no value to their revenue-generating capability. The importance of this support was raised by many of the overseas start-ups interviewed that had considered relocating to Ireland.

Recommendation 3.10

In Ireland, thousands of employees are employed by Facebook/ Google/ Microsoft. Whilst this adds significant value to the economy, it could also be seen as damaging to the start-up ecosystem. Many of these highly skilled individuals might have strong entrepreneurial potential, but take the view that *'an employee working for Google earning €150,000 a year with free food would be foolish to risk everything to leave and set up their own business.'*

An *'Entrepreneurship Secondment'* that provides six months un-paid leave to develop their idea would create a risk-free opportunity to test their business and, if it fails, they can return to their job. This is a program that has proved successful in Sweden. Having a program targeted at these highly skilled workers would likely increase the amount of these employees leaving to set up their own business and it is these start-ups, with top class founders, who have the potential to become unicorns.

Recommendation 3.11

Ireland has consistently punched above its weight in producing world class CEOs and business leaders, with many globally successful companies run by people with Irish heritage. This heritage connection to the global Irish diaspora presents a significant business advantage for Irish start-ups.

The establishment of a Business Network comprised of this Irish Global Diaspora would provide a platform for selected high-performance Irish companies to be supported by these business leaders as they scale and move into international markets.

There have been attempts at this in the past, but the key is to develop a well-renowned, sustainable model. A Silicon Valley | Ireland Business Network dedicated to helping Irish companies seeking to move to Silicon Valley is a key specific initiative and a necessary prerequisite to Ireland becoming the leading external feeder to Silicon Valley.

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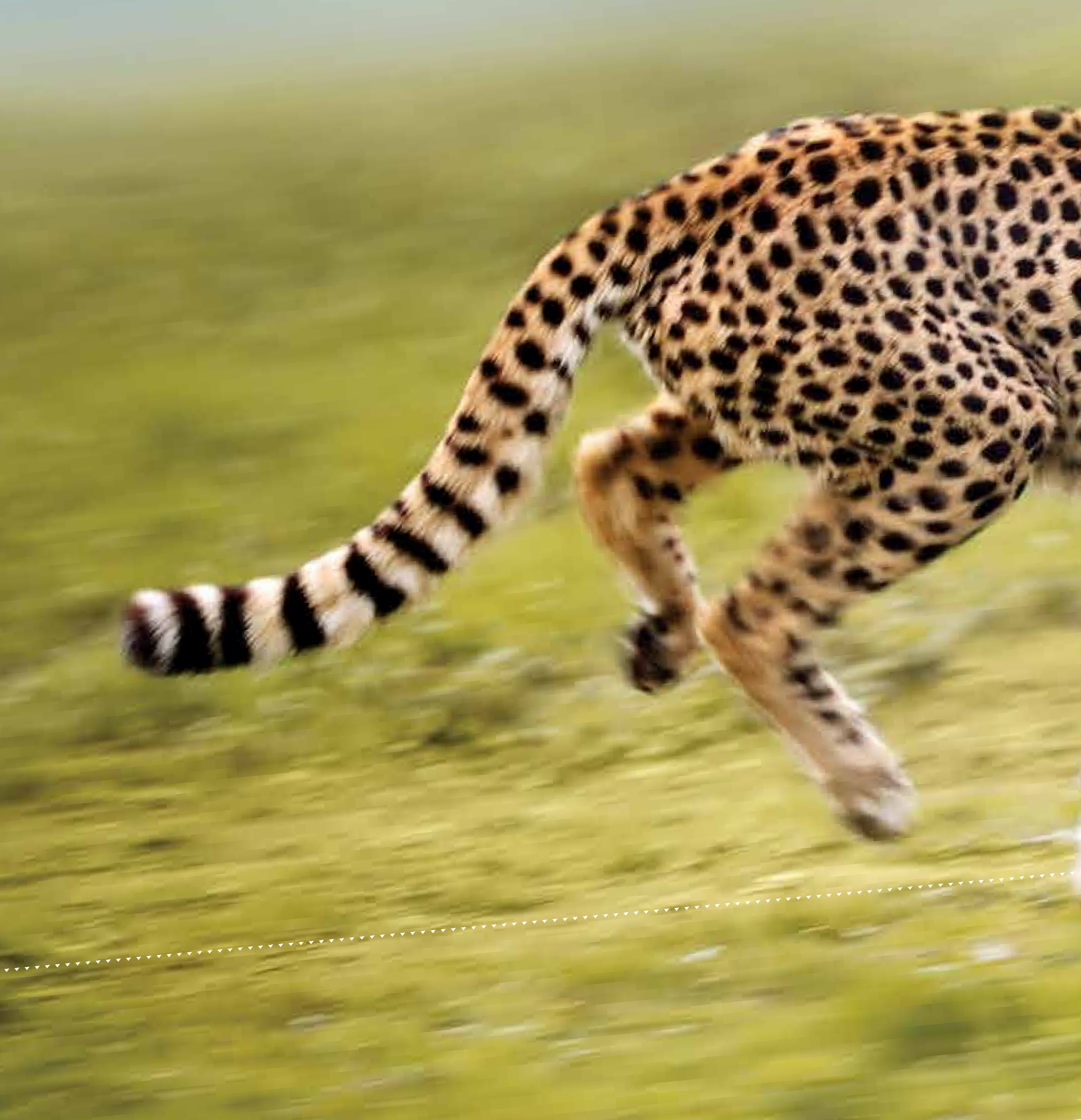
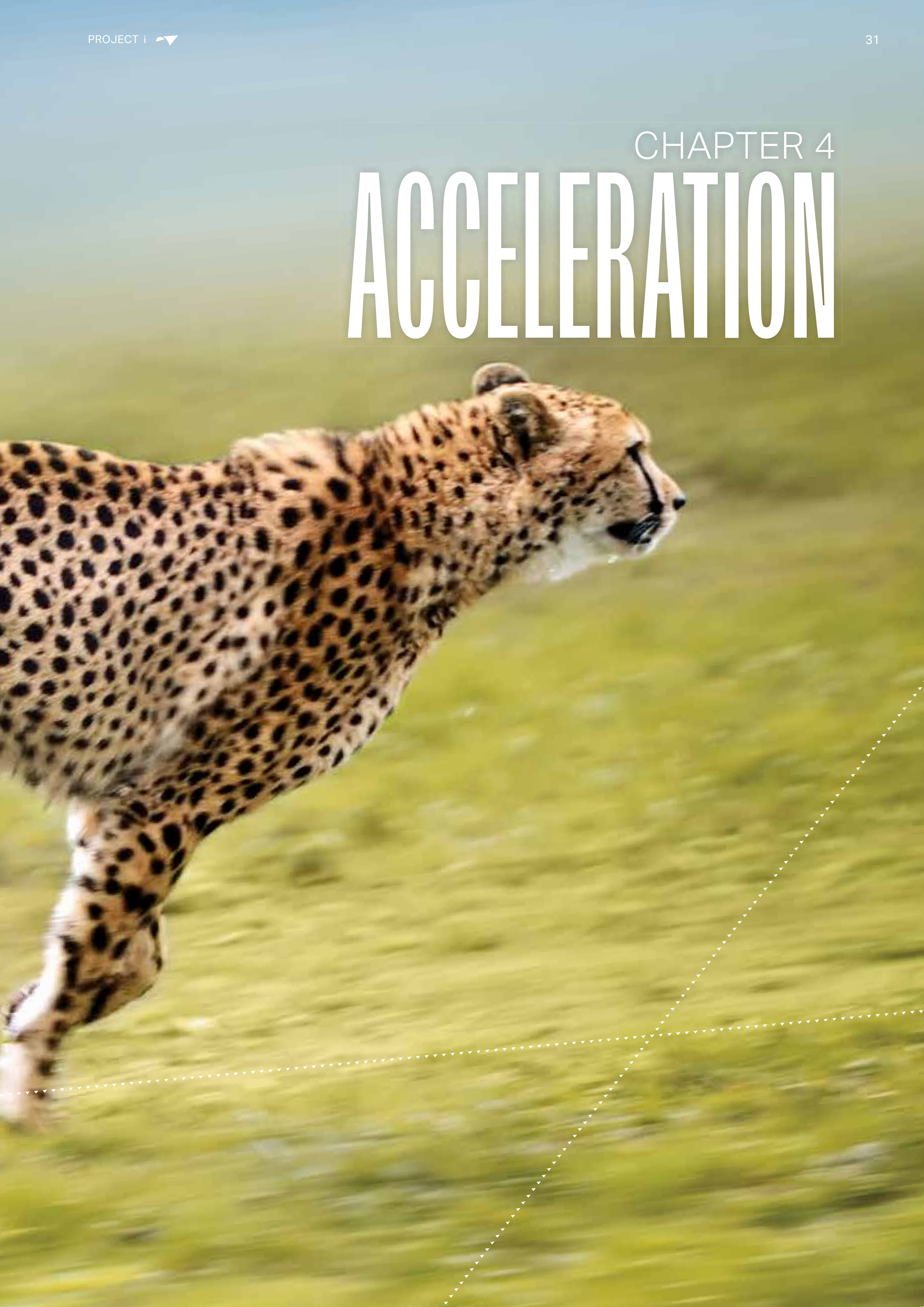
A typical accelerator program will involve multiple start-ups, all provided with some seed capital, coming together to work, frequently in the same facility, through a structured program. As the name suggests, they **accelerate the progress and growth of the start-up**.



CHAPTER 4
ACCELERATION



ACCELERATION

WHAT DOES *BEST-IN-CLASS* LOOK LIKE?

Accelerator programs can be extremely beneficial for start-ups as they provide capital (normally in return for equity), a structured work program, mentorship and access to networks. A typical accelerator program will involve multiple start-ups, all provided with some seed capital, coming together to work, frequently in the same facility, through a structured program. They will meet regularly with mentors that have the relevant experience to help them to refine their vision. Programs typically last between 3 and 12 months, with each company pitching to an audience of VCs and media at a *'graduation event'*. As the name suggests, they accelerate the progress and growth of the start-up.

Accelerators provide a unique opportunity for start-ups to market themselves and network with potential investors. Some accelerators specialise in a particular industry (e.g. TechStars Fintech program in London, sponsored by Barclays), while others are general programs for all industries (e.g. Y Combinator).

The *best-in-class* accelerator program is unquestionably Y Combinator ("YC"), located just outside of Silicon Valley and operating since 2005. YC has invested in over 1,900 companies with a combined value of over $100,000,000, including household names like Dropbox, Airbnb, Stripe and Reddit.

The best-in-class accelerator program is unquestionably Y Combinator ("YC"), located just outside of Silicon Valley and operating since 2005. YC has invested in over 1,900 companies with a combined value of over $100,000,000, including household names like Dropbox, Airbnb, Stripe and Reddit.

The YC model is somewhat unusual. They take in two cohorts of start-ups a year, with around 80 start-ups per cohort. They provide capital and the start-ups have to move to Silicon Valley for the three-month program. Where YC differs from most accelerators is that the companies do not come together to work in the YC facility, although they still interact intensively with the YC team to refine their vision, evolve their business model and develop their pitches into the best shape possible. At the close of the program, YC's *'Demo Day'* is considered one of the most exclusive events on the Silicon Valley calendar, with only the top investors and media securing an invite.

Three key elements stand out to make YC *best-in-class*. First is the quality of their mentors, the vast majority of whom who have gone through the YC program and had successful exits. Second is the rate at which start-ups are pushed to develop, identifying several metrics to measure their business that they are then challenged to improve by 7-8% per week. Third is the quality of guest speakers, which have included Mark Zuckerberg (Facebook), Marc Benioff (Salesforce), Patrick Collison (Stripe), Alexis Ohanian (Reddit), and Peter Thiel (Palantir).

The YC extensive alumni network has a strong ethos of helping fellow founders. They have seen every problem or issue numerous times before, so are able to provide a rapid path, solution or connection to resolve any issues raised by the start-ups. The flexible conditions, the ***'hands-off'*** ethos and the alumni connections all help to drive progress in the start-ups. These factors also make YC self-sufficient and they are not reliant on "outsiders" - they get the best early stage companies applying, they have their own supply of capital and they have the highest quality alumni and mentors.

Other accelerator programs are more ***'hands-on'*** and help the start-ups on a daily basis throughout the program. The leader in this approach is TechStars, where the start-ups work for three months in the TechStars facility, having day-to-day contact with mentors and program managers and collaborating between themselves to resolve problems. The first month of the program focuses on refining the vision and the business plan, month two is dedicated to building the business and month three is all about perfecting the pitch to maximise investment opportunities. While YC relies on its key personnel in their hub in Silicon Valley, TechStars has managed to build a transferable model and recreate their acceleration program in 40+ different locations around the world.

There are a large number of well-regarded accelerator programs around the world, but critically, none of these programs currently have a presence in Ireland. This means that Ireland is not even on the map for start-ups considering undertaking an accelerator program.

YC also run a *'Start-up School'*, an online course designed for start-up founders who would like help through the earliest, most difficult challenges of starting a company. It is offered online at no charge and runs over 10 weeks, with online content, videos and forums designed to accelerate early stage companies. YC gives $10,000 (free and clear) to the 100 most promising companies that complete the course. The selected start-ups also get a video interview with a YC partner to help with advice or when applying to a future YC program.

In Paris, *'Station F'* is a facility created to house around 30 accelerator programs under one roof, alongside all of the key stakeholders relevant to a start-up ecosystem (VCs, professional services, workshops, IT support). The opening of Station F in 2017 attracted considerable media attention which created heightened interest in, and awareness of, start-up businesses. The vision of the facility is to gain synergies by bringing all of the relevant stakeholders together.

There are a large number of well-regarded accelerator programs around the world, but critically, none of these programs currently have a presence in Ireland.

Acceleration (continued)

WHAT IS THE CURRENT ENVIRONMENT IN IRELAND?

There are a number of Irish accelerators, including the National Digital Research Centre ("NDRC") program, International Security Accelerator, DCU Ryan Academy, The Propeller program and TCD LaunchBox, in addition to EI New Frontiers. Whilst they all have their individual merits and successes, none of them could be considered world class. This lack of world class accelerators denies Ireland credibility in the start-up space, resulting in an inability to attract top tier start-ups and a consequent lack of profile in the global start-up space.

In fact, Ireland has been moving backwards. In 2018, RebelBio (a world leading life sciences accelerator program) relocated to London due to a lack of institutional backing and insufficient tax incentives for investors in Ireland. This followed the closure of the Wayra accelerator program in Dublin in 2015.

Ireland does have an official TechStars pre-accelerator program, with Start-up Boost running in Dublin under the TechStars umbrella. Start-up Boost operates in seven cities in the US and Europe, working with early stage start-ups in key areas to help them prepare for acceptance into an accelerator or for seed investment. Each company gets dedicated time each week with local mentors to work through their business model, finances and go-to-market strategies, plus pitching and presentation training to improve their communication and value propositions. While this is a positive initiative, it does not have the scale to have a significant impact on the ecosystem.

The key differences between the leading global programs and those operating in Ireland are the quality of the mentors and the pace at which the start-ups are expected to scale. Stringent selection criteria, followed by a strong drive for weekly performance improvement during an accelerator (in other words, *'tough love'*) are vital. Steep weekly performance improvement not only strengthens company fundamentals but also increases the overall reputation of the program, attracting better companies, mentors and investors.

WHAT ARE THE KEY MEASURES NEEDED TO IMPROVE IRELAND'S ACCELERATION ENVIRONMENT?

Recommendation 4.1

There is a need for a high-quality, globally recognised accelerator program in Ireland. Not only would this increase the quality of the start-ups in Ireland, but it would also put Ireland on the global start-up map, giving investors and media a reason to come to Ireland. It would also give mentors drawn from the Irish diaspora a structure under which they can provide support. A good quality accelerator would find it easier get significant publicity in Ireland than in, say, London or San Francisco, where the accelerator markets are saturated. If executed well, the *'buzz'* created would have an immensely positive impact on the ecosystem as a whole.

As Ireland is a small market, getting the start-ups ready to scale internationally must be at the heart of the program. Ireland is advantageously placed to achieve this, with access to the single EU market as well as a shared language and culture with the US. This competitive advantage is not currently being exploited. A general TechStars program (TechStars Dublin or Ireland) or a targeted program in areas such as Agtech, Food or Travel/ Tourism would be well suited to Ireland, with good potential to attract companies from around the world. A number of Irish founders now run TechStars global programs and would be early candidates to get behind an Irish program. A program such as Techstars, Plug and Play or Founders First, supported by the global Irish diaspora, would go far to secure Ireland's spot in the global start-up ecosystem.

There is a need for a high-quality, globally recognised accelerator program in Ireland. Not only would this increase the quality of the start-ups in Ireland, but it would also put Ireland on the global start-up map, giving investors and media a reason to come to Ireland.

Recommendation 4.2

Putting this new accelerator alongside others in a *'Station F'* like facility would improve the effectiveness and quality of all of the programs. Foreign VCs would have a clear *'go to'* place when they visit, which would encourage more frequent visits and increase the level of investment in Irish start-ups. The new Trinity Innovation and Entrepreneurship hub could act as this facility and it is hoped that it will have the same positive impact on the ecosystem as Station F did in France.

Successful Venture Funding requires smart capital – capital that brings with it **expertise, mentorship and access to networks**. Smart capital allows start-ups to scale faster, a key success factor that entrepreneurs summarise as *“scale fast or die slowly”*.

CHAPTER 5
VENTURE FUNDING

VENTURE FUNDING

WHAT DOES *BEST-IN-CLASS* LOOK LIKE?

Successful Venture Funding requires smart capital – capital that brings with it expertise, mentorship and access to networks. Smart capital allows start-ups to scale faster, a key success factor that entrepreneurs summarise as *"scale fast or die slowly"*. Once again, San Francisco is best-in-class, with start-ups there able to raise more capital, faster, allowing them to gain market share and ultimately beat their EU competitors.

Unsurprisingly, all start-ups want the world leading Venture Capitalists (Sequoia Capital, Andreessen Horowitz) on their cap table[3]. The capital that these VCs provide is no different, but their expertise, mentorship and access to networks carry prestige, history and a track record of successful exits. Consequently, their involvement is seen as a badge of honour and a sign of quality.

The centre for global venture funding is the United States, which accounts for 64% of completed VC-backed financing deals. The Asia-Pacific region is growing rapidly, followed by the European VC market. The US centre for venture capital is Silicon Valley, with nearly 45% of all US VC investment funded in the Bay Area. This is followed by the *'Acela Corridor'* (Boston, New York and Washington) with a further 30%. The Silicon Valley focus has concentrated economic and technological development into the area, resulting in the Bay Area having the world's 19th largest economy (ranked as a country) with a yearly GDP of $748,000,000.

"

A significant challenge in Ireland is that Individual personal pension funds are not investing capital in Irish VC funds.

WHAT IS THE CURRENT ENVIRONMENT IN IRELAND?

In Ireland, there is a lack of available venture capital and the quality is poor. Furthermore, VC funding in Ireland fell by 9% to €453,000,000 in the first half to 2018, including a 37% decline in seed funding, according to the Irish Venture Capital Association ("IVCA"). This decline, the first time that VC funding has fallen since Q4 2011, was concentrated in Q2, which experienced a 50% fall. This dramatic fall in seed funding, which was due to a reduction in the number of deals completed (with the average deal size being similar) has caused a serious supply problem with a resultant knock-on effect on early stage companies in Ireland.

A significant challenge in Ireland is that Individual personal pension funds are not investing capital in Irish VC funds. This is an important source of capital in successful ecosystems. This limits Irish VC firms greatly as it they cannot tap into this large capital pool. Irish legislation creates complications around pension funds (particularly defined contribution funds) investing in VC funds, with issues around liquidity and the valuation of the investments.

In Ireland, along with the rest of the EU, most VC funds have government money invested in them. This is normally in the range of 20-30% of the fund, which requires the fund to invest a proportion of the capital in the home country of the contributing government. In Ireland, this capital is provided by EI, which has resulted in EI becoming one of the largest providers of venture capital in Europe. This is a common concept – similar government intervention drove the development of the Israeli Venture Capital industry into a significant global presence. Absent this deployment of government capital into the VC funds, there would likely be no material VC industry in Ireland.

Another feature of the EU (and Irish) VC market is that the funds are significantly smaller than those in the US, where fund sizes in 2016 averaged €156,000,000, almost 3x the EU average. This small scale of operation severely limits Irish start-ups compared to those in the USA – as one entrepreneur said about raising a seed round in Ireland, *"If I try to raise <u>more</u> than €1,000,000 in Ireland, I get laughed at. If I try to raise <u>less</u> than €1,000,000 in the US, I get laughed at!"*

[3] *Table providing breakdown of shareholders and their ownership stakes*

WHAT ARE THE KEY MEASURES NEEDED TO IMPROVE IRELAND'S VENTURE FUNDING ENVIRONMENT?

Recommendation 5.1

The VC industry in Ireland and in the rest of the EU is in need of up-scaling.

However, this will require time to grow, mature and deliver more successful business exits. In Ireland, it is absolutely critical that these VC firms are international as Ireland is too small to be able to ignore international markets. VCs must be able to help their portfolio companies scale internationally by utilising their expertise and their networks to allow the start-up company to do this faster and with less effort than if they were to try alone. Irish VC firms should therefore seek partnerships with the international VC firms. In return for providing the international VCs with insight into potential deal flow, they, and the start-ups, will benefit from the expansion of international networking opportunities.

Recommendation 5.2

Another essential development is the inclusion of pension fund capital into VC funds in Ireland. As Pension funds require long term investments and do not require liquidity during this time, they are the perfect investor for Venture Capital. Furthermore, the scale of their investments mean that their inclusion could have a material impact on the ecosystem. Existing pension fund investment regulations must be amended or *"fund of funds"*[4] mechanisms be utilised to allow a significant increase in the level of pension fund capital invested into Irish VC funds. This becomes increasingly important with the pension auto-enrolment program that, beginning in 2022, will increase the pool of pension fund capital.

Recommendation 5.3

Establish an Ireland-focused *developmental fund* to support the growth and expansion of Irish companies, founders or entities at home and overseas. This fund would source capital from Ireland's top business people ("Partners") and Government specifically to nurture Irish companies in Ireland to tackle global markets.

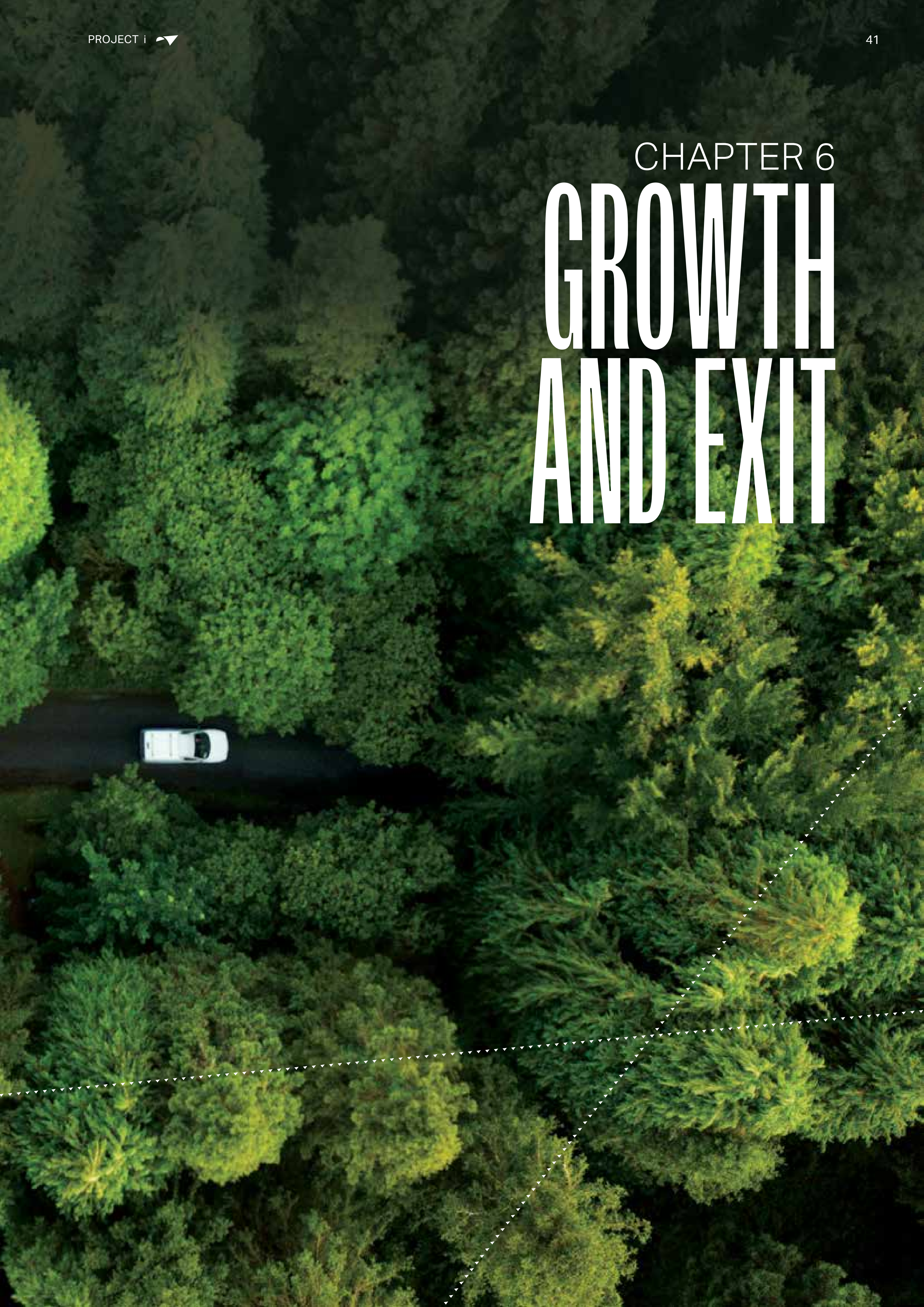
Because the Partners have *'skin in the game'* they would be incentivised to help the start-ups through mentorship and access to their networks. Two unique Irish characteristics significantly enhance the potential for success and make Ireland one of the few places where this model could work. The first is the fact that Ireland is small enough to get the majority of Ireland's most successful business to invest (which makes it exclusive and encourages others to invest). The second is that Irish people have a strong sense of community and like to help each other.

San Francisco is best-in-class, with start-ups there able to raise more capital, faster, allowing them to gain market share and ultimately beat their EU competitors.

[4] *Whereby individual pension funds invest into an umbrella fund, which is then invested into VC funds. This method allows pension funds to get around some of the regulatory issues of investing in VC.*

An ideal system allows founders to ***'exit'* and reinvest** their expertise and capital in the next generation of start-ups, thereby supercharging the next generation of start-ups.

CHAPTER 6
GROWTH AND EXIT



GROWTH AND EXIT

This section addresses the stage where established start-ups need to grow and become dominant in their industry. A key part of being a successful start-up includes attracting high quality employees. Two key areas influence this, the employee's eligibility to work for the company (visa, residency issues) and the ability of the company to incentivise employees, usually through share options. In addition, tax relief for founders on their exit is essential in order to attract start-ups in the first place.

WHAT DOES *BEST-IN-CLASS* LOOK LIKE?

It is hard for start-ups to compete with large corporations when it comes to salaries and other benefits. The main incentive that start-ups use to attract key employees is a share in the equity of the new business and this needs to be available in a simple, tax-efficient way.

best-in-class involves:

1. allowing start-ups to easily implement a share ownership scheme with minimal need for professional services
2. allowing the employees to defer their tax liability to the point of sale of the shares and
3. applying Capital Gains Tax rather than income tax to the sale of the shares. It is also beneficial to allow start-ups to issue stock options with non-voting rights to avoid the burden having to consult a large number of minority shareholders when making decisions.

Share options are used more frequently by US start-ups than those in the EU. According to a study undertaken by Index Ventures, EU start-ups on average confer half of the level of stock that US start-ups confer. This is partly a cultural difference – in Silicon Valley, it is near impossible for a start-up to hire someone without offering attractive stock options, whereas Europeans prefer lower-risk cash. More concerning, though, is the fact that EU regulation around stock options is less favourable than in the US.

Attracting foreign talent is a key element in the development of a robust and successful start-up ecosystem and easy visa application processes for technology workers and founders, with speedy completion time and long stay validity are required to minimise the barriers to attracting global talent. France is a European leader in this respect, through the French Tech Visa, a simplified, fast-track procedure for international tech talent to obtain a residence permit (or "Talent Passport"). This visa is open to start-up founders, employees and investors, allowing them to live and work in France for four years on a renewable basis. It is also extended to immediate family members who do not require additional work permits.

Founders makes extreme sacrifices and invest capital, time and money on the assumption that if they are successful, they will be rewarded for the risk that they have taken. An ideal system allows them to *'exit'* and reinvest their expertise and capital in the next generation of start-ups, thereby supercharging the next generation start-ups. In Sweden, it was these first generation founders (i.e. founders who had already had successful exits and then went back and started another business or angel invested) who played a pivotal role in their boom of start-ups as they had the capital and expertise to create a wide range of companies. This shows the importance of attracting successful founders back to Ireland.

Founders makes extreme sacrifices and invest capital, time and money on the assumption that if they are successful, they will be rewarded for the risk that they have taken.

WHAT IS THE CURRENT ENVIRONMENT IN IRELAND?

Currently, there are no easy, tax efficient ways for a start-up to give employees equity. The introduction of the Key Employee Engagement Programme (KEEP) in 2017 and the subsequent improvement (which increased the limits on the value of the shares that can be granted under the scheme) are welcome, but Ireland still falls far short of being a global leader. KEEP has failed to generate more than minimal uptake by start-ups, whose key challenge is around equity valuation, which is difficult to estimate given the nature of start-ups. Furthermore, the complex process involved in the KEEP scheme renders it unsuitable for start-ups. This is especially important in Ireland as, with the harsh personal tax regime, start-ups need other ways to compete when it comes to attracting talent.

The Start-up Entrepreneur Programme ("STEP") is a program in Ireland that gives non-EEA entrepreneurs the right to live in Ireland and to establish their business here. The business must be a *'High Potential Start-up'*, with the main condition being that the application must have secured €50,000 of funding. This is a positive initiative which was established in 2012. This program rivals the French equivalent, with the only downfall being that the French scheme extends to key employees, while the Irish scheme is only open to founders.

Ireland currently has the third highest rate of Capital Gains Tax ("CGT") amongst OECD countries, at 33% (up from 20% in 2008). This is not attractive to founders considering hosting their business in Ireland, despite a 2016 Finance Act enhancement that introduced an *'entrepreneurial relief'*, reducing the CGT rate to 10% for the first €1,000,000 of lifetime gains (a maximum saving of €230,000). The scheme remains unattractive compared to other jurisdictions. In particular, the €1,000,000 lifetime limit falls well short of the £10,000,000 offered in the UK. This discourages serial entrepreneurship whilst reinforcing the *'think small'* mind-set that is holding back Irish start-up culture.

WHAT ARE THE KEY MEASURES NEEDED TO IMPROVE IRELAND'S GROWTH AND EXIT ENVIRONMENT?

Recommendation 6.1

A new share options scheme specifically for start-ups is needed. It must be easy to implement, require minimal professional service input and give start-ups the flexibility required to attract employees. The key to a successful scheme is that it is aimed specifically at the characteristics of start-ups. Existing General Anti-Avoidance Rules ("GAAR") can be used to tackle any potential abuses.

Recommendation 6.2

Rising nationalism and a more inward-looking focus in a number of EU countries means that an easy on-boarding process for new talent would give an ecosystem a significant advantage over its peers. Ireland's STEP is a positive issue here but it needs to extend the STEP so that start-ups could use it to attract key employees, as well as founders.

Recommendation 6.3

The lifetime limit on the Entrepreneurial Relief should be increased to reward founders for large exits and/or to encourage serial entrepreneurs. Alternatively, a *'per exit'* limit could be introduced to address the latter. These changes would encourage entrepreneurs to think bigger as well as providing an appropriate level of reward for the risks taken.

Recommendation 6.4

Fundamental changes to the tax regime, specifically around CGT levels and waivers, are required to encourage founders to complete their exits in Ireland and to subsequently re-invest their capital in new Irish ventures. Inevitably, founders will continue to move abroad to grow their businesses. Ireland needs to be an attractive place for them to bring their money to after they exit, as founders who have executed on a successful exit will have significant value to add to new start-ups in terms of mentorship and access to networks. Facilitating their return by providing tax breaks must be a priority.

CONCLUSIONS

POSITIONING IRELAND FOR SUCCESS

***Project i* strongly recommends that Ireland's start-up vision be built around an economic environment that allows entrepreneurs to flourish, encouraging and incentivising both their ideas and funding supports. Government must drive the creation of this healthy ecosphere, in partnership with the private sector, the subsequent benefits of which will ultimately flow through both.**

Crucially, a State intervention on this scale would guarantee Ireland a place on the international start-up map for generations to come, ensuring we are not left behind by technical advances whilst giving our country the mobility and competitive edge that start-ups thrive upon.

A cornerstone of *Project i* is the mission statement of encouraging collaboration with Silicon Valley. Ireland must enhance what we can offer start-ups in areas of founders, mentors and venture capital, then when further scale is required, willingly send those start-ups to the resources of the Silicon Valley hubs.

Although this would result in many Irish start-ups moving abroad to scale, over the long-term our ecosystem would still benefit through jobs, taxation and services created in Ireland and also by the likelihood of original founders re-investing their capital back into Ireland after they exit.

The next phase of growth in the globalised digital business world will be led by tech start-ups and, as was the case during the first technological boom, Ireland risks being left behind once again unless we can replace or augment the economic value from the current wave of tech businesses. We must create the conditions that will allow these tech start-ups to be born and raised in Ireland, even if they spend much of their working life elsewhere.

GOVERNMENT MUST DRIVE THE CREATION OF A HEALTHY ECOSPHERE

A healthy ecosphere would allow entrepreneurs to flourish, encouraging and incentivising both their ideas and funding supports.

INTERNATIONAL SUCCESS REQUIRES STATE INTERVENTION

State intervention would guarantee Ireland a place on the international start-up map for generations to come.

Ireland's current start-up ecosystem contains many positive elements which include a solid educational system, a diverse Irish business diaspora and a robust global reputation for business leadership. Our potential to be an internationally leading start-up hub is enhanced by Ireland's access to the single EU market along with a shared language and cultural traits with the US.

However, a number of challenges are preventing Ireland from becoming a global start-up host of choice. Fundamental improvements to tax incentivisation and infrastructure are needed to unlock this potential.

There is no doubt that these changes can be delivered. Previously, government has successfully supported the development of sectors such as aircraft leasing, where Ireland is the global leader, kickstarted by a broad network of tax treaties, attractive tax environments and an extensive network of industry professionals.

Implementation of the measures recommended in this paper will incur significant investment of time and resources. They will also require a *'burning desire'* politically to make the vision of Ireland becoming a world class start-up hub, a reality.

Now is the time to be proactive in implementing the economic incentives that would establish Ireland as a country of choice for start-ups.

> *Now is the time to be proactive in implementing the economic incentives that would establish Ireland as a country of choice for start-ups.*

COLLABORATION WITH SILICON VALLEY IS ENCOURAGED

Ireland must enhance what we can offer start-ups in areas of founders, mentors and venture capital, then when further scale is required, willingly send those start-ups to the resources of the Silicon Valley hubs.

IRELAND HAS POTENTIAL TO BE AN INTERNATIONAL LEADING START-UP HUB

Ireland has a solid educational system, a diverse Irish business diaspora, a robust global reputation for business leadership and access to the single EU market, along with a shared language and culture traits with the US, which gives Ireland the potential to be an international leading start-up hub.

APPENDICES

Appendix 1

List of Stakeholders Consulted

UNIVERSITIES
University College Dublin
Dublin City University
Trinity College Dublin
Institutes of Technologies Ireland
Stockholm School of Entrepreneurship
Insead School for Entrepreneurship
Global Leadership Institute @ Boston College
PROFESSIONAL SERVICE ORGANISATIONS
Baker Tilly Hughes Blake
Consensys
EY
Blackstone Launchpad
IDEO
KPMG
PWC
Mangold Fondkommission AB
Narva
Eric Penser Bank
Silicon Valley Bank
VENTURE CAPITALISTS
Elkstone Partners
Serafina Capital
Draper Esprit
Cosimo Ventures
GP Bullhound
Frontline Ventures
SOSV
NewFund
Amaranthine
ACCELERATOR PROGRAMS
Ryan Academy
NDRC
Dublin Business Innovation Centre

ACCELERATOR PROGRAMS (CONTINUED)
Guinness Enterprise Centres
Insead Launchpad @ Station F
Wayra UK
SVG Partners
50 Partners
Plug and Play
Start-up Sesame
START-UPS
The Payment Works
Atturos
Zutec
Younium
GrandPal
Inscribe
Sandymount Technologies
The Foam Printing Project
MISCELLANEOUS
TechIreland
Young Social Innovators
Bank of Ireland
Irish Venture Capital Association
Swedish Venture Capital Association
British Venture Capital Association
Euronext Ireland
Nasdaq
Epicentre Stockholm
Build @ Autodesk
GOVERNMENT AGENCIES
Enterprise Ireland
Knowledge Transfer Ireland
BPI
European Institute of Innovation and Technology
Department of Foreign Affairs and Trade
Bay Area Economic Council

Appendix 2

Schematic of the Key Stages of Start-up Evolution

CHART 3: WHAT ARE THE KEY ELEMENTS OF A START-UP ECOSYSTEM?

5

STAGES IN THE EVOLUTION OF SUCCESSFUL START-UP BUSINESSES ARE KEY TO THE PROCESS, WITH EACH ONE BEING UNDERPINNED BY CULTURE

1 EDUCATION

Education has a huge influence on the population so it is needs to inspire people to go down the route of entrepreneurship. In the most successful ecosystems, the universities have acted as a catalyst for the entrepreneurial ecosystem.

2 EARLY STAGE FUNDING AND SUPPORT

There needs to be both early stage funding and support provided to start-ups, so to help in the transition from idea viable business. A thriving angel investor network is another important source of capital and expertise for these early stage companies.

CULTURE

3 ACCELERATION

World class accelerators provide start-ups with the capital, mentorship and access to networks needed to propel their growth and maximize chances of further investment.

4 VENTURE FUNDING

There needs to be high quality, smart capital available to start-ups as they look to scale. Smart capital means investment that also brings with it the required expertise, mentorship and access to networks required to scale.

5 GROWTH AND EXIT

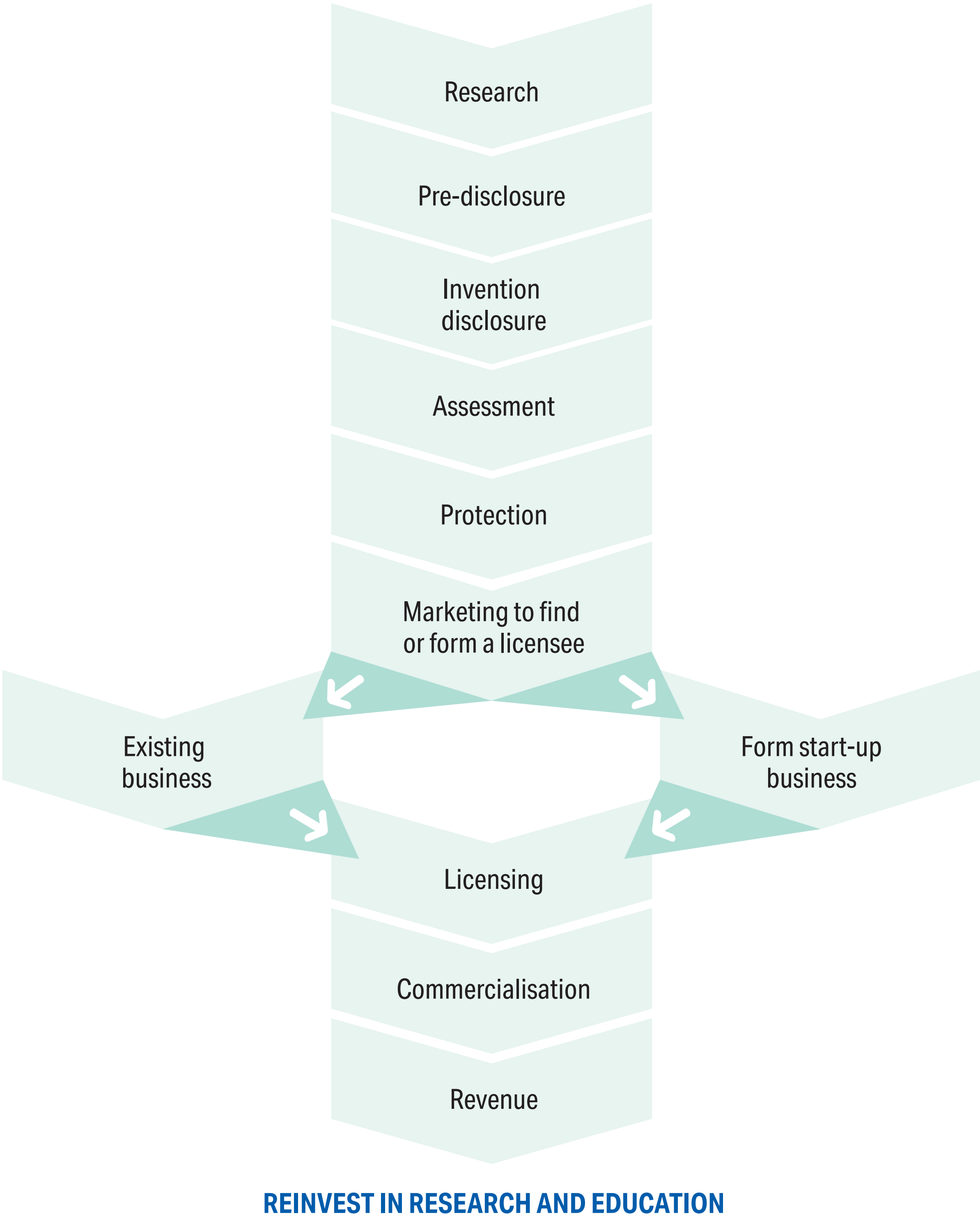
In order to scale, start-ups need to attract employees and one of the key ways that they do this is by offering share options, but this needs to be tax efficient for the employee so that they can benefit. Furthermore, when a founder decides to 'exit', they should be rewarded for the years of sacrifice that they put in.

Best-in-class involves a culture where individuals are encouraged to create their own start-ups. Furthermore, as failure is a key part of creating your own start-up, and the culture needs to allow people to *'fail fast'* and learn from their failures.

Appendix 3

Overview of MIT Commercialisation Process

CHART 4: OVERVIEW OF MIT COMMERCIALISATION PROCESS



Source: *MIT Technology Licencing Office*
https://tlo.mit.edu/learn-about-intellectual-property/technology-transfer-process

Appendix 4

Comparison of Tax Incentive Schemes for Early Stage Investors

IRELAND

The Enterprise Ireland Investment Scheme ("EIIS") provides investors with a 40% tax rebate (30% in year of investment and 10% after 3 years of holding the shares). There are bureaucratic practises around this which means that it has not been used for early stage companies, but rather for established SMEs looking to expand.

	Income Tax Relief	CGT Relief	Max Investment (in Start-up)	Max Annual Investment (per investor)
EIIS	40%[5]	Full CGT Payable	€15,000,000	€150,000

UNITED KINGDOM

The UK Government's Seed Enterprise Investment Scheme ("SEIS") & Enterprise Investment Scheme ("EIS") incentivise large numbers of individuals to become angel investors in early stage companies. The EIS focusses on established businesses looking to expand, while the SEIS is for start-ups.

Both have aggressive tax incentives that significantly de-risk investments from an investor's point of view, resulting in a large increase in the number of angel investors investing money into early stage companies. Many non-traditional angels are included (accountants, lawyers) that add significant value to a start-up.

	Income Tax Relief	CGT Relief	Max Investment (in Start-up)	Max Annual Investment (per investor)
SEIS	50%	Full CGT Exemption	£150,000	£100,000
EIS	30%	Full CGT Exemption	£12,000,000[6]	£1,000,000

There are stricter criteria around the SEIS meaning that it can only be used for early stage companies (>2 years old), while the EIS is open to more established SMEs looking to expand.

[5] *30% in Year 1 and the remaining 10% after year 4.*

[6] *Not more than £5,000,000 any 12 month period.*

Appendix 4 (continued)

Comparison of Tax Incentive Schemes for Early Stage Investors

GERMANY

The *"INVEST"* tax incentive was introduced in 2013 specifically for business angels. Certain criteria need to be met including the start-up being *'innovative'*, which they deem to mean belonging to a list of certain sectors or have patents.

	Income Tax Relief	CGT Relief	Max Investment (in Start-up)	Max Annual Investment (per investor)
INVEST	20%	Full CGT Refund (up to 80% of cost of shares)	€3m per annum	€500,000

BELGIUM

The *"Start-up Tax Shelter Belgium"* is a scheme that gives investors into companies that are less than four years old a 30% or 45% tax reduction (depending on whether it is an SME or a Micro Business). This scheme also applies to some crowdfunding platforms, allowing investors invest small amounts, and still receive a tax benefit.

	Income Tax Relief	CGT Relief	Max Investment (in Start-up)	Max Annual Investment (per investor)
Start-up Tax Shelter	30% for SMEs 45% for *'Micro-Enterprise'*	N/A	€250,000	€100,000

There are three conditions of a company qualifying as a *'Micro-Enterprise'* (which gives investors the 45% tax reduction). The enterprise must not exceed any of the following limits:

1. **10 employees**
2. **Balance sheet of €350,000**
3. **Turnover of €700,000**

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