

ENTREPRENEURSHIP IN IRELAND 2014



Global Entrepreneurship Monitor (GEM)
The Annual Report for Ireland

Paula Fitzsimons

Colm O’Gorman

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Although data used in this report is collected by the GEM consortium, its analysis and interpretation is the sole responsibility of the authors. The authors, for their part, have attempted to ensure accuracy and completeness of the information contained in this publication. No responsibility can be accepted, however, for any errors and inaccuracies that occur.

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Thanks to the sponsorship of Enterprise Ireland, with the support of the Department of Jobs, Enterprise and Innovation, Ireland is included in the 2014 GEM research cycle. We are very grateful to our sponsors for their support and for the importance they place on entrepreneurship. As the economy begins to recover, policy makers are focused on the contribution that entrepreneurs can make to renewed growth and the creation of employment. GEM research and analysis is in a position to provide important data to inform and shape policy choices.

The Irish GEM team would like to thank all the members of the public who participated in our survey. We are very grateful to them as without their participation, the adult population survey, on which GEM research is primarily based, could not be completed.

We are also grateful to all the entrepreneurs and expert informants that were consulted as part of this research. They gave generously of their time and their insights as always enriched our understanding of the changing environment for entrepreneurship in Ireland.

We thank our colleagues in the national GEM teams, who undertook the research in 2014 in each of more than seventy economies. We are also grateful to the coordination team in the Global Entrepreneurship Research Association (GERA). The coordination team manages to skillfully combine complex data from all the national teams, while ensuring robustness and academic rigour. We also acknowledge with thanks the assistance of Ian McGlynn, Fitzsimons Consulting, particularly in relation to the profiles of the entrepreneurs featured.

Finally, our sincere thanks go to the many readers of the GEM annual reports. By your comments it appears that many of you find the information of value in a wide variety of circumstances. We are grateful for your feedback and for your continued interest in the research.

Paula Fitzsimons



Colm O'Gorman





AUTHORS' DETAILS

PAULA FITZSIMONS is the founder of Fitzsimons Consulting, which specialises in entrepreneurship and growth. Paula has been the national coordinator for the Global Entrepreneurship Monitor (GEM) for Ireland since 2000. She previously served for several years on the governing body of GERA, the Global Entrepreneurship Research Association, as President of the national teams.

Paula is also the director of Going for Growth, which is focused on peer support as a means of assisting female entrepreneurs who wish to grow their businesses. Designed to address a gap in enterprise development, the Going for Growth initiative has been supported from the beginning by Enterprise Ireland and by the Department of Justice and Equality, which coordinates the European Social Fund and Irish Exchequer financial support. This year KPMG also became involved in sponsoring the initiative.

In 2014 Going for Growth was described as an *inspiring practice* in the OECD/EU report "Missing Entrepreneurs" and was selected as a Good Practice by the European Institute for Gender Equality (2014), following a competitive process. A pilot of Going for Growth was successfully completed in Finland and the intention is to implement the initiative across Europe.

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COLM O'GORMAN is Professor of Entrepreneurship at Dublin City University Business School. His research focuses on entrepreneurship, innovation, and growth in new firms and in small and medium sized enterprises (SMEs). Specifically he has studied the growth strategies of SMEs, the nature of managerial work in high growth SMEs, mission statements in SMEs, and internationalisation processes in International New Ventures, and in SMEs. He has explored the emergence of high-tech firms in the context of cluster dynamics, including a study of the factors that led to the rapid emergence of the software industry in Ireland during the 1990s. He has examined innovation processes in large firms.

Colm has published in international peer-reviewed journals such as Entrepreneurship and Regional Development, European Planning Studies, Journal of Small Business Management, International Marketing Review, Organisational Dynamics, R&D Management, Small Business Economics, and Venture Capital. He has completed several European Union funded research projects. He is co-author of 'Enterprise in Action', a text book on entrepreneurship for Irish students. He has co-authored eight teaching cases studies on entrepreneurship published by the European Case Clearing House, including several award winning cases.

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FOREWORD

Last year I published Ireland's first ever national strategy for entrepreneurship. Start-Ups in their first five years of existence contribute two-thirds of all new jobs.

As we set our sights on getting back to full employment we must nurture and support those who start-up a business and seek to make entrepreneurship part of our DNA.

We have many great entrepreneurs in Ireland but we need more of them.

It is important to benchmark ourselves against other countries as we seek to create a vibrant environment for start-ups across our country.

I believe that there is real entrepreneurial potential among the young people of this country. This report suggests that one in ten of those aged under 35 aspire to be an entrepreneur. Those and others like them, who wish to realise their entrepreneurial dream, should tap into all the support available to them, so that their new business has the best possible chance of being successful.

There is a great amount of assistance available for these aspiring entrepreneurs to develop the necessary skills and knowledge that they will need, including through their Local Enterprise Offices and through Enterprise Ireland. I am also heartened by the examples I have seen of successful entrepreneurs being prepared to reach out on a voluntary basis to support those at an earlier stage on their entrepreneurial journey.

The profiles featured in the report remind us that entrepreneurs come from a variety of backgrounds. For some it is their first entrepreneurial undertaking. Others are serial entrepreneurs. All agree that it is a tough but rewarding role. They talk of the support that they have received from family and from friends, as well as from the team that is working with them to realise their vision. They are characterised by hard work, persistence and belief in their vision. I wish them and all those like them every success. By starting a new business which is solving a problem for their customers and delivering real value, they are making a tangible contribution to their local economies and underpinning the return to growth.

RICHARD BRUTON T.D.

Minister for Jobs, Enterprise and Innovation

July 2015



“It is important to benchmark ourselves against other countries as we seek to create a vibrant environment for start-ups across our country.”

RECENT ENTREPRENEURS FEATURED ON THE COVER

A profile of each of the following entrepreneurs, who have recently set up a new business, is included in Section 6.

BEN HARRIS

NEW BUSINESS: DROP
ACTIVITY: Connected scale and recipe app
LOCATION: Dublin
WEBSITE: www.getdrop.com



ISOLDE JOHNSON

NEW BUSINESS: THE COOL BEAN COMPANY
ACTIVITY: Healthy superfood consumer product
LOCATION: Dublin
WEBSITE: www.coolbeans.ie



JULIE CURRID

NEW BUSINESS: INITIAFY
ACTIVITY: Online platform for the induction of new staff
LOCATION: Dublin
WEBSITE: www.initiafy.com



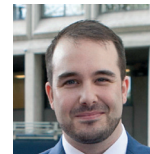
MOIRA KIELY

NEW BUSINESS: XHAIL
ACTIVITY: Original music software platform
LOCATION: Wexford
WEBSITE: www.xhail.com



MYLES MURPHY

NEW BUSINESS: PMD SOLUTIONS
ACTIVITY: ResipraSense: a breathing rate monitor
LOCATION: Cork
WEBSITE: www.pmd-solutions.com



SIMON LYNCH

NEW BUSINESS: WICKLOW WOLF BREWING COMPANY
ACTIVITY: Producer of Irish craft beers
LOCATION: Wicklow
WEBSITE: www.wicklowwolf.com



WAYNE BYRNE

NEW BUSINESS: OXYMEM LTD.
ACTIVITY: Energy efficient wastewater treatment
LOCATION: Westmeath
WEBSITE: www.oxymem.com



YVONNE BRADY

NEW BUSINESS: EVB SPORT LTD
ACTIVITY: Support sportswear for women
LOCATION: Louth
WEBSITE: www.evbsport.com



SECTION 1

EXECUTIVE SUMMARY

How entrepreneurial is Ireland?

Approximately 20,400 individuals started a new business in Ireland in 2014¹. This is the equivalent to 1,700 a month. This is broadly similar to the years 2010, 2011 and 2012, but is lower than in 2013.

There was a downward trend in 2014 in the GEM TEA Index (the rate of early stage entrepreneurs) in Ireland. In the rankings of early stage entrepreneurial activity across Europe, Ireland is placed 16th in a group of 25 countries.

However, Ireland rates better in terms of *intrapreneurs*. One in fifteen people in the general population in Ireland are active as *intrapreneurs*, in that they have been involved in the development of new activities for their employer in the past three years (e.g. developing or launching new goods or services). Ireland is ranked 6th among 25 European countries in this regard. However, considering only those in employment, the rate is higher, 11.8%, with Ireland ranking 2nd to Denmark.

Ireland's entrepreneurs

Nascent entrepreneurs: Many adults in Ireland report that they are actively engaged in the early steps involved in starting a business, though these people are typically still in employment. They have spent nine months on average working on their idea for a new business. Ireland is ranked 15th of 25 European countries, in terms of the rate of nascent entrepreneurs. The rate in Ireland (4.4%) is broadly similar to the European average (4.6%).

New business owners: Of the 20,400 individuals who started a new business in Ireland in 2014, about two thirds are the sole owner of the business. Most of the new business owners (63.5%) do not yet have employees, though three quarters expect to have employees within the next 5 years. One in six new business owners aspire to grow quickly, in that they expect to employ more than 20 within the next 5 years.

Many of these new businesses already have some international sales (customers in overseas markets), though for most of the new businesses the domestic market is the most significant source of customers. A small number, one in eight, is 'born global', however, in that they already have 75% of their customers in international markets.

The owners of many of these new businesses perceive that they are innovative - in that their product/service is new to customers (46%), they have identified a market niche with limited competition (51%), or the technology they are using is new (30%). Just over half are using the internet to sell their product or service. Most are in low or non-tech sectors, with 15% in medium or high-tech sectors.

Ireland is ranked 15th of 25 European countries in terms of the rate of new business owners. The rate in Ireland (2.5%), however, is below the European average (3.2%).

Millennials – young entrepreneurs: Those born between 1980 and 1996 (so aged between 18 and 34 in 2014) are more likely to perceive opportunities for new businesses and they have a higher aspiration to start a business, relative to older age groups (those born before 1980). However, they are not more active as new business owners. Millennials account for 39% of all new business owners in Ireland. 'Youth' entrepreneurs, those aged between 18 and 24, account for less than 6% of new business owners.

¹ The number of new businesses started in Ireland in 2014 is less than this number, as many new businesses have more than one owner.

Female entrepreneurs: More men than women start new businesses. In Ireland there are just over two men that are either a nascent entrepreneur or a new business owner for every female early stage entrepreneur. Of the 20,400 individuals who started a business in 2014, 14,400 are men and 6,000 are women. Men compared to women continue to be more confident in their perception of having the necessary skills and knowledge to start a business and men have higher growth aspirations for their new businesses. A higher rate of female entrepreneurs in Ireland are motivated by necessity (39%) compared to male entrepreneurs (26%). The rate is also high compared to the European average for female entrepreneurs (26%).²

Owner managers of established businesses: In 2014, the rate of owner managers (9.9%) in Ireland is high compared to the average across Europe (6.7%).

Owner managers of established business in Ireland are engaged in a board range of sectors. More than half of owner managers (59%) have some customers in international markets and 20% have a quarter or more of their customers outside the country. Owner managers are not as innovative as new business owners and few (2%) expect to create ten or more jobs within the next five years.

Ireland's entrepreneurial eco-system

Ireland's entrepreneurial culture: Ireland's standing in terms of a generally supportive culture has always been relatively high and this continues in 2014. Successful entrepreneurs are held in high esteem. In 2014 more people in Ireland consider the media coverage of entrepreneurs to be supportive than is the case in any other European country.

Self-confidence, aspirations to entrepreneurship and fear of failure: Almost one in every two people in Ireland report they have the knowledge and skills to start a business. A much smaller rate aspire to start a business. For those that are not currently engaged in entrepreneurship, one in fourteen adults aspires to start a business in the near future. While this is a high absolute number, Ireland ranks 19th of 25 European countries in this regard. 42% of the population indicate that fear of failure would prevent them from becoming an entrepreneur, though this sentiment is commonly reported across European countries.

Opportunities and motivation: Only half the population consider starting a business a good career choice, with just one third perceiving good opportunities to start a business. The rate at which Irish people perceive opportunities declined sharply during the recession and the rate is slowly increasing again. Compared to other European countries, Ireland is ranked 13th of 25 countries in this regard. A relatively high number of early stage entrepreneurs (30%) report that they are motivated by necessity—that is they perceive no better alternative for employment.

Financing entrepreneurs: Availability and access to finance remains the constraint most frequently mentioned by the panel of entrepreneurs and experts consulted in Ireland in 2014. For entrepreneurs, informal venture capital is the most critical early source of funding. While the rate of informal investors remains relatively low in Ireland (Ireland ranks 17th of 25 European countries), the average amount being committed by each informal investor has increased. An average of €40,500 has been invested by each informal investor in a new business started by someone else in the period 2011-2014. Ireland ranks 7th of 25 European countries on the average amount invested. The great majority are investing in a business being started by someone already known to them.

Government policies: Government policies are most frequently cited as fostering entrepreneurial activity by the key informant panel of experts and entrepreneurs consulted in Ireland. The majority (80%) believe that the support for new and growing firms is a high priority for Government.

Education and training: In general the experts and entrepreneurs consulted are not particularly complementary about the level of entrepreneurial education delivered through the formal education system. However, this is also the case in over half of the European countries. In Ireland, 16% of adults report that they participated in training of this nature at primary or secondary school, with 20% reporting that they participated in entrepreneurship training since leaving school. There is no significant difference in the rate of new business owners between those who had entrepreneurship training at primary or secondary school and those who had not (3.2% versus 2.3%).

² The average rate across Europe of male early stage entrepreneurs motivated by necessity is 22%.

Entrepreneurship in Dublin and the rest of Ireland: In Dublin (city and county) more people see opportunities for new businesses. However this is not associated with higher aspirations to start a new business, nor is it associated with higher levels of entrepreneurial activity. There are fewer owner managers of established businesses in Dublin relative to the rest of Ireland.

Insights from other countries

The stated ambition of the Taoiseach and the Government is that Ireland will be among the most entrepreneurial nations in the world and acknowledged as a world class environment in which to start and grow a business.³ To achieve this aim the Minister for Jobs, Enterprise and Innovation acknowledges that Ireland needs more entrepreneurs starting high quality new businesses that will develop innovative products, conquer new markets and create more jobs.⁴

GEM research is very helpful to policy makers in seeking to achieve these goals, as it helps to identify which countries across Europe, North America and Asia & Oceania, among other comparable countries, are performing particularly well in each of the relevant areas.⁵

No one country performs exceptionally well across all headings. Section 5 highlights those countries that may warrant further study by those interested in improving Ireland's entrepreneurial performance in terms of these stated policy objectives.

³ An Taoiseach, Enda Kenny, TD writing in the Forward to the National Policy Statement on Entrepreneurship in Ireland, September 2014, page 4.

⁴ Richard Bruton, TD, Minister for Jobs, Enterprise and Innovation writing in the Forward to the National Policy Statement on Entrepreneurship in Ireland, September 2014, page 5.

⁵ The GEM research is carried out in exactly the same way in each of more than seventy economies participating in the cycle. Accordingly, the results can be compared across countries and Ireland's relative position ascertained. For the most part, the findings are compared with other developed countries, in particular with those who were included in the GEM 2014 research cycle from the European Union and EFTA, North America and Asia & Oceania.

SECTION 2

ENTREPRENEURSHIP IN IRELAND IN 2014

2.1 MEASURING ENTREPRENEURSHIP

In this section an overview of entrepreneurship in Ireland in 2014 is presented. The rate of early stage entrepreneurial activity and the rate of intrapreneurship is examined.

The information provided is based on GEM research, which draws on an analysis of the facts, views and opinions gathered as part of an adult population study of 2,000 people, aged 18 to 64 inclusive, which was undertaken in mid-year. GEM research is carried out in exactly the same way in each of over seventy countries and economies participating in the cycle. Across these countries, over 206,000 people responded to the GEM survey. Accordingly, the results can be compared across countries and Ireland's relative position ascertained. Appendix 1 outlines in detail the GEM methodology.

In this report, the findings are compared with other developed countries, in particular with those that were included in the GEM 2014 research cycle from Europe, North America and Asia & Oceania.

The countries included are:

Europe (EU and EFTA): Austria, Belgium, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom

North America: Canada and the United States

Asia & Oceania: Australia, Japan, Singapore and Taiwan

In respect of all relevant outcomes, comparative international tables have been compiled from the adult population survey in each of these economies and are available in Section 7. The following comparative tables may be of interest to the reader in connection with this section:

Rates of Activity

Table A Rates of entrepreneurship

Table B Rates of intrapreneurship

Table C Rates of aspiring entrepreneurs

Table D Business exits: rates and reasons

2.2 IRELAND'S RATE OF ENTREPRENEURSHIP – THE TEA INDEX

The TEA Index is a measure of early stage entrepreneurial activity, including those that have recently started a business (new business owners) and those that are actively working on starting a new business (nascent entrepreneurs).⁶

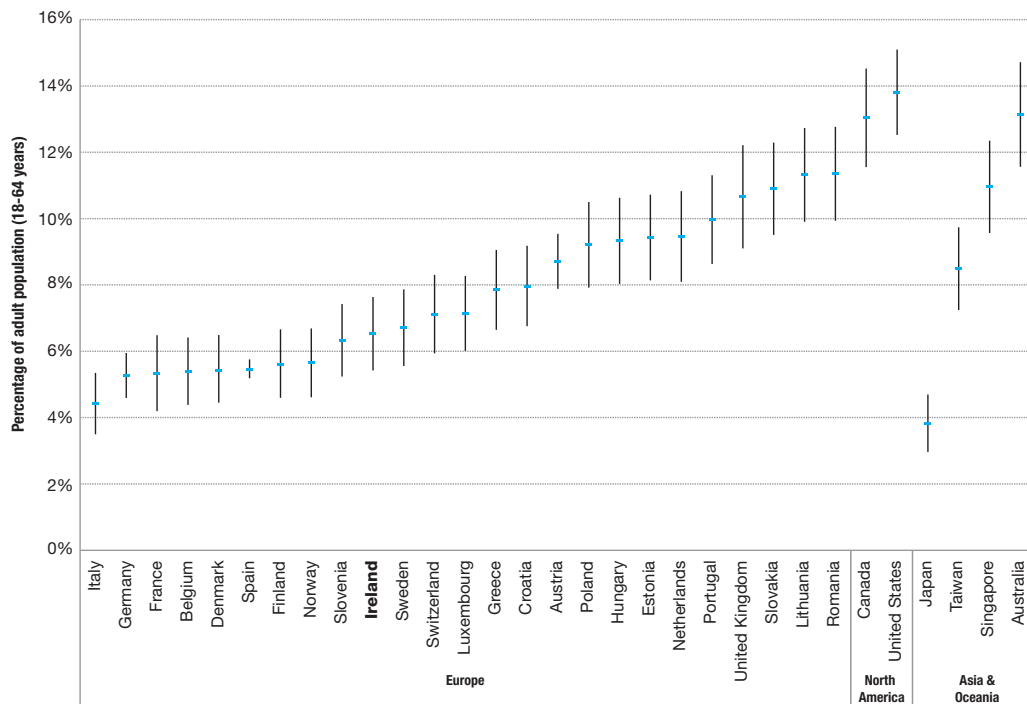
Ireland's TEA rate in 2014 was 6.5%. That is 6.5% of the adult population, aged between 18 and 64 (inclusive), reported that they were early stage entrepreneurs. The TEA rate declined in 2014 from the high rate reported in 2013 (9.2%). At 6.5%, the 2014 rate in Ireland is more in line with the rates recorded in the 2010-2012 period (Table 1).

Ireland is ranked 16th in Europe in 2014 in terms of the TEA Index. The rate of early stage entrepreneurial activity is particularly high in the US (13.8%), Canada (13.0%) and Australia (13.1%), where it is more than twice the rate reported for Ireland (Figure 1).

TABLE 1: ENTREPRENEURSHIP IN IRELAND: 2010-2014

	2010	2011	2012	2013	2014
TEA: early stage entrepreneurs ⁷	6.8%	7.3%	6.1%	9.2%	6.5%
Nascent entrepreneurs	4.4%	4.3%	3.9%	5.5%	4.4%
New business owners	2.6%	3.1%	2.3%	3.8%	2.5%

FIGURE 1: TEA INDEX RANKING⁸



⁶ Section 3: Entrepreneurs in Ireland 2014 contains further detail on new business owners and nascent entrepreneurs.

⁷ In some instances, this rate is less than the combined totals for nascent and new business owners. This is because, in circumstances where respondents qualify as both a nascent and a new business owner, they are counted only once in the Total Early Stage Entrepreneurial Activity (TEA) Index.

⁸ The horizontal lines illustrate the margin of error. It is shorter in those countries with a larger survey, for example in Spain where 25,000 people were surveyed for the 2014 GEM adult population survey. In Ireland the GEM 2014 survey was of 2,000 people aged between 18 and 64. The margin of error in Ireland is +/- 1.1%.

2.3 INTRAPRENEURSHIP - ENTREPRENEURS WITHIN ORGANISATIONS

Not all entrepreneurship is carried out by individuals acting on their own account. Intrapreneurs are those that initiate new business activities within their current employment. Intrapreneurs have been involved in the development of new activities for their employer, such as developing or launching new goods or services, or setting up a business unit, a new establishment or subsidiary.

In Ireland, 6.7% of the adult population report that they have been involved in new activities for their employer in the past three years. For those currently in employment the rate is higher (11.8%) (Table 2). Focusing on those that report they are currently involved in new activities for their employer, the rate is 5.6% and 10.0% respectively.

Ireland is ranked 6th in the rate of intrapreneurship across Europe (Figure 2). This means that Ireland's rank in intrapreneurship is higher than its rank (16th) in the TEA Index.

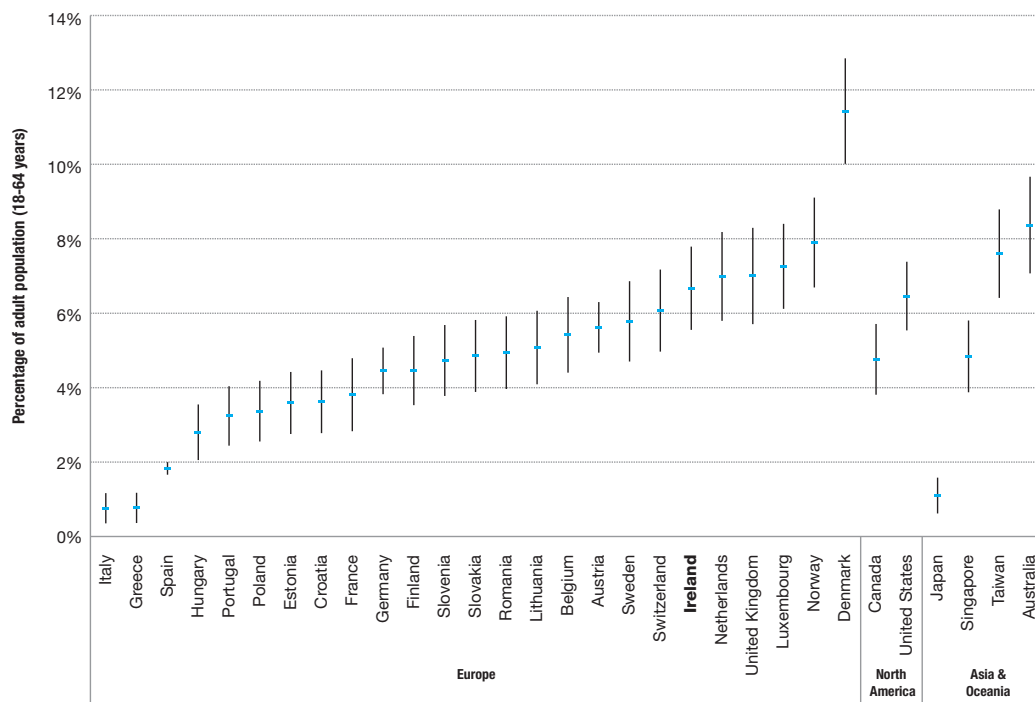
Countries differ in terms of the combinations of new business owners and intrapreneurs. For example, Ireland has a similar rate of new business owners as Denmark (2.5%), but Denmark has a much higher rate of intrapreneurship, (11.4%) compared to Ireland (6.7%). Denmark reports the highest rate of intrapreneurship in Europe. Compared to the Netherlands and the UK, Ireland has a similar rate of intrapreneurship, but a lower rate of new business owners (Table 2).

Considering only those in employment, the rate of intrapreneurship in Ireland is higher (11.8%) with Ireland ranking 2nd to Denmark.

TABLE 2: NEW BUSINESS OWNERS AND INTRAPRENEURS: SELECTED COUNTRIES

	Ireland	Denmark	Netherlands	UK
New business owners	2.5%	2.5%	4.5%	4.5%
Intrapreneurs (% of all adults)	6.7%	11.4%	7.0%	7.0%
Intrapreneurs (% of employed adults only)	11.8%	16.8%	9.4%	11.2%

FIGURE 2: INTRAPRENEURSHIP RANKING⁹



⁹ The horizontal lines illustrate the margin of error. In Ireland, the margin of error is +/- 1.1%.

SECTION 3

ENTREPRENEURS IN IRELAND IN 2014

3.1 INTRODUCTION

GEM describes entrepreneurial activity as a process and measures different phases of this process from conception through firm birth to persistence.¹⁰

This section focuses in particular on nascent entrepreneurs (3.2) and new business owners (3.3), who together make up total early stage entrepreneurial activity, and looks in some detail at each of these categories to offer a greater understanding of each. Section 3.4 focuses on new business owners with significant growth potential.

The socio-demographic characteristics of early stage entrepreneurs are also examined with a particular emphasis on age, with millennial entrepreneurs under the spotlight (3.5), and on gender, with a particular focus on female entrepreneurs (3.6).

Established owner managers, those who have owned and managed a business for more than 42 months, represent persistence or survival beyond the TEA period. Details are given of their personal characteristics and their growth aspirations (3.7).

In respect of all relevant outcomes, comparative international tables have been compiled from the adult population survey in selected countries and are available in Section 7. The following comparative tables may be of interest to the reader in connection with this section:

Characteristics of Early Stage Entrepreneurs

- Table E Entrepreneurial teams
- Table F Work and household income: early stage entrepreneurs
- Table G Motives: early stage entrepreneurs
- Table H Education level: early stage entrepreneurs
- Table I Age: early stage entrepreneurs

Entrepreneurs with Significant Growth Potential

- Table J Growth aspirations: early stage entrepreneurs
- Table K International orientation: early stage entrepreneurs
- Table L Sector of activity: early stage entrepreneurs
- Table M Innovativeness: early stage entrepreneurs

Men and Women

- Table N Rates of entrepreneurship by gender
- Table O Motives by gender: early stage entrepreneurs
- Table P Personal context by gender: adult population

Established Owner Managers

- Table Q Growth aspirations and international orientation: owner managers
- Table R Sector of activity: owner managers
- Table S Innovativeness: owner managers
- Table T Education level and household income: owner managers
- Table U Age: owner managers

¹⁰ See Figure 3 in Appendix 1.

3.2 NASCENT ENTREPRENEURS

What are nascent entrepreneurs doing?

Nascent entrepreneurs are those actively planning a new venture. These people have done something during the previous twelve months to help start a new business, that he or she will at least part own. If relevant, wages or salaries will not have been paid for more than three months in respect of the new business. In 2014, nascent entrepreneurs in Ireland had spent, on average, 9 months working on the new business/new business idea. One in four (26%) have been working on their new business for 3 months or less, one in five (18%) for between 3 and 6 months, four in ten (39%) for between six and twelve months, and nearly one in five (17%) for over one year. Activities such as organising the start-up team, looking for equipment, saving money for the start-up, or writing a business plan would all be considered as active commitments to starting a business.

Most nascent entrepreneurs (83%) are in employment, which includes those who are working fulltime (30%), part-time (10%), or are self-employed or employed in a family business (43%). The remainder include students, retired, unemployed and home-makers (17%). Nearly a quarter of nascent entrepreneurs (24%) has prior experience of entrepreneurship and may be considered to be a serial entrepreneur.¹¹

About half of all nascent entrepreneurs (53%) expect to be the sole owner of the new business, with about 47% expecting there to be more than one owner. In 2014 nascent entrepreneurs in Ireland were focussed on ideas across a broad range of sectors: business orientated services (37%), transformative sectors (30%), which include construction and manufacturing, consumer orientated services (28%), and the extractive sector (5%).

How many nascent entrepreneurs are there in Ireland?

In Ireland, 4.4% of adults self-report that they are actively planning a new business. This equates to about 127,000 people. The rate of nascent entrepreneurs declined in 2014 compared to 2013 and is more or less at the average of the years 2010-2012 inclusive (Table 3). Ireland is ranked 15th across Europe in terms of nascent entrepreneurs in the population and the rate in 2014 is close to the European average (4.6%). The highest rate of nascent entrepreneurs in Europe is in Slovakia (6.7%), followed by the UK and Estonia (6.3%). The rate of nascent entrepreneurs in the United States (9.7%) is more than twice the Irish rate.

TABLE 3: NASCENT ENTREPRENEURS IN IRELAND: 2010-2014

	2010	2011	2012	2013	2014
Nascent entrepreneurs	4.4%	4.3%	3.9%	5.5%	4.4%

Personal characteristics of nascent entrepreneurs

The majority of nascent entrepreneurs in Ireland are motivated by positive reasons (77%), in that they are driven by opportunity, as opposed to because they have no better choices for work. Positive reasons include taking advantage of a business opportunity or having a job but seeking a better opportunity. 23% of nascent entrepreneurs are motivated by necessity, in that they report they are seeking to start a business because they have no better alternative.

The average age of a nascent entrepreneur is 39 years, though there is a wide range, from 19 to 63. Nearly two-thirds (64%) are aged between 25 and 44. 68% of nascent entrepreneurs are men, while 32% are women. Most nascent entrepreneurs (80%) have a post Leaving Certificate qualification: 57% have a Degree or higher and 23% have a Diploma or Certificate. One in ten (10%) has Leaving Certificate as highest form of education and one in ten (10%) has some secondary (Junior Certificate) or vocational education. Most nascent entrepreneurs are in multiple person households, with 75% in households of 3 or more, 19% in two-person households, and 6% in one-person households.

¹¹ In that they are or have been an owner manager of a business, established or new, or they have exited a business in the past twelve months. The business may have either closed or continued.

3.3 NEW BUSINESS OWNERS

What are new business owners doing?

New business owners are entrepreneurs who at least part own and manage a new business that is between 4 and 42 months old and have not paid salaries for longer than this period. These new ventures are in the first 42 months after the new venture has been set up. Two thirds of all new business owners (68%) are the sole owner of the new business, with 32% reporting that they are one of several owners. The average number of new business owners in the founding team is broadly similar in Ireland (1.5) to the UK (1.6) and across Europe (1.7).

In 2014 new business owners in Ireland were active across a broad range of sectors: business orientated services (36%), consumer orientated services (30%), transformative sectors (24%) which include construction and manufacturing, and extractive sectors (10%).¹²

How many new business owners in Ireland?

The rate of new business owners in Ireland in 2014 was 2.5% of the adult population. This is approximately 20,400 people. The number of new businesses started in Ireland in 2014 is less than this number, as many new businesses have more than one owner. Similar to nascent entrepreneurs, the rate of new business owners declined in Ireland in 2014 compared to 2013, and is more or less at the average of the years 2010-2012 inclusive (Table 4).

Ireland is ranked 15th across Europe in terms of new business owners in the population and the rate in 2014 is lower than the European average (3.2%). The rate of new business owners in Europe is highest in Romania (6.2%), Lithuania (5.3%), followed by the UK and the Netherlands (4.5%). The rate of new business owners in Ireland is also considerably behind the rate in North America (Canada 5.6% and the United States 4.3%) and in Asia & Oceania (Australia 5.7%, Singapore 4.8%, and Taiwan 4.1%) with the exception of Japan (1.3%).

TABLE 4: NEW BUSINESS OWNERS IN IRELAND: 2010-2014

	2010	2011	2012	2013	2014
New business owners	2.6%	3.1%	2.3%	3.8%	2.5%

Personal characteristics of new business owners

The majority of new business owners in Ireland are motivated by opportunity (61%), in that they are driven by opportunity, as opposed to finding no other option for work. A significant minority, however, report that they started a new business because they had no better alternative (39%).

The average age of a new business owner is 40 years, though there is a wide range, from 19 to 64. Nearly two-thirds (62%) are aged between 25 and 44. 70% of new business owners are men, while 30% are women. Three quarters of new business owners (76%) have a post Leaving Certificate qualification: 53% has a Degree or higher and 23% has a Diploma or Certificate, with 4% having the Leaving Certificate as highest form of education. One in ten (10%) has vocational education and one in ten (10%) has some secondary (Junior Certificate) as their highest education. Most new business owners are from multiple person households, with 79% in households of three or more, 17% in two person households, and 4% in one-person households.

¹² More details on the growth potential of these new businesses are contained in Section 3.4.

3.4 NEW BUSINESS OWNERS WITH SIGNIFICANT GROWTH POTENTIAL

The potential impact of new businesses can be measured in terms of three factors: the growth aspirations of the new business owners, the international orientation of the new business and the degree of innovation.

The majority of new business owners are not currently employers with 64% reporting that they have no employees. However, three quarters (74%) of all new business owners expect to be employers within the next five years. Over this period, one in four (26%) expect that they will remain self-employed with no employees. 16% of all new business owners expects high employment growth, leading to twenty or more jobs within the next five years (Table 5). 1.5% of new business owners currently have twenty or more employees.

TABLE 5: GROWTH ASPIRATIONS: NEW BUSINESS OWNERS

Growth expectations	Percentage of new business owners
Any jobs now or within the next 5 years	74%
More than 10 jobs, and 50% growth in jobs, within the next 5 years	23%
Twenty or more jobs within the next 5 years	16%

One third (32.5%) of new business owners have no international customers as they focus exclusively on the Irish market. While 67.5% of new businesses have international customers, just 27% have more than a quarter of their customers in overseas markets. New businesses that are highly international from birth are referred to as 'born global'. One in eight of new businesses (12.5%) report that 75% of their sales are in international markets (Table 6). Just about half of all new business owners (51%) are using the internet to sell their product or service.

TABLE 6: CUSTOMERS IN OVERSEAS MARKETS: NEW BUSINESS OWNERS

Customers in overseas markets	Percentage of new business owners
No customers in overseas markets	32.5%
1% to 24% customers in overseas markets	40.5%
25% to 74% customers in overseas markets	14.5%
75% to 100% customers in overseas markets	12.5%

The innovativeness of the new businesses can be measured in terms of a range of dimensions: sector, new products, new markets, and new technologies (Table 7).

Sector: The majority (85%) of these new business owners are operating in low or non-tech sectors. However, 15% are in medium or high-tech sectors.¹³

New products: Nearly one in two (46%) of these business owners have products/services that the entrepreneur considers are new to all or many customers.

New markets: One in every two new business owners (52%) is in a new market, reporting that they have few or no competitors.

New technologies: One in every three new business owners (30%) is using new technologies (defined as technology that is less than 5 years old).

¹³ The technology categories are based on OECD definitions. The rate of new business owners operating in medium to high-tech sectors is higher (15%) than the rate that early stage entrepreneurs are operating in these sectors (9%).

TABLE 7: INNOVATIVENESS: NEW BUSINESSES

Innovativeness	Percentage of new business owners
Novelty of product/service	
Product/service is new to no customers	54%
Product/service is new to some customers	28%
Product/service is new to all customers	18%
Extent of competition (newness of market)	
Many businesses offer the same product/service to potential customers	48%
Few businesses offer the same product/service to potential customers	46%
No business offers the same product/service to potential customers	6%
Technology	
Business uses technology that is 5+ years old	70%
Business uses technology that is between 1 to 5 years	25%
Business uses technology less than 1 year old	5%

Combining these measures provides a 'Market Expansion' Index. This highlights how a very small number of new businesses are entering new markets with new products based on new technology (5%) and how most new businesses (59%) are pursuing opportunities based on existing products/services, existing markets and existing technologies (Table 8).

TABLE 8: MARKET EXPANSION INDEX: NEW BUSINESS OWNERS

Market expansion index	Percentage of new business owners
No market expansion	59%
Some market expansion but no new technologies	36%
Some market expansion and new technologies	4%
Profound (market expansion and the latest technology)	1%

3.5 MILLENNIALS – YOUNG ENTREPRENEURS

This section explores the entrepreneurial attitudes and activity of millennials, those born between 1980 and 1996 (so aged between 18 and 34 in 2014), contrasting them with those aged between 35 and 50, and those aged 50 to 64. In summary, more millennials see opportunities to start a business and millennials have a higher aspiration to start a business. However, there are no differences in levels of new business owners among millennials relative to the other age groups.

Aspirations and activity

One in eleven (9.5%) millennials, that are not currently active as entrepreneurs, aspire to start a business in the next 3 years. This compares to about one in fourteen for those aged 35 to 50 (6.9%), and to one in twenty six for those aged 50 to 64 (3.8%) (Table 9).

While millennials have a higher aspiration to start a new business in the next three years, they are not more active as new business owners and are much less likely to be the owner manager of an established business, a business that is more than 42 months old.

TABLE 9: ENTREPRENEURIAL ASPIRATIONS AND ACTIVITIES: MILLENNIALS

	Aged 18-34 (millennials)	Aged 35-50	Aged 50-64
Aspire to start a new business [#]	9.5%	6.9%	3.8%
Total early stage entrepreneurs	7.5%	6.3%	5.1%
Nascent entrepreneurs	5.4%	3.6%	3.6%
New business owners	2.4%	2.8%	2.3%
Owner managers of established businesses	2.3%	15.5%	14.8%

[#] excluding those currently active as entrepreneurs

Attitudes and perceptions

Compared to the other age groups, more millennials believe that successful entrepreneurs have a high status (82%) and that entrepreneurship is a good career choice (52%) (Table 10). One in five has received some entrepreneurial education while at school (22%).

The higher aspiration to start a business may be related to more millennials perceiving opportunities to start a new business (37%) and to knowing a recent entrepreneur (42%). They report the highest rate of fear of failure (46%), however, across all the age groups.

Those in the oldest age group, 50-64 years, have the highest rate of perception of good media coverage for entrepreneurs (80%), are the least inhibited through fear of failure from starting a business (35%) but report the lowest rate of perceiving entrepreneurial opportunities (29%).

TABLE 10: CULTURE, PERSONAL CONTEXT AND ENTREPRENEURSHIP TRAINING: MILLENNIALS

Perceptions and experiences of the population	Aged 18-34 (millennials)	Aged 35-50	Aged 50-64
Success at entrepreneurship has high status	82%	71%	77%
Entrepreneurship is a good career choice	52%	47%	49%
Supportive media coverage of entrepreneurs	75%	73%	80%
Opportunities to start a business	37%	33%	29%
Know a recent entrepreneur	42%	37%	27%
Skills and knowledge to start a business	44%	52%	46%
Fear of failure would prevent starting a business	46%	44%	35%
Participated in training on starting a business at primary or secondary school	22%	12%	10%
Participated in training on starting a business after completing school	17%	22%	23%

3.6 FEMALE ENTREPRENEURS

The relative untapped entrepreneurial potential of women has been recognised for many years at national level and a range of measures have been introduced to encourage more entrepreneurial activity among women.

Entrepreneurial activity by women

In Ireland the rate at which both men and women were involved in early stage entrepreneurial activity rose sharply in 2013. The levels reported in 2014 show a return to the levels observed in the years 2010 to 2012 inclusive (Table 11). As the rate of entrepreneurship by men and by women declined in 2014, the rate at which men compared to women were involved as early stage entrepreneurs (2.1:1), is similar to that observed in 2012.

The proportion of women involved as new business owners is particularly low in 2014 (1.4%), while the rate of women as nascent entrepreneurs showed less of a steep decline.

There has always been a relatively high rate of owner managers of established businesses in the population in Ireland. This rate increased in 2014 in respect of both men and women (Table 11).

TABLE 11: ENTREPRENEURSHIP BY GENDER: 2010-2014

	2010	2011	2012	2013	2014
TEA: early stage entrepreneurs					
Men	9.5%	10.3%	8.3%	12.1%	8.9%
Women	3.9%	4.2%	4.0%	6.4%	4.2%
Ratio Men: Women	2.4:1	2.5:1	2.1:1	1.9:1	2.1:1
Nascent entrepreneurs					
Men	6.2%	5.9%	5.6%	8.0%	5.9%
Women	2.5%	2.6%	2.5%	3.2%	2.8%
Ratio Men: Women	2.5:1	2.3:1	2.2:1	2.5:1	2.1:1
New business owners					
Men	3.6%	4.6%	2.8%	4.5%	3.5%
Women	1.5%	1.6%	1.8%	3.2%	1.4%
Ratio Men: Women	2.5:1	2.8:1	1.6:1	1.4:1	2.4:1
Owner managers of established businesses					
Men	11.8%	10.9%	11.8%	11.4%	13.8%
Women	5.2%	5.0%	4.7%	3.6%	6.1%
Ratio Men: Women	2.3:1	2.2:1	2.5:1	3.2:1	2.3:1

Necessity as a motivation for early stage entrepreneurial activity is relatively high in Ireland (30%). It is lower among male entrepreneurs (26%) than it is for female entrepreneurs (39%). Necessity as a motivation is considerably higher for females in Ireland compared to the average across Europe for female entrepreneurs (26%).

Not all businesses whether new or established will be successful. Each year a certain rate of early stage entrepreneurs and established owner managers will close a business. As in previous years, a higher proportion of male compared to female entrepreneurs discontinued and exited a business in 2014 (2.0% compared to 0.3%).

Personal context

Potential entrepreneurs are found among both men and women in the general population. They may never act on their entrepreneurial potential but they have certain aspects in their personal context which makes them more likely to be future entrepreneurs than others in the population. They tend

to know recent entrepreneurs, are alert to enterprising opportunities in their environment, believe that they have the knowledge and skills to start and successfully run a new business and are less susceptible to being deterred by fear of failure.

In respect of each of these factors men in Ireland report more favourable rates than do women. This is not unique to Ireland, as it is to be observed in virtually every country. In respect of knowing a recent entrepreneur, not only do men in Ireland report higher rates than do women (43% compared to 29%), their rate is higher than the European average (36%) while that for women is at the European average (29%). It is also higher than the rates for men reported across North America and Asia & Oceania.

The observation of enterprising opportunities declined for both men and women considerably during the recession. This is slowly improving. In 2014, men in Ireland are reporting that they perceived such opportunities (38%) at more or less the average rate observed across Europe (39%). This is considerably behind the rate observed in Canada (57%), the US (53%) and Australia (50%). The rate at which women in Ireland perceive enterprising opportunities (29%) is still behind the European average (34%).

Even in those countries which have a much narrower ratio in the rates of male and female early stage entrepreneurs, women in the general population report lower levels of confidence in their perception of having the skills and knowledge to start a business. Ireland is no exception – 58% of men in the general adult population perceive that they have the necessary skills compared to 37% of women. Both rates are higher, however, than the respective European averages (50% and 33%).

Fear of failure as a deterrent to starting a business is present to some extent in every country, even among those with relatively high rates of early stage entrepreneurs. In general it is more evident among women than it is among men. In Ireland 37% of men and 48% of women report that fear of failure would act as a deterrent to engaging in entrepreneurship. These rates are lower, however, than the European averages (41% and 51%).

The entrepreneurial intentions of women

As previously noted, the rate at which people in Ireland state an aspiration to become an entrepreneur in the coming three years is low (7.2%) relative to the average across Europe (11.6%) and North America (12.0%).¹⁴

The rate, at which women in the general adult population are reporting a clear aspiration to become an entrepreneur in the coming three years, while having fallen back from the level observed in 2013, is at a relatively high level in Ireland (5.5%), compared to previous years. The rate, expressed as a ratio between men and women, is relatively narrow (Table 12).

TABLE 12: ASPIRING TO START A BUSINESS BY GENDER

Aspire to start a business within the next 3 years	Percentage of adults (excluding those already active as entrepreneurs)
Men	9.0%
Women	5.5%
Ratio Men: Women	1.6:1

Sectoral focus

A much higher proportion of employed women (90%) compared to employed men (63%) in Ireland are engaged in the services sector.¹⁵ Accordingly it is not surprising that the majority of female early stage entrepreneurs are focused on the services orientated sectors (73%) with relatively few engaged in the transformative sector, which includes manufacturing and construction, or the extractive sector (e.g. mining). Almost one third of early stage male entrepreneurs are engaged in the transformative sector (Table 13).

¹⁴ The rates exclude those currently active as an entrepreneur. The rate across Asia & Oceania is higher than it is in Ireland in Australia (10%), Singapore (9.4%), and Taiwan (25.6%). The rate in Japan is lower (2.5%).

¹⁵ CSO QNHS Q1 2015.

Almost one in every two early stage female entrepreneurs is focused on consumer orientated services (48%). This sector is of far less importance to male entrepreneurs (21%) for whom business orientated services is the dominant sector (39%). More generally, the rate of early stage entrepreneurs involved in consumer orientated services in Ireland (30%) is substantially below the European average (40%).

TABLE 13: SECTOR OF ACTIVITY BY GENDER: EARLY STAGE ENTREPRENEURS

Sector of activity	MEN early stage entrepreneurs	WOMEN early stage entrepreneurs
Extractive	8%	7%
Transforming	32%	21%
Business Orientated Services	39%	25%
Consumer Orientated Services	21%	48%

If one considers early stage entrepreneurs in Ireland as a group, a third are focused on business orientated services (34%) which is just ahead of the European average (30%).

Growth aspirations

Policy makers in Ireland note that targeted actions have shown positive change in that there has been a narrowing of the rates at which men and women are starting new businesses. The National Policy Statement on Entrepreneurship in Ireland points to the next challenge. *“The focus now must be to help these young companies to realise their full potential to achieve significant scale and become major international businesses in markets across the globe.”*¹⁶

It has been observed for many years now that more male than female early stage entrepreneurs expect to become an employer and have significant growth aspirations for their new business. This is also the case in 2014.

While the majority of both male and female entrepreneurs expect to become employers within the next five years, there is a considerable difference in the rate between male and female entrepreneurs in this regard (74% compared with 62%) (Table 14).

There is an even greater difference in the rate at which male and female entrepreneurs aspire to achieve significant growth, with almost one in three (32%) male entrepreneurs expecting to employ at least ten within five years, compared to one in six female entrepreneurs (17%). The gap widens further as the growth aspiration increases.

TABLE 14: GROWTH ASPIRATIONS BY GENDER: EARLY STAGE ENTREPRENEURS

Growth expectations	MEN early stage entrepreneurs	WOMEN early stage entrepreneurs
Any jobs now or within the next 5 years	74%	62%
More than 10 jobs, and 50% growth in jobs, within the next 5 years	32%	17%
Twenty or more jobs within the next 5 years	16%	5%

¹⁶ September 2014, page 21.

International orientation

Similar to the trend observed in 2013,¹⁷ more than half of female early stage entrepreneurs are focused entirely on the Irish market and have no customers in overseas markets (52%). In contrast just one third of male entrepreneurs report that they have no export customers (33%) (Table 15).

The rate of businesses born global, that is having 75% or more of their customers in overseas markets, has always been relatively small for both male and female entrepreneurs. 2014 is no exception, with 14% of male entrepreneurs and 2% of female entrepreneurs in this category.

TABLE 15: CUSTOMERS IN OVERSEAS MARKETS BY GENDER: EARLY STAGE ENTREPRENEURS

Customers in overseas markets	MEN early stage entrepreneurs	WOMEN early stage entrepreneurs
No customers in overseas markets	33%	52%
1% to 24% customers in overseas markets	40%	29%
25% to 74% customers in overseas markets	13%	17%
75% to 100% customers in overseas markets	14%	2%

Education and training

Male and female early stage entrepreneurs are highly educated, with 78% of all early stage entrepreneurs having some level of post-secondary school education. Slightly lower rates of male compared to female entrepreneurs have post-secondary education (77% compared to 81%). Within this group, however, a higher percent of male compared to female entrepreneurs have graduate education (15% compared to 9%) (Table 16).

TABLE 16: HIGHEST EDUCATION ATTAINMENT LEVEL BY GENDER: EARLY STAGE ENTREPRENEURS

Highest education attainment	MEN early stage entrepreneurs	WOMEN early stage entrepreneurs
Primary and/or some secondary	8%	5%
Secondary school	15%	14%
Post-secondary	62%	72%
Graduate education	15%	9%

In the general population, an equal proportion of men and women have taken part in entrepreneurial training during their primary and secondary schooling (15%), while more men than women have participated in such training after they finished school (24% compared to 17%).

¹⁷ In 2013, GEM reported that 58% of female early stage entrepreneurs in Ireland had no customers in overseas markets compared to 32% for male entrepreneurs.

3.7 OWNER MANAGERS OF ESTABLISHED BUSINESSES

Established owner managers are those who have owned and managed a business that is more than 42 months old. In 2014, the rate of owner managers in Ireland (9.9%) is high compared to the average across Europe (6.7%).¹⁸ Ireland is ranked 2nd in Europe with Austria. The Netherlands (9.6%) and Switzerland (9.1%) also have broadly similar rates to Ireland. The country with the highest rate of established owner managers in Europe is Greece (12.8%).

In North America, Canada (9.4%) has a broadly similar rate of established own managers to Ireland, while the rate in the United States is lower (6.9%). In Asia & Oceania, the rate of owner managers in Taiwan (12.2%) is very high, while Australia has a similar rate to Ireland (9.9%).¹⁹

Two thirds of owner managers are aged between 35 and 54, with a quarter aged between 55 and 64. There are very few in the younger age groups.²⁰ Owner managers in Ireland have a range of educational attainment levels from those with just some secondary education (9.9% of adults in this attainment level category), to those who have completed secondary school (8.9%), to those with post-secondary education (11%). The rate of owner managers of established businesses among graduates is lower in Ireland (7.3%), than it is across Europe (9%).

Across Europe, the rate of established owner managers is broadly similar to Ireland in Austria, Switzerland and the Netherlands. In Austria and Switzerland, however, a higher rate of graduates are established owner managers (12.9% and 16.2%).²¹ This is also the case in Canada and Australia, which were observed to have a broadly similar rate of owner managers of established businesses as Ireland. The rate of owner managers among graduates is higher (12.4% and 14% respectively) than it is in Ireland.

Owner managers of established business in Ireland are engaged in a board range of sectors - extractives sectors (27%), transformative sectors (29%), business orientated service sectors (26%) and consumer orientated sectors (18%). The rate of owner managers engaged in the transformative sector and businesses orientated services sectors is at the European average. The rate of those engaged in extractive sectors is higher in Ireland than the European average (14%), while the rate engaged in consumer orientated services in Ireland is below the European average (30%).

Just 2% of owner managers of established businesses expect to create ten or more jobs within the next five years.

More than half of owner managers (59%) have some customers in international markets and 20% have a quarter or more of their customers outside the country. The rate of international businesses, that is having 75% or more of their customers in overseas markets, is small with just 9% of owner managers in this category.

Sector: The majority (93%) of owner managers of established businesses are operating in low or non-tech sectors.²² 7% of owner managers report that they are operating in medium or high-tech sectors.²³

New products: 17% of these owner managers have products/services that are new to all or many customers.

New markets: One in every three owner managers (32%) is in a new market, reporting that they have few or no competitors.

New technologies: 13% of owner managers are using new technologies (defined as technology that is less than 5 years old.).

¹⁸ The rates in previous years were 7.5% (2013), 8.3% (2012), 8.0% (2011) and 8.6% (2010).

¹⁹ The rate in Singapore is particularly low (2.9%). While the rate in Japan is high (7.2%), given the relatively low TEA rates in that country over many years.

²⁰ Of owner managers 3% are aged 18-24, 6% are aged 25-34, 34% are aged 35-44, 33% are aged 45-54 and 23% are aged 55-64.

²¹ Comparable figures are not available for the Netherlands.

²² The technology categories are based on OECD definitions.

²³ This compares with 9% for early stage entrepreneurs and 15% for new business owners.

Combining measures of innovation to provide a 'Market Expansion' Index highlights that new business owners are more innovative than owner managers of established businesses. Eight in every ten (82%) owner managers report that their businesses are based on existing products/services, existing markets and existing technologies, compared to 59% of new business owners (Table 17).

TABLE 17: MARKET EXPANSION INDEX: OWNER MANAGERS AND NEW BUSINESS OWNERS

Market expansion index	Owner managers of established businesses	New business owners
No market expansion	82%	59%
Some market expansion but no new technologies	16%	36%
Some market expansion and new technologies	1%	4%
Profound (market expansion and the latest technology)	1%	1%

SECTION 4

IRELAND'S ENTREPRENEURIAL ECO-SYSTEM

4.1 THE POLICY CONTEXT

According to Richard Bruton, TD, Minister for Jobs, Enterprise and Innovation, “*We know that it is individuals and not government that establish new businesses, but what Government can do is remove barriers and support an environment where more businesses can start and grow.*”²⁴ Accordingly, the Government is committed to building an eco-system, which is supportive of entrepreneurial activity.

In each country, as part of the research cycle, GEM national teams capture the informed judgments of key informants²⁵ regarding the entrepreneurship eco-system in their country. Members of the population through the adult population survey are also asked for their opinion in respect of various aspects of the eco-system, particularly around culture and societal support. The adult population survey also identifies the rate of informal investors within the general population and their level of investment. Aspects of the eco-system studied in GEM are as follows:

- i. Finance: financial environment related to entrepreneurship
- ii. Government policies
- iii. Government programmes
- iv. Education and Training
 - a) *Level of entrepreneurial education at primary and secondary school*
 - b) *Level of entrepreneurial education at vocational, professional, college and university*
- v. R&D transfer
- vi. Professional and commercial infrastructure
- vii. Markets
 - a) *Internal market dynamics*
 - b) *Internal market burdens*
- viii. Physical infrastructures and services
- ix. Cultural, social norms and society support.

From these insights aspects of the entrepreneurship eco-system can be identified in which Ireland has a perceived strength in terms of fostering entrepreneurship, and aspects that constrain entrepreneurial activity. This section gives insights into the key strengths and constraints identified in the eco-system in Ireland in 2014. Some aspects of the eco-system, such as government policies and education and training, are considered both a strength and a weakness, as some aspects of each are perceived as fostering entrepreneurial activity and some constraining.

In respect of all relevant outcomes, comparative international tables have been compiled from the adult population survey in selected countries and are available in Section 7. The following comparative tables may be of interest to the reader in connection with this section:

Attitudes and Perceptions in the Adult Population

Table V ‘Culture’ perceptions: adult population

Table W Personal context: adult population

Informal Investment Activity

Table X Informal investors: rates and amounts

²⁴ Writing in the Foreword of the GEM 2013 Report for Ireland, June 2014.

²⁵ There are 40 experts and entrepreneurs on the 2014 Irish GEM key informant panel. 58% of these are entrepreneurs. The others are experts drawn from across academia and from the public and private sectors. All are well informed in the area and have considerable experience in dealing with entrepreneurs and their new ventures and the eco-system that impacts on them.

4.2 STRENGTHS IN THE ECO-SYSTEM²⁶

Cultural, social norms and societal support

Many countries and regions talk of the desirability of having an entrepreneurial culture - an environment where entrepreneurship is respected and fostered. Where this is not present in a country, it is always challenging for the Government and policy makers to foster it.

Ireland's standing in terms of a generally supportive culture and social norms has always been reported by GEM as being relatively high and this continues in 2014. Looking at the trend over time, the status of entrepreneurs has always been high and the perception of positive stories in the media is once again on the rise after falling during the recession.

The GEM survey gives good insights into Ireland's relative strengths in this area. The status of successful entrepreneurs in Ireland is high. 77% of the population report that successful entrepreneurs are well regarded. This is the third highest in Europe, after Finland (84%) and Germany (79%). In the US the rate is 77%. There is good media coverage of entrepreneurs. The majority of the population in Ireland (76%) report that they regularly see positive stories about entrepreneurs in the media. This rate is the highest across Europe and is the same as that in the US. In Finland, the rate is also high 67%, but in Germany it is just 51%.

Government policies

Most of the experts and entrepreneurs believed that the support for new and growing firms is a high priority for Government²⁷ and this area was most frequently cited in a positive manner by the key informant panel.²⁸ In response to an open question, mention is made in particular of the spotlight on entrepreneurship that was signified by the Government's publication of the National Policy Statement on Entrepreneurship in Ireland in September 2014 and by the earlier establishment of the Entrepreneurship Forum, chaired by an entrepreneur, whose findings and recommendations informed the Government's entrepreneurship strategy, as outlined in the policy statement. The Action Plan for Jobs 2014 published by the Government included a spotlight on entrepreneurship as one of three disruptive reforms that were introduced. The Government's focus on underrepresented groups, particularly women and youth, is also singled out for positive comment by those consulted.

Government programmes

Among the experts and entrepreneurs consulted, just over half indicated that they considered there is an adequate number of Government programmes for new and growing businesses.²⁹ Of those that considered there were an adequate number of Government supported programmes, 68% thought that they were effective.

From their commentary to open questions, it is evident that Enterprise Ireland and the Local Enterprise Offices are perceived to be supportive of the efforts of entrepreneurs. Their training programmes aimed at early stage entrepreneurs are mentioned by name - the New Frontiers programme, Enterprise Ireland's national entrepreneur development programme for innovative, early-stage start-ups,³⁰ and The Start Your Own Business programme run by the Local Enterprise Offices.³¹ The programmes run by the National Digital Research Centre (NDRC) are also mentioned, as is the Going for Growth initiative, which is designed to support ambitious female entrepreneurs to reach their growth goals.³²

Of the experts and entrepreneurs consulted, two thirds considered that business incubators were providing effective support for new and growing firms. Less positively, only 32% considered that a wide range of government assistance for new and growing firms could be obtained through contact with a single agency.

²⁶ In most economies participating in the 2014 GEM survey, the factors most positively commented upon are physical infrastructure and commercial infrastructure.

²⁷ Those returning a score of 4 or over out of 5, with 5 being the most positive, to this question.

²⁸ The open question ascertained their views in respect of the factors which fostered entrepreneurial activity in Ireland.

²⁹ 54% of respondents returned a score of 4 or over out of 5.

³⁰ New Frontiers is a three-phased programme, based in 14 campus incubation centres across the country.

³¹ The Start You Own Business programme is run by the LEOs at county level. The programme is aimed at those who have recently set up their own business or those who are considering self-employment for the first time. The course aims to take participants through everything they need to know to get started and to prepare early stage entrepreneurs for the challenges they will face in the first year in business.

³² Going for Growth receives support from the Department of Justice and Equality, the European Social Fund, Enterprise Ireland as well as from KPMG and other corporate supporters.

4.3 CONSTRAINTS IN THE ECO-SYSTEM³³

Self-confidence, aspirations to entrepreneurship and fear of failure

Many people in the general population have the potential to become entrepreneurs. Certain aspects of an individual's personal context may make them more likely than others to choose to become an entrepreneur. These include factors such as self-belief that they have the knowledge and skills to start and successfully run a new business and knowing an entrepreneurial role model.

Almost half of the population in Ireland perceives that they have the knowledge and skills to successfully start a business (47%). This rate does not vary significantly year on year.³⁴ This is higher than the European average (42%) and is similar to Canada (49%) and Australia (46%). More confidence is expressed across the adult population in the United States (53%). However, high rates of entrepreneurial activity occur in countries with much lower levels of expressed self-confidence in entrepreneurial knowledge and skills. For example, Singapore and Taiwan have high rates of early stage entrepreneurial activity (11.0% and 8.5% respectively), simultaneously with low levels of self-belief (21% and 29% respectively).

Furthermore, among the general population in Ireland more than one in three knows another individual who started a business in the recent past (36%). In this measure, Ireland is just ahead of the European average (33%) and placed joint 7th across Europe. The highest rates in Europe are observed in Finland and Slovakia (43%) followed by Estonia (42%).

Among the general population in Ireland, there are more than 200,000 individuals, who are not currently active as entrepreneurs, who report that they aspire to start a new business during the next three years (7.2%). While this is a high absolute number, Ireland ranks just 19th of 25 European countries in this respect.

Fear of failure as a deterrent to becoming active as an entrepreneur is evident even in the most entrepreneurial countries. In Ireland 42% of the general population express such a sentiment. This is below the European average (46%). In some countries with much high levels of early stage entrepreneurial activity than Ireland, a relatively similar preponderance of fear of failure is reported among the general population as it is in Ireland- Canada (39%), Australia (44%) and Taiwan (40%). Even in those countries with the lowest rates expressing this inhibition, the United States and Norway, one in three reports that fear of failure might deter them from becoming involved in a start-up.

Opportunities and motivation

Among the general population, one in three adults (33%) perceives that there are good opportunities to start a business. This rate has increased in 2014,³⁵ but is still a long way from that observed in 2007 (46%). Despite the recent improvement in the rate of opportunity recognition, it is not high in a European context, with Ireland ranking 13th of the 25 European countries. In Denmark (60%), Norway (63%) and Sweden (70%) the rate is very much higher. In the US the rate is 51%.

When asked if entrepreneurship is a good career choice, about half of Irish people respond positively (49%). This is low in a European context (Ireland is 18th of 23 European countries). Finland, at 41%, and Germany at 52%, are also relatively low on this measure. In the US, where status of successful entrepreneurs and media attention are similar to that in Ireland, there is a much higher percentage of people who consider entrepreneurship as a desirable career choice (65%), compared to Ireland. Looking at the trend over time the perception of entrepreneurship as a good career choice has not yet recovered in Ireland to the very high levels reported in 2006 (70%) and earlier years.

A relatively high number of early stage entrepreneurs in Ireland (30%) report that they are motivated by necessity - that is they perceive no better alternative for employment.

³³ In most economies participating in the 2014 GEM survey, key informants consulted gave the lowest evaluation to primary and secondary education, government policies toward regulation and access to finance.

³⁴ The comparable rates in recent years are 46% (2011), 45% (2012) and 43% (2013).

³⁵ The rate was 28% in 2013, and 26% in both 2012 and 2011.

Access and availability of finance

In response to an open question to ascertain their views as to constraining factors in the entrepreneurial eco-system, three quarters of experts and entrepreneurs consulted in Ireland considered that the prevailing financial environment constrained entrepreneurial activity and two thirds of those surveyed made a recommendation for improvements that could be made in this area.³⁶ Irish key informants were particularly negative in terms of their view that there was not sufficient debt funding available for new and growing firms.³⁷

Most entrepreneurs use their own funds when starting a new business. The second most important source of finance is so-called informal investment. Informal investors are not just high net-worth investors (often referred to as Business Angels), but also include investments or funds provided to individuals, involved in starting a business, by family, friends, and work colleagues.

As in previous years, the majority of informal investment of this nature is made to an individual who is already known to the person providing the investment. In 2014 in Ireland, informal investors report that their most recent investment is to a family member or relative (38%), a friend or neighbour (28%), a stranger with a good business idea (18%), a current or past work colleague (14%), or some other individual (2%). The experts and entrepreneurs consulted consider that there is not sufficient funding of this type available from private individuals for new and growing business.³⁸

In Ireland, 3.4% of the population have provided funds for another individual starting a business in the past three years. The rate has remained fairly steady in Ireland in recent years. This rate is lower than the European average (4.3%), with Ireland ranking joint 16th of the European countries in this respect. The rate in the US, at 6.2%, is 1.8 times higher. As in previous years, in 2014 men in Ireland are much more likely to be informal investors (4.6%) than are women (2.6%).

The average amount of funds Informal Investors provided to start-ups in the past 3 years is relatively high, €40,500, when compared to the European average of €30,900 and the average in the US (€37,200).

In response to the question as to whether there is sufficient government subsidies available to new and growing firms, a small majority of experts and entrepreneurs (53%) consulted consider this to be the case.³⁹

Government policies

While the Government's focus on entrepreneurial activity is recognised as a strength in the eco-system in Ireland, in response to open questions in this area the key informants say that they perceive certain policy aspects to be constraining, in particular mention is made of public procurement, compliance issues, the tax burden on the self-employment and the lack of any safety net should the business fail. More than three quarters of the experts and entrepreneurs consulted consider that dealing with government bureaucracy, regulations and licensing requirements is unduly difficult for new and growing firms.

Education and training

Irish early stage entrepreneurs have a very high level of general education, with 78% reporting that they have some post-secondary education. This is the highest level across the 25 European countries.

In general experts and entrepreneurs consulted are not particularly complementary, however, about the level of entrepreneurial education delivered through the formal education system. Of the nine framework conditions commented on by experts and entrepreneurs in Ireland, entrepreneurial education at primary and secondary level was rated as the most weak.⁴⁰ However, this was also the case in over half of the European countries. In the US, the experts and entrepreneurs consulted were

³⁶ In general the experts and entrepreneurs consulted across Europe were very negative in respect of access and availability of finance for new and growing businesses.

³⁷ Less than 10% gave a positive score (4 or 5), where 5 is the most positive score.

³⁸ 32% of respondents returned a score of 4 or higher.

³⁹ 53% of respondents gave a score of 4 or higher.

⁴⁰ Just 12% of respondents gave a score of 4 or higher.

equally of the view that teaching in primary and secondary level does not provide adequate attention to entrepreneurship and new firm creation. The experts and entrepreneurs consulted in Ireland were slightly more positive in their perception that students in post-secondary education, whether in the vocational, professional, college or university systems, were receiving good and adequate preparation for starting and growing new firms.⁴¹

16% of the population in Ireland report that they have participated in training on starting a business at primary or secondary school. 20% report that they participated in training on starting a business since leaving school. Of those that are early stage entrepreneurs 22% report they had some training in school, while 44% report that they participated in training on starting a business having completed school (Table 18).

The TEA rate for those that participated in training in school is 9.1%, compared to 6.1% for those that had not participated in training in school.

TABLE 18: PARTICIPATION IN TRAINING ON STARTING A BUSINESS

Participated in training on starting a business	Adult population	Early stage entrepreneurs
At primary or secondary school	16%	22%
After completing school	20%	44%

⁴¹ 19% of respondents gave a score of 4 or higher.

4.4 ENTREPRENEURSHIP IN DUBLIN AND THE REST OF IRELAND

Spotlight on Dublin and the regions

In the month of September 2014 the first Dublin Commissioner for Start-ups was appointed⁴² and the National Policy Statement on Entrepreneurship in Ireland was published which contained a focus on the regions.

The appointment of the Dublin Commissioner for Start-ups was a private sector initiative. The new Commissioner is working in conjunction with Dublin City Council, Enterprise Ireland and the Local Enterprise Offices. A key responsibility of the role is to develop international recognition of Dublin as an innovation hub, where companies will start-up, scale faster and create long-term sustainable jobs and added value to the economy. The objective is to make Dublin the best place in Europe to start and grow a tech and innovative business.

The Government has committed itself to realise the potential of all of the regions in Ireland for economic growth and employment creation. To this end, the 2015 Action Plan for Jobs places an emphasis on developing the jobs potential of the regions. It includes a commitment to develop a suite of Regional Action Plans for Jobs to support enterprise growth and jobs creation in the regions. Like the national action plan, the regional APJs will set out a series of commitments on the part of enterprise development agencies and public bodies, complemented by some actions from the private sector, which will build on the strengths of each region, to support enterprise growth and job creation. Further actions will be added on an ongoing basis, as new initiatives and commitments emerge, reflecting the dynamic nature of the new regional Action Plans.

The National Policy Statement stated that promoting entrepreneurship at local level was a key objective and emphasised the role of the recently formed Local Enterprise Offices in this regard. In the Action Plan for Jobs 2015, a focus on the regions was continued - *“Delivering Regional Potential: ... with funds being ear-marked to promote innovative collaborations to support entrepreneurship and innovation in the regions, exploiting regional competitive advantage”*.⁴³

To support regional enterprise development, the Government will provide up to €250 million over five years to support the implementation of the locally developed Regional Action Plans. This includes the roll out of a five year, €150 million property investment programme by IDA Ireland over the next five years. A further sum of up to €100 million will be made available through Enterprise Ireland and the Local Enterprise Offices over the next five years, for three separate competitive calls for proposals which will support innovative and collaborative approaches to support job creation across the regions

Entrepreneurship in Dublin and the rest of Ireland

In Dublin, much more people see opportunities for new businesses. However this is not associated with higher aspirations to start a new business. It is also not the consequence of a more positive entrepreneurial culture in Dublin, as people in Dublin have similar attitudes to entrepreneurs⁴⁴ (Table 19). The higher perception of opportunity in Dublin is also not associated with higher levels of entrepreneurial activity. This is also the case for men and women in Dublin, compared to the rest of Ireland.

There is a difference between Dublin and the rest of Ireland, however, in terms of the number of established owner managers. There are fewer owner managers in Dublin, compared to the rest of Ireland. The rate in Dublin (5.3%) is less than half of that in the rest of Ireland, 11.8% (Table 20).

⁴² Serial entrepreneur, Niamh Bushnell, was appointed as the first Dublin Commissioner for Start-ups, a position which was funded privately through the Dublin City University Ryan Academy for Entrepreneurs.

⁴³ Action Plan for Jobs 2015, page 11.

⁴⁴ In terms of perceptions of high status of successful entrepreneurs, whether entrepreneurship is a good career choice, and positive media coverage of entrepreneurs.

TABLE 19: CULTURE, PERSONAL CONTEXT AND ASPIRATIONS: DUBLIN AND THE REST OF IRELAND

Perceptions of the population	Dublin (City & County)	Rest of Ireland
Success at entrepreneurship has high status	76%	77%
Entrepreneurship is a good career choice	51%	49%
Supportive media coverage of entrepreneurs	76%	75%
Opportunities to start a business	45%	29%
Know a recent entrepreneur	37%	35%
Skills and knowledge to start a business	46%	48%
Fear of failure would prevent starting a business	42%	43%
Aspiring to start a business within the next 3 years [#]	6.9%	7.3%

excluding those currently active as entrepreneurs

TABLE 20: ENTREPRENEURIAL ACTIVITY: DUBLIN AND THE REST OF IRELAND

	Dublin (City & County)	Rest of Ireland
TEA: early stage entrepreneurs	6.7%	6.5%
Nascent entrepreneurs	4.8%	4.2%
New business owners	2.2%	2.5%
Owner managers of established business	5.3%	11.8%
Early stage entrepreneurs: Men	9.8%	8.5%
Early stage entrepreneurs: Women	3.7%	4.4%
Informal investors	3.9%	3.1%

Eco-system in Dublin and the regions

When consulted about the physical and service infrastructure, the panel of experts and entrepreneurs consulted in Ireland were generally positive in respect of this aspect of the entrepreneurial eco-system. It would appear, however, that Ireland has no comparative advantage with regard to this factor, as the key informants in 22 of the 25 European countries had an equally high opinion about the physical and services infrastructure in their country.

One in four of those consulted in Ireland, however, were of the opinion that this aspect of the eco-system was constraining entrepreneurial activity. Mentioned specifically in this connection were factors that particularly constrain entrepreneurial activity outside of Dublin: the lack of widespread broadband access, poor infrastructure in rural areas and a perception that airline travel is centred on Dublin.

SECTION 5

INSIGHTS FROM OTHER COUNTRIES

5.1 POLICY PRIORITIES

The stated ambition of the Taoiseach and the Government is that Ireland will be among the most entrepreneurial nations in the world and acknowledged as a world class environment in which to start and grow a business.⁴⁵ To achieve this aim the Minister for Jobs, Enterprise and Innovation acknowledges that Ireland needs more entrepreneurs starting high quality new businesses that will develop innovative products, conquer new markets and create more jobs.⁴⁶

There is a clear recognition that while all entrepreneurs make a contribution, certain entrepreneurs are of particular strategic economic importance as their new businesses will have a disproportionately positive economic impact due to their ability to exploit new technologies, their degree of innovation, their export orientation and their aspirations for growth.⁴⁷

With the availability and access to finance continuing to feature as a major constraint,⁴⁸ for this reason the prevalence of individuals within the general population who are willing to invest in new businesses, started by someone else, is also important.

There is also a focus on increasing the gender balance and in encouraging more young people to become involved in setting up businesses.

As GEM research is carried out in exactly the same way in each of the seventy economies participating in the cycle, the results can be compared across countries and Ireland's relative position ascertained. For the most part, the findings are compared with other developed countries, in particular with those who were included in the GEM 2014 research cycle from the European Union and EFTA, North America and Asia & Oceania.

For this reason GEM research is very helpful to policy makers in seeking to achieve these goals, as it helps to identify which countries among other comparable countries, are performing particularly well in each of these areas. No one country performs exceptionally well in all areas. This section highlights those countries that may warrant further study by those interested in improving Ireland's performance in the following stated policy priorities:

- Maximising impact
 - High potential entrepreneurship, characterised by growth aspiration, innovation, export orientation
 - Improved survival rate
- Financing new business- informal investors
- 'Missing entrepreneurs'
 - Female entrepreneurs
 - Young entrepreneurs

⁴⁵ An Taoiseach, Enda Kenny, TD writing in the Forward to the National Policy Statement on Entrepreneurship in Ireland, September 2014, page 4.

⁴⁶ Richard Bruton, TD, Minister for Jobs, Enterprise and Innovation writing in the Forward to the National Policy Statement on Entrepreneurship in Ireland, September 2014, page 5.

⁴⁷ Action Plan for Jobs, 2014, page 20.

⁴⁸ Challenges around the availability and access to finance was the most frequently mentioned as a constraint by the panel of experts and entrepreneurs consulted as part of the GEM research in Ireland in 2014.

5.2 MAXIMISING IMPACT

High growth new businesses

The focus on the employment impact of early stage businesses brings the policy focus beyond the number starting new businesses to those who are starting new businesses with the potential to grow. Those new businesses that can grow in export markets are considered to be particularly attractive and are to be encouraged.

It is interesting to note that while both the UK and the Netherlands rank ahead of Ireland in terms of the rate of early stage entrepreneurial activity (10.7% and 9.5% respectively compared to 6.5% for Ireland), very many of the early stage entrepreneurs in those countries expect to merely create a job for themselves, as opposed to becoming an employer of others.

If we examine the TEA rate in terms of those that are or expect to become employers, we see a significant narrowing of the rate between these countries. If we exclude those who do not expect to become employers, the rates in UK, the Netherlands and Ireland become 6.1%, 5.4%, and 4.6% respectively. The average across Europe is 5.5%. The reason for this is that in both the UK and the Netherlands, a relatively low rate (57%) of early stage entrepreneurs expect to become employers, compared to 70% in Ireland. The average across Europe is 71%.

In all three countries, the majority of early stage entrepreneurs who become employers expect to employ less than ten and their new business to remain as a microenterprise within the next five years. However, in Ireland a higher proportion expect to employ ten or more within the next five years (27%), compared to either the UK (19%) or the Netherlands (8%). In terms of the proportion of early stage entrepreneurs with an expectation of employing 20 or more within the next five years, Ireland and the UK, have a higher proportion of such entrepreneurs (12%), than has the Netherlands (7%).⁴⁹

The rate of early stage entrepreneurial activity continues to be very strong in North America and Australia, both in terms of the rate of early stage entrepreneurial activity⁵⁰ and in the rate of those predicting significant growth for their new business.⁵¹ Eastern Europe is also worthy of examination as several countries have high rates of entrepreneurial activity, alongside high employment expectation.

The Eastern European countries of Romania, Lithuania and Slovakia have the highest TEA rates across Europe (11.3%, 11.3% and 10.9% respectively). They also have high proportions of early stage entrepreneurs that expect to become employers (80%, 79% and 73%). Romania and Slovakia also have a high rate of early stage entrepreneurs who expect to employ 20 or more within the next five years – 20%, and 18%. This compares with 12% of early stage entrepreneurs in Ireland who have significant growth aspirations.

Export oriented new businesses

Irish policy makers are clear about their wish to see more new businesses being focused on international markets to achieve growth, given the limited size of the Irish market. *“There will also be a step up in ambition for the starting of export orientated companies and measures to see them more successfully grow in scale”*.⁵²

In Ireland more than half of early stage entrepreneurs (60%) have some customers outside the country. This is in or about the European average (63%). The UK and the Netherlands, which were noted earlier as having high rates of early stage entrepreneurial activity, have lower proportions of entrepreneurs with customers in international markets (40% and 51% respectively).

A higher percentage of early stage entrepreneurs in Ireland (10%) have 75% or more of their customers in international markets, compared to the UK (6%) and the Netherlands (7%). The rate among early stage entrepreneurs in the US, Canada and Australia is also less than in Ireland (7%, 5%, and 4% respectively).

⁴⁹ Because of the overall higher rate of early stage entrepreneurial activity in the UK compared to Ireland, 1.3% of the adult population in the UK are early stage entrepreneurs, who expect to become significant employers, and employ 20 or more within the next five years, compared to 0.8% in Ireland.

⁵⁰ The rate of early stage entrepreneurial activity is 13.8% in the US, 13.0% in Canada and 13.1% in Australia.

⁵¹ The rate of early stage entrepreneurs who expect to be significant employers and employ 20 or more within the next five years is 21% in the US, 14% in Canada and 11% in Australia.

⁵² Action Plan for Jobs, 2015, page 13.

A country in Europe to highlight here is Sweden. While the rate of early stage entrepreneurial activity in that country (6.7%) is similar to Ireland (6.5%), a higher proportion have some customers outside the country (66% compared to 60%) and a high rate already have 75% or more of their customers in international markets (14% compared to 10% in Ireland).

It is in Eastern Europe that one finds countries in which there is both a high rate of early stage entrepreneurial activity, together with a significant international orientation. In Lithuania, for example, there is a high rate of early stage entrepreneurial activity (11.3%), with high growth expectations⁵³ and a very significant international orientation. 17% of early stage entrepreneurs in that country have more than 75% of their customers outside the country.

Innovation driven new businesses

GEM reports on indicators of innovation. The indicators it focuses on are the relative novelty of the product or service offered, the number of competitor businesses offering the same product or service, the use of relatively new technology and whether the business can be considered in a high-tech sector.

New products: In Ireland, 15% of early stage entrepreneurs consider that their product or service is new to all customers. This is more or less at the European average (16%). The countries that stand out in Europe, in respect of their entrepreneurs' perception of the novelty of their offering, are Italy (31%), Denmark (26%) the Netherlands (24%) and France (24%). These high rates are well ahead of the US (18%), Canada (18%) and Australia (15%). Taiwan, however, stands alone. Over half of early stage entrepreneurs in that economy consider that their product or service is new to all customers (52%).

New markets: In terms of the newness of the market, 14% of early stage entrepreneurs in Ireland consider that no other business offers the same product or service. This is slightly higher than the average across Europe (11%). The rates of early stage entrepreneurs reporting that there are no competitors for their product or service are highest in France (22%), Denmark (19%) and Norway (17%). The rate in Taiwan is similar to Ireland (14%).

New Technologies: In respect of the technology which their new business will use, one in ten (10%) early stage entrepreneurs in Ireland report that they are using the very latest technology, which was not available one year before. The rates in Slovakia (24%), France (22%) and Greece (21%) are high. A high rate of early stage entrepreneurs in Singapore (19%) also reported that they were using the very latest technology in their new businesses. In contrast, a much lower rate of early stage entrepreneurs in the US (9%), Canada (7%) and Australia (5%) report that they are using the latest technology.

If one relaxes the definition of *new technology* and includes technology available in the last five years, early stage entrepreneurs in Slovakia are still to the fore with over half (51%) reporting that their new business will use new technology. The rate in Luxembourg (46%) and France (43%) are next highest across Europe. The rate of early stage entrepreneurs in Ireland using new technology is at the European average (32%). The rate in the US is similar (32%).⁵⁴ A high rate of early stage entrepreneurs in Singapore (52%) report using new technology.

High-tech entrepreneurs: In Ireland 9% of early stage entrepreneurs are focused on medium to high technology sectors. This is similar to the average across Europe (7%). In Europe, the rate of early stage entrepreneurs focused on technology sectors is highest in Sweden (18%) and Denmark (17%). These are very high rates and are well in advance of those in Australia (11%), the US (9%), Canada (6%) and Singapore (6%).

The rate of new business owners in Ireland that are focused on medium to high technology sectors is 15%. No international comparisons are available for this rate, however.

⁵³ Among the early stage entrepreneurs in Lithuania, 12% expect to employ 20 or more within five years.

⁵⁴ The rate of early stage entrepreneurs in Canada (27%) and Australia (26%) reporting that are using new technology is lower than in Ireland (32%) and the European average (32%).

Survival rate

Increasing the survival rate of new start-ups is an expressed objective in the latest Action Plan for Jobs. “We will increase the number of start-ups, the survival rate and the capacity of start-ups to grow to scale, all by 25 per cent”.⁵⁵

The rate in Ireland at which new and established owner managers, exited a business over the twelve month period to June 2014 and the business was closed, is already relatively low (1.2%) and below the European average of 1.7%. Across Europe, the rate is lowest in Switzerland (0.6%). In North America and Australia there is a higher rate of closure by entrepreneurs of their businesses, than is the case in Ireland or in Europe more generally.⁵⁶

5.3 FINANCING NEW BUSINESSES - INFORMAL INVESTORS

The rate at which those in the general population in Ireland are investing in new businesses started by someone else (3.4%) has remained more or less constant in recent years, although the average amount invested increased to €40,500 in 2014, compared to €29,900 in 2013.⁵⁷

The rate of informal investors is highest in Eastern Europe, particularly in Slovakia (8.6%), Lithuania (7.1%) and Estonia (6.8%). The average amounts invested in each of these countries is less than in Ireland.⁵⁸ The situation in Lithuania may repay closer examination, however, as the average amount invested in that country (€26,600) is not far behind the average amount reported for Ireland in 2013 and the rate of investors among the average population is more than double that in Ireland.

Luxembourg also appears of interest as the rate of informal investors in that country (6.1%) is higher than in Ireland and the average amount invested is high (€43,200). The highest average amount invested by individuals over the last three years across Europe, North America, and Australia was in Denmark (€113,400). That country has consistently reported very high amounts of informal investment. The rate of informal investors across the general population in Denmark (3.4%), however, is no higher than it is in Ireland.

⁵⁵ Action Plan for Jobs, 2015, page 11.

⁵⁶ In the same period, the rate at which entrepreneurs exited their business and it was discontinued was 2.5% in the US and 2.1% in Canada and Australia.

⁵⁷ The rate relates to investor activity and average amount invested per individual over the period 2011-2014 inclusive.

⁵⁸ Slovakia €19,300, Lithuania €26,600 and Estonia €9,700.

5.4 'MISSING' ENTREPRENEURS

Women entrepreneurs

The relative untapped entrepreneurial potential of women has been recognised for many years at national level and a range of measures have been introduced. In Ireland there are just over two men that are early stage entrepreneurs for every one woman (2.1:1). Across Europe, Switzerland is the only country in which men and women are starting new business at the same rate. The gender balance in early stage entrepreneurial activity in Switzerland has been at 1:1 or close to it for several years.

A similar observation can be made about the relative rates of male and female owner managers of established businesses in Switzerland. At 1.2:1 the ratio is closer than in any country across Europe and North America. A similarly narrow ratio may be observed only in Australia. The UK, which experienced a significant increase in early stage entrepreneurial activity in 2014, maintained the gender ratio among male and female entrepreneurs (1.8:1) that has been evident for the last four years.

Higher rates of early stage female entrepreneurial activity may be observed in the US (11.2%), Australia (10.1%) and Canada (9.9%) than in any country in Europe. As these countries are characterised by very high rates of early stage entrepreneurial activity,⁵⁹ however, there is still a gap in the rates at which men and women are early stage entrepreneurs.⁶⁰

The interesting insight from the Swiss data in this regard is that the perception of opportunities for entrepreneurial activity is almost equally prevalent among men and women in the general population (46% among men and 41% among women). This is not only considerably higher than in Ireland (39% and 29% respectively), but it is more evenly matched.

A high perception of opportunity is not sufficient in itself to lead to high rates of entrepreneurial activity, however. In Sweden 71% of men and 69% of women in the general population perceive good entrepreneurial opportunities. While this rate of perception is the highest in Europe and is fairly evenly balanced, the overall rate of early stage entrepreneurial activity in that country (6.7%) is not dissimilar to Ireland (6.5%) and the ratio of male to female early stage entrepreneurs (2.5:1) in that country is much wider than it is in Ireland (2.1:1).

Men and women in Switzerland diverge sharply, however, in their belief that they have the knowledge and skills to successfully start a new business, (51% and 32%). In this they are broadly similar to men and women in Ireland (58% and 37% respectively). This divergence in perception is evident right across Europe, and is most noticeable in Poland (70% and 39% respectively). It is also apparent in North America, Australia and across Scandinavia.⁶¹

Young entrepreneurs

Policy makers highlight youth as having significant untapped entrepreneurial potential, particularly among those unemployed youth who already possess professional skills and competences. *"The youth cohort is a vast resource that is significantly under-used"*.⁶² In Ireland early age entrepreneurial activity is lowest, however, among those aged 18 to 24. In 2014, they represent only 7% of all early stage entrepreneurs, with just 3.4% of those in this age group active in the country as entrepreneurs. This is well below the European average (12% and 7.1% respectively).

High rates of entrepreneurial activity among young people may be observed in Slovakia (18.2%), Romania (15.6%) and the Netherlands (13.0%), with 24% of all early stage entrepreneurs in Slovakia aged between 18 and 24.

In the Netherlands, 19% of all early stage entrepreneurs are aged 18 to 24 and early stage entrepreneurial activity is more or less evenly spread across the age groups, except for the most senior (55 to 64 years).⁶³ In the US, 15% of all early stage entrepreneurs are aged between 18 and 24.

⁵⁹ United States, 13.8%, Australia 13.1% and Canada 13%.

⁶⁰ 1.5:1, 1.6:1 and 1.6:1 respectively.

⁶¹ This greater self belief may be observed among men and women in the general population in Canada, (56% and 42%), the US (61% and 46%), Australia (52% and 40%) and across the Scandinavian countries of Denmark (44% and 26%), Finland (40% and 30%), Norway (38% and 23%) and Sweden (46% and 28%).

⁶² National Policy Statement on Entrepreneurship in Ireland, September 2014, page 21.

⁶³ In the Netherlands, 5.2% of those aged 55 – 64 are early stage entrepreneurs and these represent 11% of all early stage entrepreneurs in that country.

SECTION 6

PROFILES OF RECENT ENTREPRENEURS

The policy spotlight is increasingly being put on entrepreneurs, particularly those who are focused on growth and expect to become significant employers, as their contribution to employment creation is now well recognised. With this in mind, in selecting entrepreneurs to profile for the 2014 report, we decided to focus particularly on those who have recently started innovative businesses, with a strong focus on growth.

Some of the entrepreneurs profiled actively sought out opportunities for a new venture. This is what motivated Wayne Byrne to participate in Enterprise Ireland's Business Partner's Programme. Others identified an opportunity for a new business almost by accident through their seeking a solution to an experienced dilemma. This was the case with Isolde Johnson who was looking for a healthy fast food option and Yvonne Brady who sought a solution to a personal problem encountered by active women following childbirth. Myles Murray identified the opportunity for his new business while on a work placement. Some like Moira Kiely were motivated by necessity: *"When you absolutely have to, it is amazing what you can pull out of the bag"*.

Some of those profiled are serial entrepreneurs – Ben Harris, Moira Kiely, Simon Lynch, Wayne Byrne and Yvonne Brady. For others, this is their first entrepreneurial venture – Isolde Johnson, Julie Currid, and Myles Murray.

Setting up a new business is not easy. Besides passion and a vision, there is a need to be able to convince others of the merits of the new products or services. Julie Currid of Initiafy is very clear about this – *"Everything from acquiring customers, raising capital, PR, marketing and recruitment are all influenced by your ability to sell your company, your product and yourself!"*

Third party recognition whether by winning awards or by endorsements can be very powerful for an early stage company. Reflecting on the number of awards his company has already won, Wayne Byrne of OxyMem says: *"The Awards have given us significant international credibility, which has been important for funding and in our search for partners. They also stand to us as we begin to look at more international markets."* Yvonne Brady of EVB Sports Shorts in supporting its sales drive can point to endorsements by both medical and sporting professionals all over Ireland and by the physiotherapy suppliers to the UK athletics team.

The entrepreneurs are all characterised by a willingness to seek support from others. This may be from a New Frontiers programme, like Genesis, or a sector specific support initiative like Food Works, an Accelerator, a developmental initiative for female entrepreneurs such as Going for Growth, or more generally from Enterprise Ireland and the other development agencies. Initial customers can also be very supportive. The entrepreneurs frequently acknowledge the contribution of their team, as the team building out the new business often underpins its initial success.

Becoming an entrepreneur is not an easy option. None of the entrepreneurs profiled underestimate the challenges involved. They specifically mention difficulties in raising finance, educating potential customers about a new product or service and coping with less than ideal broadband speed and connections.

Myles Murray describes being an entrepreneur as an extraordinary tough and rewarding role and one that needs unyielding belief. To anyone thinking of becoming an entrepreneur, Simon Lynch advises them to think it through and make an informed decision. *"Before setting up your own business, you need to be 100% committed. If your heart is not in it, it'll be extremely difficult to succeed."* He suggests that budding entrepreneurs are proactive and seek advice from family, friends and state agencies.

The pages which follow contain profiles of eight entrepreneurs, who have recently set up new businesses in Ireland. The entrepreneurs featured are as follows:

- Ben Harris
- Myles Murray
- Isolde Johnson
- Simon Lynch
- Julie Currid
- Wayne Byrne
- Moira Kiely
- Yvonne Brady



BEN HARRIS, Drop

Ben Harris is the chief executive and co-founder of Drop, an interactive recipe app - Drop Kitchen - that connects to a pipeline of smart kitchen products. The first one, the Drop Kitchen scale wirelessly connects to an iPad app to offer features such as rescaling quantities and common substitutions, with just a tap.

"I had always been interested in bringing food and technology together. I wanted to eliminate the ambiguity and difficulty around cooking food at home."

With entrepreneurship running in the family, Ben's creativeness and self-confidence has encouraged him to follow in his parent's footsteps and set up on his own. Ben's mother is Elaine O'Hora, founder of the Munchies chain of sandwich bars and franchise network, while his father Peter Harris founded Ireland's first courier company, Pony Express.

Ben studied industrial design at London's Brunel University, where he invented Perfegg, a machine to cook the perfect soft boiled egg. Following four years working as a product design engineer, Ben established his first business White Zebra Studios, a product design consultancy which was honoured by the Institute of Designers Ireland with two awards in its first year.

In 2012, Ben co-founded Drop along with Jonny McCauley, Jack Phelan and Tim Redfern. *"The guys and I saw an array of connected products being released across the home and felt the kitchen was really underserved. We also saw that recipes hadn't changed over the years; a block of text, a list of ingredients and an image. 50 per cent of iPads were being used in the kitchen and recipes were the third most-shared content online. With these things in mind, we decided to make our interactive recipe platform."*

In 2013, Drop took part in PCH's inaugural Highway 1 programme, a hardware accelerator based in San Francisco. In February 2014, Ben and the team launched the Drop connected kitchen scale and recipe app to the public at the Launch Festival in San Francisco and won the best consumer product award.

Following a successful pre-order campaign in the summer of 2014, the Drop Kitchen Scale went on sale in Apple Stores in the USA, Canada and the UK. Today, the product is also available in Lakelands in the UK, Harvey Norman in Ireland and also in the Apple Stores in Australia and New Zealand. Drop Kitchen Scale is now stocked in over 1,800 Target stores throughout the USA.

With their headquarters in Dublin and a satellite office in San Francisco, Drop now employs a team of 14. Ben and his fellow co-founders has been delighted with the start-up's achievements to date.

"We began with a team of five, with a 3D printed prototype, a rough mock of an app and not enough money to pay our Wi-Fi bill in March 2014. Within nine months, we had our product on the shelves of every Apple Store in the USA, \$1 million in revenue and over \$2 million in funding."

Ben indicates that Drop's early success would not have been possible without key investors and supporters, including PCH, Frontline Ventures, Innovation Works and Enterprise Ireland. Starting out from the NDRC Launchpad programme, Drop conducted feasibility studies with Enterprise Ireland funding and also received Competitive Start Funding. In 2014, Drop was awarded High Potential Start-up support by Enterprise Ireland. Most recently in June 2015, Ben was a finalist in the Emerging Category of the EY Entrepreneur of the Year competition.

Ben explains that there are three phases to Drop's business model. First, the company plan to develop beautifully designed hardware products that people will welcome into their kitchen. The team then wish to integrate Drop technology with kitchen appliance manufacturers and, finally, build a connected social, interactive recipe operating system for the whole kitchen.

"In the short term, we're focusing on software launches. In the next twelve months, we expect to have more products coming to market."

Drop is focusing on the benefits of connected kitchen appliances to the end users. Ben believes the race to the smart kitchen has begun. *"Every one of the kitchen manufacturers now has an interconnected programme. In three years a connected kitchen will be ubiquitous, in five years we'll all be wondering how anyone lived without it."*

www.getdrop.com



ISOLDE JOHNSON, The Cool Bean Company

While studying for a BA in Business and Politics in Trinity College Dublin (TCD), Isolde Johnson completed an internship in EY, working on the Entrepreneur of the Year programme. While working in EY, she met Sarah O'Connor, her future business partner and co-founder of The Cool Bean Company.

"Sarah and I just clicked instantly and developed a strong working relationship. I never expected that we'd end up in business together."

At the end of a long working day, Isolde and Sarah struggled to find something tasty and convenient to eat and were increasingly conscious of the benefits of a healthy diet on their physical and mental wellbeing. With no inspiration from the ready meals on offer in their local supermarkets, they began looking to develop an alternative of their own. They co-founded The Cool Bean Company to create a *no fuss, no nonsense, superhero food*.

"When we first developed the Cool Beans product, our biggest challenge was time. Both Sarah and I were still working full time and finding time to dedicate to the business was difficult. We wanted to prove that the business concept could be successful before taking a risk and leaving a secure job."

Isolde and Sarah conducted a feasibility study with funding from Dublin City Local Enterprise Office. To test the market they began selling their signature product, Cool Beans, at music festivals including Body and Soul and Electric Picnic in the summer of 2013.

In early 2014, Isolde left her job and began working full time in the business. The next step was to produce sufficient quantities for the retail market. They decided to outsource the manufacturing of Cool Beans and began searching for a suitable partnership.

"We wanted to keep manufacturing on the island of Ireland. We met with numerous potential partners around the country, but it proved difficult to find the right fit. Quality was extremely important to us. We were delighted to eventually find the perfect partner in Derry."

Cool Beans comes in three flavours – original tomato, smokey paprika and hot chilli. The product is packed with protein and fibre, is low in fat, salt and calories, has no added sugar and is gluten free. Cool Beans is completely new to the retail market. Isolde and Sarah have differentiated their brand through an innovative approach to packaging with strong colours and graphics.

In 2014, Isolde and Sarah were participants on Dublin City Local Enterprise Office's Food Academy programme, which is run in association with Bord Bia and SuperValu. *"It was a real eye-opener for us on how to effectively run a food business and bring it to a level of sustainability. SuperValu have been a great support. Their shoppers' demographic fits well with our brand and their focus on quality is second to none."*

Cool Beans has now secured a central listing with SuperValu and all three products are available in 223 stores nationwide. Isolde and her team currently hold at least eight tastings a week in various SuperValu stores around Ireland and also feature in the supermarket's national advertising campaign.

"Up until recently, we were delivering the items to each store and invoicing them individually. Now it is centralised, we have more time to concentrate on increasing our stockists and expanding our product range. We would like to develop our ideas for new products later this year and bring them to market in 2016."

Cool Beans was recently featured on RTE's The Late Late Show (TV) and Ryan Tubridy (Radio). In 2015, Isolde took part in the Starting Strong programme, a support initiative for early stage female entrepreneurs.

The company plans to grow in Ireland and to continue to build brand awareness here. Isolde aims to launch with other major retailers by the end of 2015. With manufacturing in Derry and a distribution partner based in Lisburn, Northern Ireland, Cool Beans is well placed to enter the UK Market in the coming months. Isolde also expects to export across Europe in the future.

www.coolbeans.ie



JULIE CURRID, Initiafy

Julie Currid had always wanted to start her own business. For her, it was a case of finding the right opportunity and the right business partner, which would lead her to take the leap in March 2012.

Having studied Management and Marketing in DIT, Julie began her career in marketing. By 2010, she sought a more challenging, entrepreneurial opportunity and began working in a Dublin based e-learning start-up where she met her future business partner, Sean Fennell. During this time, Julie set up the company's London office and gained an insight into the HR and training needs of large multinationals.

In 2012, Julie and Sean both left their roles to set up Initiafy, formerly Induction Manager. Together they had recognised the need in the market for a product which would focus on the challenge of delivering inductions to large numbers of short-term workers.

Julie explains exactly how Initiafy helps their clients save time and money. *"Some industries such as construction and retail face the challenge of high volumes of new staff who all need to be introduced to the company culture, policies and safety procedures. Initiafy is an online platform that helps companies manage the initial steps new staff take to become productive and safe members of their workforce. Our customers adapt the platform themselves to suit their needs so that new starters can self-register and self-train before starting a new job."*

Initiafy's customers are typically companies which use a large number of contractors, temporary, seasonal staff or project workers. Its client base now includes Domino's, Pfizer, Adobe, Sodexo, Lidl and five of the top 20 construction companies in the world. The company also works with all the major energy companies in Ireland, as well as British Gas in the UK. *"We plan to increase our customers in the energy sector in the UK. We have seen significant traction in this area globally and we have also begun targeting the US market."*

In December 2014, Julie and Sean opened an office in New York. Within three months, the company had already reached the same revenues that took almost three years to build in the UK and Ireland. In March 2015, the company rebranded to Initiafy.

"We had set up as Orientation Manager in the USA as the word Induction had a different meaning there. However, as this led to a duplication of SEO work, PR, blogs, it was not practical. Too many resources were going into managing it – even having two accounts for Social Media platforms was time consuming."

Julie explains that the company's product offering has also grown. *"While our focus was originally solely on inductions, we realised that we could also cover employee registrations, contractor management, online forms and the upload and exchange/validation of employee documents."*

In 2014, Julie took part in the 6th cycle of Going for Growth and found being able to confidentially discuss her business issues with like-minded female entrepreneurs very beneficial.

Raising finance has instigated a major leap forward for Initiafy to date. Julie stresses the importance of securing sales traction before approaching investors. *"When setting up a business, you should focus on perfecting a sales pitch. Everything from acquiring customers, raising capital, PR, marketing and recruitment are all influenced by your ability to sell your company, your product and yourself!"*

Today, Initiafy employs 17 people in Dublin and has 7 staff in their New York office. Julie and Sean are now firmly focused on the USA and other international markets. *"There is huge revenue potential for the company due to growing trends whereby companies are using more contract workers and governments are enforcing more workplace safety regulations. By the end of 2015, we hope to have 100 staff employed."*

www.initiafy.com



MOIRA KIELY, Xhail

In 2013, Moira Kiely co-founded Xhail with her business partner and husband Mick. Xhail is a music publishing software platform that creates original copyrighted music pieces from a centralised database of categorised musical stems or instruments.

Qualifying as a Nurse in the late 1980s, Moira immigrated to Australia and became involved in the hospitality industry, running cafes and restaurants. In 1995, Moira returned to Ireland and opened the first specialised coffee house “Kaffe Moka” in Dublin with her brother, who still runs the business today.

Moira and her husband, Mick Kiely who is a composer, moved to Wexford. The idea for Xhail was born out of necessity as Moira and her family struggled during the economic downturn. *“I often use the phrase - Up from the ashes, grow the roses of success. When you absolutely have to, it is amazing what you can pull out of the bag.”*

Moira and Mick spent over a year developing a business plan and a proof of concept, overcoming many trials along the way. The product took over two years to develop. The couple worked extremely hard to prove the concept for Xhail, while making people believe what could be achieved with the product. *“It didn’t just consist of the technology element. We had to inspire a whole nation of composers and musicians, outlining why Xhail is unique and different to others in the industry.”*

Xhail’s potential customers are continuously bombarded with the “newest” music technology. It has been important for Xhail to set themselves apart from the competition.

They raised €500,000, which included match funding from Enterprise Ireland, as one of their HPSU clients (High Potential Start Up).

Xhail’s clients range from people making full feature films, advertisements, wedding videos or YouTube videos. Moira believes that there is great potential for Xhail internationally – wherever anyone is making music for media or personal use. Now that the Xhail product is market ready, it can become mainstream. *“We have great support behind us and a strong team to help us scale!”*

For Moira, the Xhail journey to date has been worth the risk. *“To come out of the economic downturn and be where we are – to keep going, is a great achievement. There have been so many occasions along the way where we could’ve packed it in, but we went ahead and took the next step.”*

The Kiely’s children are also working in the business. Their eldest son recently completed a Masters in Music Technology in NUI Maynooth, while the Xhail Logo was designed by another son, currently studying in the National College of Art and Design (NCAD). Since offering the product to a few select people, the Kiely’s have discovered many in the music industry who have been watching Xhail’s progress with great interest. Moira, Mick and the Xhail team are now looking to go for growth and have turned their focus to sales.

“We have a global platform for growth. We wish to develop a strong presence in the US Market and are planning on opening an office in Los Angeles.” With this in mind, Moira’s husband and co-founder of Xhail, Mick has recently relocated to Los Angeles, where there is great excitement for the product.

In Ireland, Xhail employs 14 people and has just entered into the market.

“We have a strong, wonderfully engaged team in Gorey. The biggest challenge in Wexford to date has been infrastructure. Trying to build a company that is dependent on online services, without sufficient broadband to meet our business needs has been a major hindrance.”

www.xhail.com



MYLES MURRAY, PMD Solutions

While studying Mechanical Engineering in Cork Institute of Technology (CIT), Myles Murray completed a work placement in the Medical Engineering Design and Innovation Centre (MEDIC) in 2010. During the year, Myles worked on a number of ideas as an introduction to the design of medical devices.

Showing a strong desire to take a concept of his own to the next stage, Myles was introduced to Stephen Cusack, the first Professor of Emergency Medicine in Ireland, who was Head of the A&E Department at Cork University Hospital. *“Stephen had a very simple need. Every day he faced so many patients in the emergency department with respiratory problems, including tightness of the chest and shortness of breath. However, there was no way of monitoring the rate of respiratory irregularities or to indicate a change in the patient’s condition. The technology to accurately do so simply did not exist.”*

Myles began working on the concept for RespiraSense as his final year project in CIT. RespiraSense is a discrete sensor pad patients wear on their chest. It monitors breathing continuously and alerts medical practitioners if irregularities are detected. The project won Myles CIT’s Entrepreneur of the Year Award in 2011 and a place on the Genesis Enterprise Programme in the Rubicon Centre. *“With my engineering background, I had little knowledge of setting up a business. The Genesis programme provided a great platform to learn about business strategy, development and bringing a product to market.”*

Setting up PMD Solutions, Myles partnered with Irish medical device manufacturer Gentian Services in Co. Clare to develop RespiraSense. Partnering with Gentian enabled lower development costs, risk sharing and the quicker establishment of a world class supply chain that could deliver small-scale products at a competitive price, while also being capable of high volume manufacturing.

One of the main barriers facing PMD Solutions was raising capital. *“Being in the MedTech space, it required a significant amount of capital due to the necessity for clinical evaluations, reviews and trials.”* South Cork Local Enterprise Office saw the opportunity and offered match funding. Myles also successfully applied to his local AIB branch in Douglas, Cork for a business loan, at a time when bank lending was at a severe low.

Another challenge facing Myles was how to effectively demonstrate the tangible economic benefit of adopting RespiraSense. The product was not displacing older technology in the hospitals and was completely new to the market. During the recession, healthcare budgets across the board were being cut and educating experts in the sector was challenging. The company had to demonstrate that its product could save potential clients money. *“We are very fortunate that we are in an emerging market sector, where extensive research has already been conducted. We can illustrate a return on investment of 80% annually through the adoption of RespiraSense, by enabling the reduction of respiratory compromise events by 10% – a problem projected to cost the US and EU €32Bn each year by 2020.”*

Myles has attributed the success of PMD Solutions to the team of ten working with the company. Employing five executives and five engineering staff, the development of RespiraSense began in December 2013. Within nine months, the product was fully developed. In early 2014, the company was awarded High Potential Start-up support (HPSU) by Enterprise Ireland following on from a commercialisation grant. In November of the same year, RespiraSense received its CE mark certification and launched into the European marketplace.

Myles expects RespiraSense to be used in ten hospitals in Europe and Asia by the end of 2015, serving over 7,500 patients and the product is now positioned to become a new industry standard for the early detection of in-hospital respiratory compromise. *“We have spent the last twelve months focusing on finding the right distributors who have the appetite and attitude to develop a market with PMD Solutions. We are currently in negotiations with the top four patient monitoring companies in the world. If successful, we intend opening international offices in the USA and Asia.”*

To date, Myles has no regrets about becoming an entrepreneur, but warns that it may not be for everyone. *“For those up for the challenge of running their own business and making it successful, it is an extraordinary tough and rewarding role. One needs unyielding belief regardless of which point you are on your journey. My advice is to take a moment to pause, commit to the dream, and drive on with it.”*

www.pmd-solutions.com



SIMON LYNCH, Wicklow Wolf Brewing Company

A horticulturist by profession, Simon Lynch trained in the Botanic Gardens, Dublin in the 1990s. Enjoying the creative freedom of designing, Simon set up his own landscaping business in 2000.

In 2012, the idea for the Wicklow Wolf Brewing Company was first explored following a conversation between Simon and his friend Quincey Fennelly. *“Quincey was a home brewer and an artisan baker. We had both spent time in San Francisco at separate times and fell in love with craft beers and the art of brewing.”*

For over two years, Simon and Quincey researched the craft beer industry, touring Ireland, the UK and USA, discovering a substantial international demand for Irish craft beer. They went on to establish a brewing facility in Bray, Co. Wicklow in September 2014. The brewery, located in an old bakery on the banks of the Dargle River, is supplied by a 10 acre hop farm based in Roundwood. Hops, which are used as the key flavouring ingredient, are an integral part of the brewing process.

The Latin for hop is *‘humulus lupulus’* (Lupulus meaning small wolf), while across Europe, the harvester of the Hops is known as a *wolf harvester*. While discussing potential names for their business, *Wicklow Wolf* was conceived. Simons explains that the last wolf in Ireland was believed to have been killed around the Wicklow border with Carlow and Wexford in the 18th century. *“The wolf is very much a family/pack animal. He is very loyal to his community and here at the Wicklow Wolf Brewing Company, we want to create a community of discerning beer drinkers.”*

In 2014, Simon and Quincey took part in the FoodWorks programme and found the advice from Bord Bia, Enterprise Ireland and Teagasc invaluable. *“Without their direction, we wouldn’t have started as strongly as we have.”* The company were also awarded High Potential Start-up support by Enterprise Ireland.

Beginning production in September 2014, the Wicklow Wolf Brewing Company had already plans to expand and open a second, larger premises. *“We have already reached our capacity and hope to move from 4,000 square feet to over 30,000 square feet by the end of 2015. We didn’t think that we’d have capacity issues this soon! We will keep our original premises for special brews and for Wicklow Wolf brewery tours.”*

The company’s capacity issues are even more remarkable as they have yet to begin trading internationally. Simon and Quincey decided to concentrate on the local and national markets initially before going international. The first step will be to begin trading in Northern Ireland by the end of 2015, before turning the focus to the UK and the USA markets. *“We would like to build a global beer brand, produced in Ireland in the most environmental friendly way possible. I’d like Wicklow Wolf Brewing Co. to become a household name and to be known by people of drinking age throughout the world. Food pairing has become a huge part of beer consumption. Alongside wine, craft beers have been recognised as complimenting good food. It’s about the quality taste and flavours.”*

Simon also plans to look at exploring other beer products, including Gluten-free and non-alcoholic beers, while maintaining a distinctive craft beer taste and quality. *“To date, we have concentrated on perfecting our core range of craft beers. When we expand into our new facility, we hope to look at developing other products, with low or no alcohol content, as well as coeliac friendly beers.”*

Employing a team of six, the Wicklow Wolf Brewing Company currently produce eight craft beers, including four seasonal specialities. While the idea for the brewing business was developing, Simon and Quincey were introduced to Peter Reynier from Colorado, USA. Excited by the opportunity to live and work in Ireland, Peter moved to Bray to join the start-up as Head Brewer. *“Our team have worked tirelessly. There are no tasks too big or small. We have worked really hard developing the business, but wouldn’t have succeeded without the support of our staff, family and friends along the way.”*

To anyone thinking of becoming an entrepreneur, Simon advises them to think it through and make an informed decision. *“Before setting up your own business, you need to be 100% committed. If your heart’s not in it, it’ll be extremely difficult to succeed.”* He suggests that budding entrepreneurs are proactive and seek advice from family, friends and state agencies.

www.wicklowwolf.com



WAYNE BYRNE, OxyMem

Serial Entrepreneur, Wayne Byrne is the Managing Director of OxyMem, a UCD spinout now based in Athlone. Founded in 2013, OxyMem has developed a revolutionary new system which can bring down the operating costs of wastewater treatment plants by up to 75 per cent.

Wayne holds an International Executive MBA and a Diploma in Advanced Management from UCD. In the last 7 years, Wayne Byrne acquired, restructured, and sold a major waste equipment supply company, Manvik Group. Manvik had over 80 staff, a turnover in excess of €40M, and had operations in the UK and Ireland.

Seeking more challenges in the clean technology space, Wayne went on to set up Biocore Environmental and established a significant presence in wastewater sludge management and renewable gas generation.

In April 2010, Wayne successfully became a member of Enterprise Ireland's Business Partners Programme. The aim of the programme is to identify, engage and support individuals, with strong commercial experience, to capitalise on the rich portfolio of research within the academic sector and create export oriented start-up companies. *"At the time I was looking to find something to compliment my existing company, Biocore Environmental. OxyMem had a long way to go before it was going to be marketable. I began working on the project on a part-time basis. In July 2013, OxyMem was ready for market, at which point, I decided to step back from Biocore. Today, I am still involved as the non-executive Chairman, but wanted to focus my energy full-time on OxyMem."*

While in UCD, OxyMem developed and patented the Membrane Aerated Biofilm Reactor (MABR), solving energy intensive wastewater treatment. *"Conventional wastewater treatment consumes 2-3% of a nation's electricity production. This is due to a reliance on bubble diffusion for treatment plants which will typically suffer energy losses of 65%-70% in the process because of the oxygen transfer limitations. OxyMem does not have any such limitations. It uses hollow fibre gas permeable membranes to support a fixed film eco-system for the biology which allows for direct delivery of oxygen to the micro-organisms. OxyMem can achieve 95% oxygen transfer rates, resulting in a fourfold saving on energy costs."*

In January 2014, a manufacturing facility in Athlone was set up and OxyMem began generating revenue the following June. Within a year, the start-up had raised €2 million in funding. Wayne expects that the company will continue to expand rapidly over the coming years. OxyMem now employs 42 staff and is growing. *"By the end of 2015, we aim to be turning over €1 million plus. Our plan in the short term is to grow what has been a small production footprint into a larger one. Being able to effectively scale production will be key. We decided to establish our facility in Athlone, as there are great resources available to us there, including a skilled workforce."*

Wayne credits the support OxyMem has received as a main contributor to the start-ups' success to date. *"Enterprise Ireland have been tremendous supporters; providing finance, mentoring and advice on market entry. We also have great support from early adopters of our technology, such as Severn Trent Water. They have been fundamental in generating awareness of OxyMem and winning new customers."*

OxyMem has a strong relationship with Suez International who took an interest in the innovative technology in the early stages. The company has now partnered with Aqualogy in Spain, which is part of the Suez group.

Over the last eighteen months, OxyMem has received numerous accolades, including Water Innovation SME Award in Europe and an award for Excellence in Intellectual Property. The company was announced as the overall Winner of the 2014 Irish Times InterTradeIreland Innovation Awards.

This year, OxyMem was selected as a winner of the Emerging Business Category at the SFA Small Business Awards and won the Imagine H₂O's Water Infrastructure Challenge in San Francisco, USA. *"The awards have given us significant international credibility, which has been important for funding and in our search for partners. They also stand to us as we begin to look at more international markets including North America, Asia and the Middle East."*

www.oxyMem.com



YVONNE BRADY, EVB Sport

EVB Sport was not the first business that Yvonne Brady was involved in starting. A qualified engineer, she co-founded an engineering practice in 2000. Her identification of an opportunity for the new business arose from her own experience, following the birth of her third child. As she explains:

"I decided to run the Dublin City Marathon, but while training I discovered that my deep core muscles required extra support. After pregnancy, some women experience prolapse, and I suffered light bladder leakage whilst running. I didn't speak about it to anybody. I was mortified."

Yvonne decided to turn her engineering skills to designing sportswear for women after childbirth, when she discovered that she was not alone - over a third of women suffer to some degree from weak pelvic floor muscles. In March 2012, Yvonne began working on the concept for her product and took part in DKIT's New Frontiers programme, which is supported by Enterprise Ireland. Yvonne developed EVB Sports Shorts, which feature patent pending technology to support the abdomen, lower back and perineum, and effectively taking pressure off the core muscles.

Finding a suitable manufacturer to produce the shorts proved very difficult and took over a year to source.

Yvonne is very grateful for the support she has received from Enterprise Ireland. Feasibility support, enabled Yvonne to conduct in depth market research; she was subsequently successful in being awarded competitive start funding in late 2013; and used two innovation vouchers to help with product testing in DCU, TCD, and the Royal College of Surgeons.

EVB Sports Shorts have been endorsed by both medical and sporting professionals all over Ireland and have also been endorsed by the physiotherapy suppliers to the UK athletics team. The product is also being recommended by the top maternity hospitals in Ireland and the UK.

Elverys initially launched EVB Sports Shorts in three of its retail outlets in Galway, Dundrum and Arnotts in Dublin in September 2014. Based on a successful launch, the product is now available in 12 Elverys stores throughout the country. The shorts are also available in the three Amphibian King stores and through many independent physiotherapy practices around Ireland and the UK, including London's largest physiotherapy practice.

In October 2014, Yvonne reached the final of the Cartier Women's Initiative Awards as one of three European representatives. In total, just 18 finalists had been selected from over 1,000 female entrepreneurs worldwide. In November 2014, Yvonne won the Regional Final for InterTradeIreland's Seedcorn Competition.

In 2014, Yvonne secured investment and support from two Investors on RTÉ's Dragons' Den. She decided against accepting the money from the Dragons, however, and instead sought HPSU support from Enterprise Ireland. In April 2015 Yvonne was approved for match funding with EI, after attracting further private investment.

EVB Sport's vision is to become a leading global supplier of women's sportswear. Yvonne found a lack of capital has been her main barrier to growth, *"Trying to create a global brand requires a lot of investment. When you have created something new it takes more time and effort to educate the market. Having found a clear gap in the market, I am focused on securing financial support to bring EVB Sport Shorts international in the coming years!"*

Yvonne plans to focus on sales, marketing and product development and has just hired a sales representative and is currently seeking a digital and marketing executive to join the team, which is based in Drogheda, Co Louth.

www.evbsport.com

SECTION 7

COMPARATIVE INTERNATIONAL DATA ON ENTREPRENEURSHIP IN 2014

TABLE A - RATES OF ENTREPRENEURSHIP

	Nascent entrepreneurs	New business owners	TEA: Early stage entrepreneurs	TEA ranking	TEA ranking	Owner managers of established businesses
	Adult population %	Adult population %	Adult population %	European countries	EU-15	Adult population %
Europe (EU and EFTA)						
Austria	5.8	3.1	8.7	10	4	9.9
Belgium	2.9	2.5	5.4	22	12	3.5
Croatia	6.0	2.0	8.0	11		3.6
Denmark	3.1	2.5	5.5	21	11	5.1
Estonia	6.3	3.5	9.4	7		5.7
Finland	3.4	2.3	5.6	19	9	6.6
France	3.7	1.7	5.3	23	13	2.9
Germany	3.1	2.3	5.3	24	14	5.2
Greece	4.6	3.4	7.9	12	5	12.8
Hungary	5.6	3.9	9.3	8		7.9
Ireland	4.4	2.5	6.5	16	8	9.9
Italy	3.2	1.3	4.4	25	15	4.3
Lithuania	6.1	5.3	11.3	2		7.8
Luxembourg	4.9	2.3	7.1	13	6	3.7
Netherlands	5.2	4.5	9.5	6	3	9.6
Norway*	2.8	3.0	5.7	18		5.4
Poland	5.8	3.6	9.2	9		7.3
Portugal	5.8	4.4	10.0	5	2	7.6
Romania	5.3	6.2	11.3	1		7.6
Slovakia	6.7	4.4	10.9	3		7.8
Slovenia	3.8	2.7	6.3	17		4.8
Spain	3.3	2.2	5.5	20	10	7.0
Sweden	4.9	1.9	6.7	15	7	6.5
Switzerland*	3.4	3.8	7.1	14		9.1
United Kingdom	6.3	4.5	10.7	4	1	6.5
European average	4.6	3.2	7.7			6.7
North America						
Canada	7.9	5.6	13.0			9.4
United States	9.7	4.3	13.8			6.9
Asia & Oceania						
Australia	7.6	5.7	13.1			9.6
Japan	2.7	1.3	3.8			7.2
Singapore	6.4	4.8	11.0			2.9
Taiwan	4.4	4.1	8.5			12.2

* EFTA

TABLE B - RATES OF INTRAPRENEURSHIP

	Intrapreneur in past 3 years Adult population %	Intrapreneur in past 3 years Employed population %	Intrapreneur now Adult population %	Intrapreneur now Employed population %
Europe (EU and EFTA)				
Austria	5.6	10.0	4.2	7.5
Belgium	5.4	8.5	4.0	6.3
Croatia	3.6	8.4	3.0	6.9
Denmark	11.4	16.8	8.6	12.6
Estonia	3.6	5.4	2.8	4.3
Finland	4.5	6.4	3.7	5.3
France	3.8	6.3	2.6	4.4
Germany	4.4	6.6	3.5	5.1
Greece	0.8	2.1	0.6	1.7
Hungary	2.8	5.8	1.8	3.8
Ireland	6.7	11.8	5.6	10.0
Italy	0.8	1.9	0.6	1.6
Lithuania	5.1	10.2	3.4	6.7
Luxembourg	7.3	10.7	5.1	7.5
Netherlands	7.0	9.4	5.2	7.0
Norway*	7.9	9.9	5.4	6.7
Poland	3.4	6.6	2.3	4.4
Portugal	3.2	6.2	2.4	4.6
Romania	4.9	8.1	4.0	6.6
Slovakia	4.9	8.4	4.3	7.4
Slovenia	4.7	8.6	3.8	6.8
Spain	1.8	4.8	1.5	3.9
Sweden	5.8	8.1	4.7	6.6
Switzerland*	6.1	9.4	4.9	7.6
United Kingdom	7.0	11.2	6.2	9.9
European average	4.9	8.1	3.8	6.2
North America				
Canada	4.8	7.0	3.4	5.1
United States	6.5	10.4	5.0	8.0
Asia & Oceania				
Australia	8.5	12.5	6.1	9.0
Japan	1.1	1.7	0.9	1.4
Singapore	4.8	7.0	3.9	5.6
Taiwan	7.6	9.9	7.6	9.9

* EFTA

TABLE C - RATES OF ASPIRING ENTREPRENEURS

	Aspiring entrepreneurs Adult population %	Aspiring entrepreneurs Not currently active as entrepreneurs in adult population %
Europe (EU and EFTA)		
Austria	10.7	8.1
Belgium	12.4	10.6
Croatia	22.9	19.5
Denmark	8.4	6.9
Estonia	10.6	9.8
Finland	9.1	7.9
France	16.0	14.2
Germany	8.3	5.9
Greece	10.4	9.5
Hungary	16.0	13.9
Ireland	8.3	7.2
Italy	13.2	11.4
Lithuania	22.3	19.7
Luxembourg	16.4	11.9
Netherlands	10.8	9.3
Norway*	6.2	5.0
Poland	19.4	15.6
Portugal	18.4	15.8
Romania	32.7	31.7
Slovakia	19.0	15.1
Slovenia	12.3	11.4
Spain	8.0	7.1
Sweden	10.1	8.5
Switzerland*	8.8	7.1
United Kingdom	8.9	6.9
European average	13.6	11.6
North America		
Canada	16.8	12.0
United States	16.2	12.1
Asia & Oceania		
Australia	11.8	10.0
Japan	5.3	2.5
Singapore	15.0	9.4
Taiwan	28.1	25.6

* EFTA

TABLE D - BUSINESS EXITS: RATES AND REASONS

	Entrepreneurs exited in past year:		Reason for exit in discontinued businesses									
	Business discontinued Adult population %	Business continued Adult population %	Opportunity to sell the business %	Business was not profitable %	Problems getting finance %	Found another job or business opportunity %	Exit was planned in advance %	Retirement %	Reason of personal nature %	Consequence of single incident %		
Europe (EU and EFTA)												
Austria	1.7	1.0	9	16	9	15	6	25	14	6		
Belgium	1.3	1.3	4	21	21	6	6	6	30	6		
Croatia	2.6	1.2	1	34	24	13	1	3	18	7		
Denmark	1.5	0.8	2	25	12	20	5	0	36	0		
Estonia	1.3	0.7	3	43	11	9	17	3	11	3		
Finland	1.2	1.1	4	15	6	16	4	14	35	4		
France	0.9	0.9	4	21	10	10	3	17	30	6		
Germany	1.0	0.7	5	11	12	11	2	3	50	6		
Greece	2.2	0.6	7	66	7	2	2	6	10	0		
Hungary	2.7	0.4	2	34	25	15	0	9	15	0		
Ireland	1.2	0.7	5	34	9	22	12	2	14	2		
Italy	1.6	0.5	0	49	14	5	0	6	27	0		
Lithuania	1.9	1.0	3	39	10	5	3	2	27	11		
Luxembourg	1.6	1.0	8	19	17	10	13	3	24	7		
Netherlands	1.3	0.4	3	39	11	9	4	0	31	2		
Norway*	1.5	0.4	6	12	3	24	0	3	32	21		
Poland	2.9	1.3	3	34	4	10	6	2	21	20		
Portugal	2.0	1.0	3	59	4	9	13	0	10	2		
Romania	2.5	0.7	0	49	15	8	1	0	25	1		
Slovakia	3.3	1.9	0	28	13	16	2	7	26	8		
Slovenia	1.0	0.5	0	24	10	7	7	16	30	6		
Spain	1.3	0.7	4	56	11	6	2	8	13	1		
Sweden	1.6	0.5	5	29	3	16	3	8	29	8		
Switzerland*	0.6	0.9	1	10	18	12	4	35	20	0		
United Kingdom	1.5	0.4	3	23	6	27	6	0	23	13		
European average	1.7	0.8	3	31	11	12	5	7	24	6		
North America												
Canada	2.1	2.0	6	17	5	20	1	12	32	7		
United States	2.5	1.5	11	22	10	15	3	11	21	7		
Asia & Oceania												
Australia	2.1	1.7	4	28	2	20	5	9	26	7		
Japan	0.6	0.5	3	25	7	0	17	0	44	3		
Singapore	1.5	0.9	3	28	17	9	4	8	31	0		
Taiwan	2.3	2.8	4	19	3	13	9	3	39	11		

* EFTA

TABLE E - ENTREPRENEURIAL TEAMS

	Nascent entrepreneurs	New business owners	Early stage entrepreneurs	Owner managers of established businesses
	Number of owners	Number of owners	Number of owners	Number of owners
Europe (EU and EFTA)				
Austria	1.7	1.6	1.7	1.4
Belgium	2.1	1.9	2.0	1.9
Croatia	2.0	1.9	1.9	1.6
Denmark	1.9	1.4	1.7	1.5
Estonia	1.9	1.6	1.8	1.6
Finland	2.2	2.1	2.1	1.6
France	1.7	2.0	1.8	1.9
Germany	1.7	1.7	1.7	1.4
Greece	1.8	1.5	1.6	1.5
Hungary	2.2	1.7	2.0	1.7
Ireland	1.7	1.5	1.7	1.7
Italy	1.7	1.4	1.6	2.2
Lithuania	1.8	1.8	1.8	1.7
Luxembourg	2.0	1.9	2.0	2.1
Netherlands	1.7	1.5	1.6	1.8
Norway*	2.0	1.9	2.0	1.8
Poland	1.5	1.5	1.5	1.3
Portugal	1.9	1.7	1.8	1.4
Romania	1.8	1.7	1.8	1.6
Slovakia	2.0	na	na	1.8
Slovenia	2.1	1.7	1.9	1.6
Spain	1.9	1.8	1.9	2.1
Sweden	1.8	1.9	1.9	na
Switzerland*	1.6	1.7	1.7	1.6
United Kingdom	1.7	1.6	1.6	1.7
European average	1.9	1.7	1.8	1.7
North America				
Canada	2.0	1.8	1.9	2.1
United States	2.0	1.9	2.0	1.5
Asia & Oceania				
Australia	1.9	1.6	1.8	1.6
Japan	2.7	na	na	2.1
Singapore	2.4	2.0	2.2	1.9
Taiwan	2.8	2.5	2.6	1.6

* EFTA

TABLE F - WORK AND HOUSEHOLD INCOME: EARLY STAGE ENTREPRENEURS

	Early stage entrepreneurs Employed population %	Early stage entrepreneurs Not in employment population %	Early stage entrepreneurs Students or retired population %	Early stage entrepreneurs Household income in lowest third of population %	Early stage entrepreneurs Household income in middle third of population %	Early stage entrepreneurs Household income in highest third of population %
Europe (EU and EFTA)						
Austria	9.8	2.3	1.4	8.9	7.0	11.4
Belgium	6.9	4.0	1.0	4.0	4.9	6.7
Croatia	8.3	6.4	1.5	4.3	6.9	11.8
Denmark	5.9	1.9	1.8	5.2	5.3	6.9
Estonia	6.5	2.7	1.4	5.4	8.3	13.8
Finland	6.8	2.4	1.3	4.0	3.6	7.8
France	7.0	1.6	1.1	3.8	6.3	10.1
Germany	5.7	6.6	2.0	4.3	6.2	7.2
Greece	12.2	2.5	0.6	7.3	10.1	na
Hungary	9.3	3.0	1.2	8.3	8.2	13.0
Ireland	7.4	1.8	1.9	6.7	7.1	6.9
Italy	5.9	1.1	1.1	4.9	4.0	4.8
Lithuania	9.3	2.2	1.6	6.1	12.1	15.3
Luxembourg	7.7	4.7	2.2	7.9	8.0	7.1
Netherlands	10.8	3.9	1.2	9.6	9.5	9.9
Norway*	6.5	na	na	3.4	4.8	11.0
Poland	11.5	2.5	1.2	4.8	11.2	12.6
Portugal	12.6	4.5	2.3	8.3	11.5	10.9
Romania	13.9	4.0	2.5	5.0	11.4	17.5
Slovakia	12.1	4.0	1.7	6.2	11.2	15.1
Slovenia	8.1	2.8	2.4	5.7	5.3	9.2
Spain	6.9	2.7	0.6	4.8	5.1	6.2
Sweden	7.2	1.2	2.7	6.5	5.0	8.7
Switzerland*	8.2	1.8	0.5	4.0	7.7	8.0
United Kingdom	12.6	3.7	5.1	9.9	11.4	11.8
European average	8.8	3.1	1.7	6.0	7.7	10.2
North America						
Canada	14.2	3.9	3.9	12.9	13.6	13.9
United States	15.9	4.5	2.6	11.6	14.6	16.7
Asia & Oceania						
Australia	15.2	4.3	3.4	12.2	12.7	15.7
Japan	4.1	2.1	1.1	3.9	2.9	5.8
Singapore	12.8	3.7	3.8	6.9	12.6	15.5
Taiwan	10.7	1.7	0.5	5.7	8.2	15.6

* EFTA

TABLE G - MOTIVES: EARLY STAGE ENTREPRENEURS

	Early stage entrepreneurs Motivated by opportunity %	Early stage entrepreneurs Motivated by necessity %	Opportunity motivated early stage entrepreneurs			
			Motive: Independence %	Motive: increase income %	Motive: maintain income %	Motive: Other %
Europe (EU and EFTA)						
Austria	88	12	56	19	10	16
Belgium	67	33	45	40	12	4
Croatia	52	48	32	36	25	7
Denmark	94	6	57	26	8	9
Estonia	83	17	64	30	3	3
Finland	84	16	52	28	13	7
France	84	16	49	42	6	4
Germany	77	23	66	23	9	2
Greece	64	36	22	56	22	0
Hungary	66	34	38	36	20	5
Ireland	70	30	40	38	20	2
Italy	85	15	47	43	6	3
Lithuania	80	20	52	29	10	9
Luxembourg	88	12	68	17	8	8
Netherlands	84	16	57	12	16	15
Norway*	96	4	51	32	1	15
Poland	62	38	61	31	7	1
Portugal	72	28	27	61	12	0
Romania	71	29	33	55	8	4
Slovakia	66	34	60	31	4	5
Slovenia	74	26	60	29	8	3
Spain	69	31	39	36	17	8
Sweden	91	9	33	22	3	42
Switzerland*	84	16	70	17	8	5
United Kingdom	87	13	49	39	10	2
European average	77	23	49	33	11	7
North America						
Canada	83	17	46	39	10	5
United States	86	14	43	41	9	7
Asia & Oceania						
Australia	83	17	40	39	14	7
Japan	80	20	43	54	2	2
Singapore	88	12	46	40	10	5
Taiwan	87	13	46	53	1	0

* EFTA

TABLE H - EDUCATION LEVEL: EARLY STAGE ENTREPRENEURS

	Early stage entrepreneurs Some secondary education as highest qualification Adult population %	Early stage entrepreneurs Secondary school as highest qualification Adult population %	Early stage entrepreneurs Post-secondary as highest qualification Adult population %	Early stage entrepreneurs Graduate education as highest qualification Adult population %	Early stage entrepreneurs with post-secondary education Early stage entrepreneurs %
Europe (EU and EFTA)					
Austria	10	7	14	15	29
Belgium	3	4	6	11	68
Croatia	4	8	12	8	24
Denmark	3	7	5	7	70
Estonia	8	8	13	12	45
Finland	5	5	7	7	39
France	3	6	5	9	76
Germany	4	5	7	na	41
Greece	3	6	12	12	64
Hungary	7	9	11	12	50
Ireland	5	4	8	6	78
Italy	4	3	na	7	24
Lithuania	2	9	10	15	76
Luxembourg	3	5	9	13	67
Netherlands	8	9	12	na	36
Norway*	na	6	6	na	30
Poland	2	8	13	15	48
Portugal	6	11	13	20	44
Romania	4	9	14	na	36
Slovakia	7	12	12	14	39
Slovenia	4	5	8	18	55
Spain	4	5	7	12	47
Sweden	5	6	7	26	57
Switzerland*	8	5	9	32	49
United Kingdom	10	10	11	13	54
European average	5	7	10	13	50
North America					
Canada	14	9	13	17	74
United States	14	12	15	16	65
Asia & Oceania					
Australia	11	10	14	21	70
Japan	4	2	5	5	70
Singapore	6	9	12	16	73
Taiwan	4	6	10	11	74

* EFTA

TABLE I - AGE: EARLY STAGE ENTREPRENEURS

	Early stage entrepreneurs Adult population aged 18-24 years %	Early stage entrepreneurs Adult population aged 25-34 years %	Early stage entrepreneurs Adult population aged 35-44 years %	Early stage entrepreneurs Adult population aged 45-54 years %	Early stage entrepreneurs Adult population aged 55-64 years %	Early stage entrepreneurs Aged 18-24 years %	Early stage entrepreneurs Aged 25-34 years %	Early stage entrepreneurs Aged 35-44 years %	Early stage entrepreneurs Aged 45-54 years %	Early stage entrepreneurs Aged 55-64 years %
Europe (EU and EFTA)										
Austria	6.9	14.6	9.6	8.3	3.1	11	34	26	24	6
Belgium	5.2	7.2	5.9	5.1	3.4	13	28	24	22	13
Croatia	6.5	13.5	11.7	4.4	3.7	10	36	31	13	10
Denmark	5.3	7.9	7.7	3.7	3.0	14	28	31	16	11
Estonia	6.5	14.9	12.0	7.2	4.8	10	35	29	16	10
Finland	1.5	6.9	10.6	4.3	4.3	4	25	36	17	18
France	3.3	6.6	7.8	4.6	3.6	9	25	33	19	14
Germany	6.9	8.9	6.4	3.8	1.5	17	32	26	19	6
Greece	10.6	10.7	7.7	6.5	3.1	22	33	22	16	7
Hungary	9.5	9.1	12.2	10.8	5.0	14	32	20	22	12
Ireland	3.4	10.0	6.9	4.6	5.5	7	40	25	14	13
Italy	4.5	7.7	7.7	2.4	1.5	12	35	34	14	7
Lithuania	10.8	19.4	13.2	9.4	3.9	15	34	25	20	7
Luxembourg	7.1	10.0	7.3	6.3	4.4	13	31	24	21	10
Netherlands	13.0	10.8	10.1	9.3	5.2	19	22	25	23	11
Norway*	2.4	7.4	7.0	6.7	3.4	6	27	29	26	12
Poland	8.1	15.8	8.5	7.1	4.9	12	42	20	15	11
Portugal	10.7	13.7	14.8	7.0	3.1	13	29	36	16	6
Romania	15.6	15.2	13.3	7.6	5.4	19	29	30	12	10
Slovakia	18.2	14.4	10.4	8.9	3.6	24	32	21	17	6
Slovenia	4.0	9.8	6.8	5.8	4.0	7	34	24	21	14
Spain	3.8	6.3	6.4	6.1	3.1	7	26	31	26	10
Sweden	3.8	7.7	7.6	7.6	6.1	9	24	24	25	18
Switzerland*	3.4	6.4	7.2	7.2	6.8	6	19	32	25	18
United Kingdom	6.9	15.3	12.7	9.4	7.4	10	31	27	20	13
European average	7.1	10.8	9.3	6.6	4.2	12	30	28	19	11
North America										
Canada	12.0	15.8	11.9	15.4	9.3	13	24	19	29	15
United States	13.5	18.1	14.8	11.9	10.5	15	28	22	20	15
Asia & Oceania										
Australia	9.5	17.0	14.4	13.4	9.2	11	30	24	22	13
Japan	0.8	5.1	4.7	4.0	3.2	2	26	30	23	19
Singapore	10.3	13.4	8.4	8.4	7.4	13	27	31	18	11
Taiwan	7.5	12.9	8.8	7.5	4.8	12	34	24	20	11

* EFTA

TABLE J - GROWTH ASPIRATIONS: EARLY STAGE ENTREPRENEURS

	Early stage entrepreneurs with any jobs now or any jobs expected in next 5 years	Early stage entrepreneurs expect 20 or more jobs in next 5 years	Any jobs now or any expected within the next 5 years	Expect 10 or more jobs within the next 5 years	Expect 20 or more jobs within the next 5 years
	Adult population %	Adult population %	Early stage entrepreneurs %	Early stage entrepreneurs %	Early stage entrepreneurs %
Europe (EU and EFTA)					
Austria	5.2	0.5	60	10	5
Belgium	4.0	0.5	74	12	9
Croatia	5.9	1.2	74	28	15
Denmark	3.9	0.3	72	17	6
Estonia	7.2	0.6	76	14	7
Finland	3.2	0.7	56	13	12
France	4.1	0.7	78	17	14
Germany	3.9	0.7	74	14	13
Greece	5.9	0.3	75	8	3
Hungary	8.5	1.8	91	25	19
Ireland	4.6	0.8	70	27	12
Italy	3.2	0.2	73	8	5
Lithuania	8.9	1.4	79	24	12
Luxembourg	4.8	0.3	68	13	4
Netherlands	5.4	0.6	57	8	7
Norway*	3.3	0.3	58	6	5
Poland	7.0	1.2	76	23	13
Portugal	6.9	0.9	70	12	9
Romania	9.1	2.3	80	32	20
Slovakia	8.0	2.0	73	27	18
Slovenia	4.7	0.8	75	17	13
Spain	3.5	0.2	63	11	4
Sweden	4.2	0.8	62	14	12
Switzerland*	5.1	0.3	72	10	5
United Kingdom	6.1	1.3	57	19	12
European average	5.5	0.8	71	16	11
North America					
Canada	10.1	1.8	77	19	14
United States	11.5	2.9	83	27	21
Asia & Oceania					
Australia	9.6	1.4	74	20	11
Japan	2.5	0.7	66	26	18
Singapore	8.7	2.1	80	31	19
Taiwan	7.0	2.3	82	37	27

* EFTA

TABLE K - INTERNATIONAL ORIENTATION: EARLY STAGE ENTREPRENEURS

	Early Stage entrepreneurs with more than 50% of customers outside country	Entrepreneurs with more than 50% of customers outside country	No customers outside country	1-25% customers outside country	26-75% customers outside country	76-100% customers outside country
	Adult Population %	Early stage entrepreneurs %	Early stage entrepreneurs %	Early stage entrepreneurs %	Early stage entrepreneurs %	Early stage entrepreneurs %
Europe (EU and EFTA)						
Austria	1.4	17	34	41	14	10
Belgium	1.2	22	28	39	17	16
Croatia	2.4	31	21	41	15	23
Denmark	0.5	9	71	16	7	6
Estonia	1.2	13	29	47	14	10
Finland	0.6	11	55	32	3	10
France	0.9	17	36	42	10	12
Germany	1.0	18	43	35	13	8
Greece	1.1	14	42	41	7	11
Hungary	1.5	16	33	44	16	8
Ireland	1.1	18	40	36	14	10
Italy	0.5	12	50	29	15	6
Lithuania	1.6	14	25	52	14	9
Luxembourg	1.8	25	4	54	25	17
Netherlands	0.9	9	49	35	9	7
Norway*	0.3	5	67	23	6	4
Poland	0.8	9	17	69	9	6
Portugal	1.3	13	24	54	12	10
Romania	2.0	18	24	47	21	9
Slovakia	1.3	11	14	66	13	6
Slovenia	1.3	21	29	40	20	12
Spain	0.5	9	68	19	7	6
Sweden	1.3	20	34	39	13	14
Switzerland*	1.2	17	29	40	21	10
United Kingdom	1.2	11	60	25	9	6
European average	1.2	15	37	40	13	10
North America						
Canada	1.8	14	17	64	12	7
United States	1.3	10	16	69	9	5
Asia & Oceania						
Australia	1.1	9	17	72	8	4
Japan	0.3	7	74	15	10	1
Singapore	3.0	28	24	39	22	15
Taiwan	1.1	12	53	31	8	9

* EFTA

TABLE L - SECTOR OF ACTIVITY: EARLY STAGE ENTREPRENEURS

	Extractive sectors	Transformative sectors ¹	Business orientated service sectors ²	Consumer orientated service sectors ³	High or medium technology sectors only ⁴
	Early stage entrepreneurs %	Early stage entrepreneurs %	Early stage entrepreneurs %	Early stage entrepreneurs %	Early stage entrepreneurs %
Europe (EU and EFTA)					
Austria	4	18	35	44	8
Belgium	9	11	29	50	2
Croatia	10	23	31	36	5
Denmark	4	19	43	34	17
Estonia	7	31	30	32	3
Finland	13	25	24	38	3
France	1	29	31	38	11
Germany	1	17	37	45	7
Greece	3	29	14	54	5
Hungary	15	27	22	35	7
Ireland	7	29	34	30	9
Italy	9	18	23	50	6
Lithuania	10	29	17	45	4
Luxembourg	2	11	40	47	8
Netherlands	2	27	30	41	6
Norway*	12	18	36	35	8
Poland	2	42	24	32	4
Portugal	5	23	22	50	3
Romania	27	31	21	21	7
Slovakia	5	35	25	35	6
Slovenia	11	25	33	31	8
Spain	4	15	29	52	9
Sweden	10	12	47	31	18
Switzerland*	6	16	32	46	8
United Kingdom	0	27	27	45	9
European average	7	23	30	40	7
North America					
Canada	8	21	35	36	6
United States	3	19	36	43	9
Asia & Oceania					
Australia	6	24	33	36	11
Japan	1	25	25	49	7
Singapore	0	15	23	61	6
Taiwan	4	23	19	54	4

* EFTA

¹ Includes construction, manufacturing, transport, wholesale, utilities.

² Includes finance, insurance, real estate, all business services.

³ Includes retail, motor, lodgings, restaurants, personal services, health, education, recreation.

⁴ OECD classifications of sectors.

TABLE M – INNOVATIVENESS: EARLY STAGE ENTREPRENEURS

	Product/service is new to no customers Early stage entrepreneurs %	Product/service is new to some customers Early stage entrepreneurs %	Product/service is new to all customers Early stage entrepreneurs %	Many businesses offer the same product Early stage entrepreneurs %	Few businesses offer the same product Early stage entrepreneurs %	No businesses offer the same product Early stage entrepreneurs %	Business uses no new technology Early stage entrepreneurs %	Business uses new technology (available 1-5 years) Early stage entrepreneurs %	Business uses the very latest technology (available less than 1 year) Early stage entrepreneurs %
Europe (EU and EFTA)									
Austria	53	37	11	47	46	7	79	15	6
Belgium	52	33	14	49	45	6	62	26	12
Croatia	73	19	8	41	51	8	59	24	17
Denmark	43	31	26	39	42	19	80	16	4
Estonia	53	31	16	43	41	16	60	22	18
Finland	57	30	13	67	25	8	78	16	5
France	49	27	24	39	40	22	55	23	22
Germany	63	24	13	48	46	5	76	16	8
Greece	63	24	13	49	41	9	62	17	21
Hungary	59	31	10	54	81	16	10	10	9
Ireland	50	35	15	45	41	14	67	22	10
Italy	31	38	31	71	19	10	59	28	13
Lithuania	51	34	15	54	34	12	64	23	13
Luxembourg	29	54	17	36	49	15	55	30	16
Netherlands	60	16	24	42	42	8	73	17	11
Norway*	73	17	10	51	32	17	87	8	5
Poland	36	42	21	58	33	9	71	22	7
Portugal	66	24	10	51	36	13	58	26	15
Romania	63	24	13	64	29	7	59	26	16
Slovakia	37	49	14	60	39	1	49	27	24
Slovenia	42	37	21	49	42	9	75	15	10
Spain	61	25	15	53	37	11	67	22	12
Sweden	55	31	14	38	46	16	67	21	13
Switzerland*	56	28	16	52	77	9	77	14	8
United Kingdom	69	22	9	52	39	9	67	26	8
European average	54	31	16	50	39	11	67	20	12
North America									
Canada	51	30	18	42	43	15	73	20	7
United States	52	30	18	42	42	16	69	23	9
Asia & Oceania									
Australia	58	28	15	47	42	10	74	21	5
Japan	53	39	8	64	30	6	68	19	13
Singapore	51	32	17	60	32	8	48	33	19
Taiwan	29	20	51	66	21	14	68	16	16

* EFTA

TABLE N - RATES OF ENTREPRENEURSHIP BY GENDER

	Early stage entrepreneurs			Owner managers of established businesses		
	Male adult population %	Female adult population %	Rate as a ratio Men : Women	Male adult population %	Female adult population %	Rate as a ratio Men : Women
Europe (EU and EFTA)						
Austria	10.4	7.1	1.5 : 1	12.9	6.9	1.9 : 1
Belgium	7.6	3.1	2.4 : 1	4.8	2.3	2.1 : 1
Croatia	11.3	4.7	2.4 : 1	5.0	2.3	2.2 : 1
Denmark	7.1	3.8	1.9 : 1	7.5	2.7	2.8 : 1
Estonia	11.2	7.7	1.5 : 1	7.0	4.4	1.6 : 1
Finland	6.6	4.6	1.4 : 1	9.2	4.0	2.3 : 1
France	6.7	4.0	1.7 : 1	4.2	1.7	2.5 : 1
Germany	6.5	4.0	1.6 : 1	7.1	3.1	2.3 : 1
Greece	9.9	5.8	1.7 : 1	18.0	7.7	2.3 : 1
Hungary	13.5	5.3	2.5 : 1	11.0	5.0	2.2 : 1
Ireland	8.9	4.2	2.1 : 1	13.8	6.1	2.3 : 1
Italy	5.7	3.1	1.8 : 1	5.7	2.9	2.0 : 1
Lithuania	16.2	6.8	2.4 : 1	11.6	4.3	2.7 : 1
Luxembourg	8.9	5.3	1.7 : 1	4.3	3.0	1.4 : 1
Netherlands	11.6	7.3	1.6 : 1	12.1	7.1	1.7 : 1
Norway*	7.3	4.0	1.8 : 1	7.0	3.7	1.9 : 1
Poland	12.5	6.0	2.1 : 1	10.0	4.6	2.2 : 1
Portugal	11.7	8.4	1.4 : 1	10.0	5.3	1.9 : 1
Romania	16.0	6.6	2.4 : 1	10.1	5.1	2.0 : 1
Slovakia	14.4	7.4	1.9 : 1	11.7	3.9	3.0 : 1
Slovenia	8.3	4.3	1.9 : 1	6.6	2.8	2.4 : 1
Spain	6.4	4.6	1.4 : 1	8.0	6.0	1.3 : 1
Sweden	9.5	3.8	2.5 : 1	8.0	4.9	1.6 : 1
Switzerland*	7.0	7.2	1.0 : 1	10.0	8.1	1.2 : 1
United Kingdom	13.8	7.5	1.8 : 1	8.8	4.2	2.1 : 1
European average	10.0	5.5	1.8 : 1	9.0	4.5	2.0 : 1
North America						
Canada	16.2	9.9	1.6 : 1	11.0	7.8	1.4 : 1
United States	16.5	11.2	1.5 : 1	8.8	5.2	1.7 : 1
Asia & Oceania						
Australia	16.1	10.1	1.6 : 1	10.3	9.0	1.2 : 1
Japan	6.1	1.5	4.1 : 1	9.8	4.5	2.2 : 1
Singapore	14.8	7.2	2.1 : 1	3.7	2.1	1.8 : 1
Taiwan	10.2	6.8	1.5 : 1	15.0	9.4	1.6 : 1

* EFTA

TABLE 0 - MOTIVES BY GENDER: EARLY STAGE ENTREPRENEURS

	Early stage entrepreneurs motivated by opportunity Male %	Early stage entrepreneurs motivated by opportunity Female %	Early stage entrepreneurs motivated by necessity Male %	Early stage entrepreneurs motivated by necessity Female %
Europe (EU and EFTA)				
Austria	88	89	12	11
Belgium	69	62	31	38
Croatia	53	51	47	49
Denmark	94	95	6	5
Estonia	85	81	15	19
Finland	85	82	15	18
France	88	76	12	24
Germany	79	73	21	27
Greece	69	55	31	45
Hungary	70	57	30	43
Ireland	74	61	26	39
Italy	82	91	18	9
Lithuania	83	73	17	27
Luxembourg	88	88	12	12
Netherlands	83	85	17	15
Norway*	100	89	0	11
Poland	62	61	38	39
Portugal	76	68	24	32
Romania	71	69	29	31
Slovakia	67	65	33	35
Slovenia	77	66	23	34
Spain	73	64	27	36
Sweden	93	88	7	12
Switzerland*	88	80	12	20
United Kingdom	85	90	15	10
European average	78	74	22	26
North America				
Canada	86	78	14	22
United States	88	83	12	17
Asia & Oceania				
Australia	83	84	17	16
Japan	82	75	18	25
Singapore	88	88	12	12
Taiwan	88	85	12	15

* EFTA

TABLE P - PERSONAL CONTEXT BY GENDER: ADULT POPULATION

	Know a recent entrepreneur ¹ Male adult population %	Know a recent entrepreneur ¹ Female adult population %	Opportunities in local area ² Male adult population %	Opportunities in local area ² Female adult population %	Skills & knowledge to start-up Male adult population %	Skills & knowledge to start-up Female adult population %	Fear of failure prevent start-up Male adult population %	Fear of failure prevent start-up Female adult population %
Europe (EU and EFTA)								
Austria	38	33	47	42	57	40	35	52
Belgium	24	15	41	30	39	22	46	53
Croatia	29	21	19	17	54	38	40	48
Denmark	34	30	62	57	44	26	36	46
Estonia	45	39	50	49	50	35	43	57
Finland	47	39	42	43	40	30	35	49
France	38	34	29	28	46	25	39	46
Germany	27	20	42	33	44	29	38	55
Greece	29	23	22	18	51	40	66	75
Hungary	32	25	25	22	51	31	43	53
Ireland	43	29	38	29	58	37	37	48
Italy	27	22	30	23	34	29	51	63
Lithuania	37	28	35	29	43	24	39	59
Luxembourg	38	31	47	37	44	31	49	52
Netherlands	38	29	52	39	55	34	35	43
Norway*	37	27	68	58	38	23	31	35
Poland	42	36	30	33	70	39	55	62
Portugal	32	26	26	20	54	40	43	52
Romania	34	23	33	32	58	39	41	55
Slovakia	46	39	26	21	66	43	39	54
Slovenia	44	36	21	14	57	40	34	43
Spain	39	32	26	19	53	43	43	50
Sweden	40	35	71	69	46	28	36	46
Switzerland*	33	24	46	41	51	32	28	40
United Kingdom	34	28	44	38	55	38	37	38
European average	36	29	39	34	50	33	41	51
North America								
Canada	35	27	57	54	56	42	36	42
United States	32	25	53	49	61	46	30	36
Asia & Oceania								
Australia	28	27	50	42	52	40	39	49
Japan	19	12	9	6	19	5	45	43
Singapore	21	16	18	15	27	15	37	40
Taiwan	38	34	34	33	34	24	36	45

* EFTA

¹ Knows someone who has started a business in the past 2 years.

² Opportunities to start a business in the next six months (July - December 2014).

TABLE Q - GROWTH ASPIRATIONS AND INTERNATIONAL ORIENTATION: OWNER MANAGERS

	Expect 10 or more jobs within the next 5 years Owner managers of established businesses %	With more than 50% of customers outside country Adult population %	With more than 50% of customers outside country Owner managers of established businesses %	No customers outside country Owner managers of established businesses %	1-25% customers outside country Owner managers of established businesses %	26-75% customers outside country Owner managers of established businesses %	76-100% customers outside country Owner managers of established businesses %
Europe (EU and EFTA)							
Austria	1	1.3	13	38	43	11	8
Belgium	0	0.5	14	28	56	11	6
Croatia	7	0.5	13	30	50	9	12
Denmark	0	0.4	8	49	37	9	4
Estonia	6	0.8	14	2	66	20	13
Finland	3	0.4	6	59	32	4	5
France	2	0.2	6	31	57	6	6
Germany	4	0.4	7	43	46	6	5
Greece	0	0.8	6	55	32	10	4
Hungary	7	0.9	12	44	40	10	6
Ireland	2	1.5	15	41	40	11	9
Italy	2	0.4	10	47	37	9	7
Lithuania	5	0.5	6	39	49	9	3
Luxembourg	3	0.6	17	15	59	16	11
Netherlands	4	1.0	11	48	35	11	6
Norway*	1	0.2	3	75	18	5	2
Poland	4	0.9	12	18	66	11	6
Portugal	3	0.7	10	27	58	10	5
Romania	12	0.8	11	32	47	13	7
Slovakia	4	0.9	11	25	56	12	6
Slovenia	4	0.7	15	38	43	13	6
Spain	1	0.3	5	75	19	3	3
Sweden	2	0.5	7	51	38	6	6
Switzerland*	4	1.0	11	25	52	18	6
United Kingdom	3	0.4	7	59	29	7	5
European average	3	0.7	10	40	44	10	6
North America							
Canada	7	1.0	11	25	58	10	7
United States	4	0.4	5	31	62	4	4
Asia & Oceania							
Australia	5	0.2	2	19	79	1	2
Japan	4	0.2	2	75	23	1	2
Singapore	12	0.6	22	28	42	20	11
Taiwan	8	0.9	7	54	36	4	5

* EFTA

TABLE R - SECTOR OF ACTIVITY: OWNER MANAGERS

	Extractive sectors	Transformative sectors ¹	Business orientated service sectors ²	Consumer orientated service sectors ³	High or medium technology sectors only ⁴
	Owner managers of established businesses %	Owner managers of established businesses %	Owner managers of established businesses %	Owner managers of established businesses %	Owner managers of established businesses %
Europe (EU and EFTA)					
Austria	11	27	35	27	8
Belgium	10	26	32	32	5
Croatia	24	33	23	20	4
Denmark	18	25	30	28	11
Estonia	15	28	28	29	2
Finland	27	24	19	30	5
France	32	28	24	16	na
Germany	6	20	34	40	10
Greece	6	39	14	42	4
Hungary	9	34	29	28	6
Ireland	27	29	26	18	7
Italy	13	26	26	35	3
Lithuania	20	39	12	29	4
Luxembourg	15	14	36	35	6
Netherlands	11	26	25	38	3
Norway*	18	27	27	28	7
Poland	7	41	22	30	6
Portugal	7	33	19	41	1
Romania	13	52	15	20	4
Slovakia	6	41	30	22	3
Slovenia	5	39	30	26	12
Spain	10	26	22	43	7
Sweden	20	21	36	24	9
Switzerland*	13	20	28	39	6
United Kingdom	7	27	39	26	11
European average	14	30	26	30	6
North America					
Canada	8	17	46	29	11
United States	8	18	46	28	6
Asia & Oceania					
Australia	10	36	28	26	7
Japan	4	39	24	32	6
Singapore	2	31	34	34	6
Taiwan	2	33	9	56	5

* EFTA

¹ Includes construction, manufacturing, transport, wholesale, utilities.² Includes finance, insurance, real estate, all business services.³ Includes retail, motor, lodgings, restaurants, personal services, health, education, recreation.⁴ OECD classifications of sectors.

TABLE S - INNOVATIVENESS: OWNER MANAGERS

	Product/service is new to no customers Owner managers of established businesses %	Product/service is new to some customers Owner managers of established businesses %	Product/service is new to all customers Owner managers of established businesses %	Many businesses offer the same product Owner managers of established businesses %	Few businesses offer the same product Owner managers of established businesses %	No businesses offer the same product Owner managers of established businesses %	Business uses no new technology Owner managers of established businesses %	Business uses new technology (available 1-5 years) Owner managers of established businesses %	Business uses the very latest technology (available less than 1 year) Owner managers of established businesses %
Europe (EU and EFTA)									
Austria	77	20	3	63	32	5	93	6	1
Belgium	73	21	6	55	31	14	90	8	2
Croatia	83	14	3	64	35	1	86	10	4
Denmark	64	26	9	60	28	12	93	6	1
Estonia	64	28	9	61	33	6	86	7	7
Finland	72	22	6	75	21	4	82	9	9
France	66	32	2	65	33	9	88	5	1
Germany	77	18	5	65	33	2	95	5	1
Greece	87	9	4	57	35	7	86	11	3
Hungary	74	22	5	71	22	6	92	6	2
Ireland	83	13	4	68	28	4	86	11	2
Italy	23	55	23	78	22	0	79	18	3
Lithuania	68	21	11	67	28	5	76	20	4
Luxembourg	56	35	9	51	42	7	85	14	1
Netherlands	78	13	9	69	26	5	89	5	6
Norway*	83	12	5	64	24	12	97	3	0
Poland	43	46	11	81	19	0	88	12	0
Portugal	86	7	7	75	23	3	87	12	2
Romania	71	21	9	72	22	6	80	16	4
Slovakia	75	17	8	85	15	1	78	15	7
Slovenia	60	26	14	61	32	6	85	14	1
Spain	82	12	7	73	23	5	85	10	5
Sweden	81	15	4	61	31	8	96	4	0
Switzerland*	69	22	9	62	37	1	93	4	3
United Kingdom	72	13	16	60	36	4	91	9	0
European average	71	22	8	66	28	5	87	10	3
North America									
Canada	74	16	10	58	39	3	92	7	2
United States	68	23	9	64	29	7	92	8	0
Asia & Oceania									
Australia	80	15	6	64	29	7	88	10	2
Japan	75	18	7	71	23	6	96	3	1
Singapore	69	17	14	65	23	12	79	19	2
Taiwan	38	12	50	80	14	7	92	5	3

* EFTA

TABLE T - EDUCATION LEVEL AND HOUSEHOLD INCOME: OWNER MANAGERS

	Owner managers of established businesses Some secondary education as highest qualification Adult population %	Owner managers of established businesses Secondary school as highest qualification Adult population %	Owner managers of established businesses Post-secondary as highest qualification Adult population %	Owner managers of established businesses Graduate education as highest qualification Adult population %	Owner managers of established businesses Household income in lowest third of population %	Owner managers of established businesses Household income in middle third of population %	Owner managers of established businesses Household income in highest third of population %
Europe (EU and EFTA)							
Austria	6.5	10.3	7.0	12.9	4.7	7.1	11.7
Belgium	0.8	3.9	2.8	6.1	1.1	1.7	5.4
Croatia	2.0	3.6	5.9	3.8	2.2	2.6	5.6
Denmark	2.9	3.0	5.4	9.3	2.2	4.1	10.2
Estonia	1.4	5.2	5.8	10.8	3.8	6.1	6.5
Finland	5.8	7.2	5.8	4.8	4.2	4.1	9.5
France	1.4	2.9	3.0	4.0	1.9	1.9	8.0
Germany	3.7	4.8	7.2	na	2.9	5.2	10.6
Greece	16.1	13.1	12.0	12.4	11.5	16.8	na
Hungary	5.7	7.3	9.2	15.9	3.2	6.3	15.6
Ireland	9.9	8.9	11.0	7.3	6.5	12.3	14.6
Italy	3.8	4.1	na	5.4	3.2	3.2	8.9
Lithuania	4.7	6.6	7.1	9.2	4.5	6.4	12.5
Luxembourg	3.6	2.5	3.8	7.4	2.7	3.6	6.3
Netherlands	10.1	9.2	11.2	na	3.9	8.1	11.8
Norway*	10.3	4.4	7.2	na	4.5	5.3	7.9
Poland	5.1	6.5	8.3	10.3	4.2	4.1	13.5
Portugal	7.2	4.9	9.0	9.3	6.8	7.1	8.5
Romania	2.4	6.5	10.5	na	2.2	8.0	12.5
Slovakia	6.9	6.8	7.0	12.1	4.2	7.1	9.5
Slovenia	4.1	4.0	6.1	8.0	1.9	4.3	6.7
Spain	7.3	6.7	7.2	7.2	3.6	5.2	8.8
Sweden	4.5	6.0	7.2	na	5.3	6.7	7.2
Switzerland*	1.6	7.3	12.5	16.2	7.0	7.0	10.8
United Kingdom	6.3	5.9	6.3	7.3	4.5	7.9	9.4
European average	5.4	6.1	7.4	9.0	4.1	6.1	9.7
North America							
Canada	3.8	6.9	10.5	12.4	3.3	9.0	13.9
United States	3.8	6.2	7.6	9.7	2.7	4.1	11.3
Asia & Oceania							
Australia	10.3	8.7	9.3	14.0	5.6	8.7	10.8
Japan	5.9	7.3	7.7	6.3	6.3	6.5	12.1
Singapore	4.2	3.0	3.1	2.1	1.4	3.6	3.7
Taiwan	18.0	16.4	9.6	5.3	11.0	12.1	14.9

* EFTA

TABLE U - AGE: OWNER MANAGERS

	Owner managers of established businesses aged 18-24 years %	Owner managers of established businesses aged 25-34 years %	Owner managers of established businesses aged 35-44 years %	Owner managers of established businesses aged 45-54 years %	Owner managers of established businesses aged 55-64 years %	Owner managers of established businesses aged 18-24 years %	Owner managers of established businesses aged 25-34 years %	Owner managers of established businesses aged 35-44 years %	Owner managers of established businesses aged 45-54 years %	Owner managers of established businesses aged 55-64 years %
Europe (EU and EFTA)										
Austria	6.0	4.0	10.8	15.2	10.8	8	8	25	38	20
Belgium	0.2	2.8	5.5	3.8	4.1	1	17	34	25	23
Croatia	na	3.5	3.1	6.1	3.7	na	20	18	39	22
Denmark	0.3	2.4	5.3	10.2	5.0	1	9	23	47	20
Estonia	0.3	2.9	6.3	8.1	9.5	1	11	25	30	33
Finland	1.1	3.0	9.2	9.7	7.9	2	9	27	33	28
France	0.4	2.4	2.7	4.3	3.9	2	17	21	33	27
Germany	0.5	3.0	4.0	8.2	7.5	1	11	17	42	29
Greece	6.1	13.3	15.8	19.0	7.5	8	8	25	30	10
Hungary	1.4	5.0	10.0	9.6	10.9	2	13	31	24	31
Ireland	2.4	2.2	14.2	16.6	14.5	3	6	34	33	23
Italy	1.6	3.5	5.0	5.3	4.4	4	15	29	31	21
Lithuania	2.2	3.9	10.7	10.7	9.6	4	10	29	33	24
Luxembourg	0.4	3.0	3.1	6.0	4.8	1	18	20	38	22
Netherlands	1.0	6.9	14.8	12.1	8.8	1	14	36	30	19
Norway*	0.7	3.8	5.5	7.8	7.6	2	15	24	32	27
Poland	2.4	7.4	9.7	7.9	7.4	5	25	28	21	22
Portugal	1.0	4.9	8.1	10.9	10.0	2	14	26	32	26
Romania	2.6	7.7	8.1	10.9	7.4	5	22	27	26	20
Slovakia	2.1	4.9	11.3	7.9	11.7	4	15	31	21	29
Slovenia	0.4	3.8	9.1	4.1	4.2	1	17	43	20	19
Spain	0.8	2.2	7.3	10.8	11.2	1	7	28	36	28
Sweden	0.3	2.0	8.3	9.3	10.9	1	6	28	31	34
Switzerland*	2.4	4.8	10.5	12.8	12.0	3	11	26	35	25
United Kingdom	0.5	3.2	8.9	10.0	8.1	1	11	31	34	23
European average	1.5	4.3	8.3	9.5	8.1	3	14	28	32	24
North America										
Canada	1.2	5.3	9.2	13.7	13.9	2	11	21	36	30
United States	0.3	3.9	6.6	11.3	10.7	1	12	20	37	30
Asia & Oceania										
Australia	1.0	3.8	12.3	14.8	15.2	2	9	28	33	29
Japan	na	3.2	6.8	10.4	11.6	na	9	23	31	37
Singapore	na	1.0	3.3	4.2	5.0	na	8	28	35	29
Taiwan	1.2	6.5	12.2	18.6	19.2	1	12	23	35	29

* EFTA

TABLE V - 'CULTURE' PERCEPTIONS: ADULT POPULATION

	Entrepreneurship is a good career choice Adult population %	Success at entrepreneurship has high status Adult population %	Supportive media coverage of entrepreneurs Adult population %
Europe (EU and EFTA)			
Austria	na	na	na
Belgium	52	52	51
Croatia	63	47	40
Denmark	na	na	na
Estonia	56	65	43
Finland	41	84	67
France	59	70	39
Germany	52	79	51
Greece	58	66	46
Hungary	47	72	33
Ireland	49	77	76
Italy	65	72	48
Lithuania	69	58	55
Luxembourg	41	68	44
Netherlands	79	68	56
Norway*	58	83	na
Poland	63	56	55
Portugal	62	63	70
Romania	74	75	71
Slovakia	45	58	53
Slovenia	53	72	58
Spain	54	49	46
Sweden	52	71	60
Switzerland*	42	66	50
United Kingdom	60	75	58
European average	56	67	53
North America			
Canada	57	70	68
United States	65	77	76
Asia & Oceania			
Australia	53	67	73
Japan	31	56	59
Singapore	52	63	79
Taiwan	75	63	84

* EFTA

TABLE W - PERSONAL CONTEXT: ADULT POPULATION

	Know a recent entrepreneur¹ Adult population %	Opportunities in local area² Adult population %	Skills & Knowledge to start-up Adult population %	Fear of failure prevent start-up Adult population %
Europe (EU and EFTA)				
Austria	35	44	49	44
Belgium	19	36	30	50
Croatia	25	18	46	44
Denmark	32	60	35	41
Estonia	42	49	42	50
Finland	43	42	35	42
France	36	28	35	43
Germany	24	38	36	46
Greece	26	20	46	71
Hungary	29	23	41	48
Ireland	36	33	47	42
Italy	24	27	31	57
Lithuania	32	32	33	49
Luxembourg	35	43	38	51
Netherlands	33	46	44	39
Norway*	32	63	31	33
Poland	39	31	54	58
Portugal	29	23	47	48
Romania	29	32	48	48
Slovakia	43	24	54	46
Slovenia	40	17	49	39
Spain	36	23	48	47
Sweden	37	70	37	41
Switzerland*	29	44	42	34
United Kingdom	31	41	46	38
European average	33	36	42	46
North America				
Canada	31	56	49	39
United States	29	51	53	33
Asia & Oceania				
Australia	28	46	46	44
Japan	16	7	12	44
Singapore	19	17	21	39
Taiwan	36	33	29	40

* EFTA

¹ Knows someone who has started a business in the past 2 years.² Opportunities to start a business in the next six months (July - December 2014).

TABLE X - INFORMAL INVESTORS: RATES AND AMOUNTS

	Informal investors ¹ Adult population %	Total invested in past 3 years Euros ²
Europe (EU and EFTA)		
Austria	5.8	5,000
Belgium	3.2	32,600
Croatia	2.7	34,800
Denmark	3.4	113,400
Estonia	6.8	9,700
Finland	3.1	21,200
France	3.4	42,400
Germany	3.8	33,400
Greece	3.5	25,400
Hungary	4.2	5,700
Ireland	3.4	40,500
Italy	2.8	34,700
Lithuania	7.1	26,600
Luxembourg	6.1	43,200
Netherlands	3.3	17,600
Norway*	4.2	43,400
Poland	3.7	30,500
Portugal	2.2	11,800
Romania	4.6	52,900
Slovakia	8.6	19,300
Slovenia	4.7	21,900
Spain	3.7	18,300
Sweden	5.6	8,200
Switzerland*	4.8	55,300
United Kingdom	2.1	25,700
European average	4.3	30,900
North America		
Canada	5.4	38,400
United States	6.2	37,200
Asia & Oceania		
Australia	5.1	32,400
Japan	0.9	77,500
Singapore	3.9	13,700
Taiwan	6.2	25,100

* EFTA

¹ Provided funds for a new business in the past three years.² Exchange rate US\$1.27 to Euro.

APPENDIX 1: GEM METHODOLOGY

The Global Entrepreneurship Monitor (GEM) began in 1999 as a joint project between Babson College (USA) and London Business School (UK). The aim was to consider why some countries are more 'entrepreneurial' than others. 16 years on, GEM is the world's foremost study of entrepreneurship, providing unique measures of the involvement of individuals in entrepreneurial activity and is the richest resource of information on the subject, publishing a range of global, national and 'special topic' reports on an annual basis.

The support of Enterprise Ireland, with the support of the Department of Jobs, Enterprise, and Innovation, made possible the inclusion of Ireland in the GEM research cycle in 2014.

Through a vast, centrally coordinated, internationally executed data collection effort, GEM is able to provide high quality information and comprehensive reports, which greatly enhance the understanding of the entrepreneurial phenomenon.

In numbers, GEM at global level is:

- 16 years of data
- 200,000+ interviews a year
- 100+ countries
- 500+ specialists in entrepreneurship research
- 300+ academic and research institutions
- 200+ funding institutions

In each economy, GEM looks at two elements:

- The entrepreneurial behaviour and attitudes of individuals
- The national context and how that impacts entrepreneurship

The information gained, carefully analysed by local GEM researchers, allows a deep understanding of the environment for entrepreneurship and provides valuable insights.

This appendix contains information on GEM methodology focusing on the annual GEM research cycle, which involves an adult population survey and a key informant survey, and explains the definitions used in GEM.

ADULT POPULATION SURVEY

The GEM model is primarily based on an adult population survey (APS). Professional survey research firms in each country administer the APS, which are based on a random sample of approximately 2,000 adults.

The main questions in the APS are identical in each country. For the purposes of the research, GEM uses a very comprehensive definition of entrepreneurship, which encompasses any type of entrepreneurial initiative, including self-employment.

Sampling procedures vary somewhat, but all of the survey firms are able to provide samples that are, when properly weighted, representative of the adult population in each country in terms of key demographics and geographical coverage. In Ireland the survey is confined to those aged 18 to 64 inclusive.

Telephone interviews are utilised in Ireland, as in most of the developed countries.⁶⁴ In 2014 60% of the calls were placed to landlines and 40% to mobile phones. As GEM concentrates on the entrepreneurs themselves rather than their businesses, the respondents are interviewed at home rather than in their workplace.

The manner of the running of the APS across all countries is coordinated by the Global Entrepreneurship Research Association (GERA). GERA also combines the outputs from the individual country surveys to produce a master dataset. The analysis and interpretation of this data at national level is the responsibility of the national team.

KEY INFORMANT SURVEY

Key informants are experts and entrepreneurs. At least 25% of the key informants are entrepreneurs.⁶⁵ Expert informants are chosen by reputation and referrals to represent the nine entrepreneurial framework dimensions in the GEM model. These are Finance, Government Policies, Government Programmes, Education and Training, R&D Transfer, Commercial Infrastructure, Internal Market Openness, Physical Infrastructure and Culture and Social Norms.

The key informants are asked to complete a detailed questionnaire. The questionnaire used is identical in all countries involved in the survey. The questionnaire is similar to the adult population survey and also includes an additional range of topics relating to the entrepreneurial framework conditions, the entrepreneurial capacity and opportunity recognition perceptiveness of the adult population, as well as other socio-demographic items.

In Ireland, there are approximately 40 on the key informant panel and new members are added to the panel as required each year.

⁶⁴ A random telephone survey was carried out in June 2014.

⁶⁵ In Ireland 58% of the key informants are entrepreneurs.

GEM DEFINITIONS

Aspiring entrepreneurs

Aspiring entrepreneurs are those who expect to start a business in the next three years. The rate is for those in the adult population aged 18-64 years inclusive and excludes those who are currently active as entrepreneurs.

Nascent entrepreneurs

Nascent entrepreneurs are those actively planning a new venture. These entrepreneurs have done something during the previous twelve months to help start a new business, that he or she will at least part own. Activities such as organising the start-up team, looking for equipment, saving money for the start-up, or writing a business plan would all be considered as active commitments to starting a business. Wages or salaries will not have been paid for more than three months in respect of the new business. Many of these people are still in fulltime employment. The rate is for those in the adult population aged 18-64 years inclusive.

New business owners

New business owners are entrepreneurs who at least part own and manage a new business that is between 4 and 42 months old and have not paid salaries for longer than this period. These new ventures are in the first 42 months after the new venture has been set up. The rate is for those in the adult population aged 18-64 years inclusive.

Total early stage entrepreneurial activity (TEA rate)

As its name implies, total early stage entrepreneurial activity refers to the total rate of early stage entrepreneurial activity among the adult population aged 18-64 years inclusive. In some instances, this rate is less than the combined percentages for nascent and new business owners. This is because, in circumstances where respondents qualify as both a nascent and a new business owner, they are counted only once.

Owner managers of established businesses

In addition to those people who are currently involved in the early stages of a business, there are also many people who have set up businesses that they have continued to own and manage. These people are included in the established business owner index which captures the percentage of people in the population that have set up businesses, which they have continued to own and manage and which has paid wages or salaries for more than 42 months. The rate is for those in the adult population aged 18-64 years inclusive.

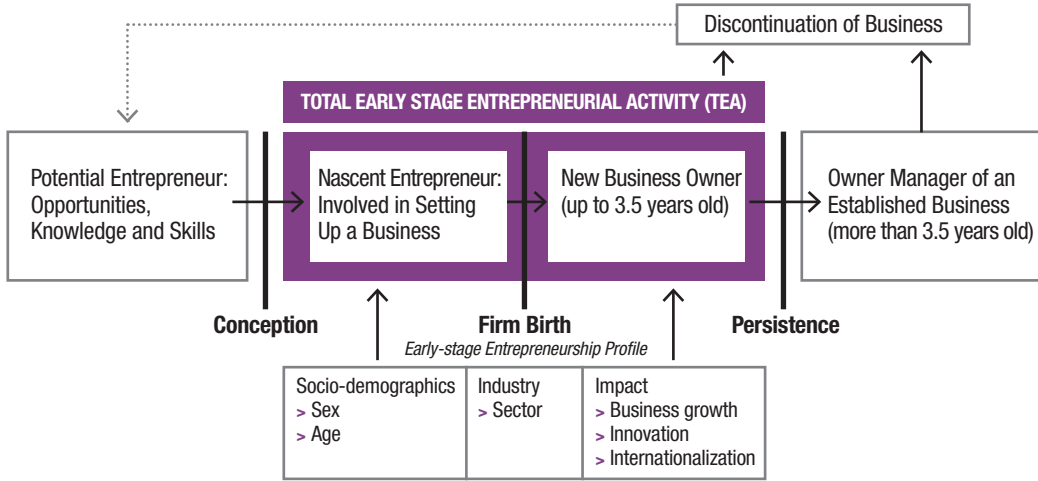
Entrepreneurial employee activities (intrapreneurs)

GEM operationalises entrepreneurial employee activity as a situation in which employees develop new products/ services, or set up a new business entity, but not—for instance—work on optimising internal operations of a firm. Respondents participating in the GEM survey were asked if they, in the past three years, were actively involved in and had a leading role in either idea development for a new activity or in preparation and implementation of a new activity. GEM collects data for measuring intensity of entrepreneurial employee activity.

THE ENTREPRENEURSHIP PROCESS

GEM describes entrepreneurial activity as a process and measures different phases of this process from conception through firm birth to persistence.⁶⁶

FIGURE 3: THE ENTREPRENEURSHIP PROCESS & GEM OPERATIONAL DEFINITIONS

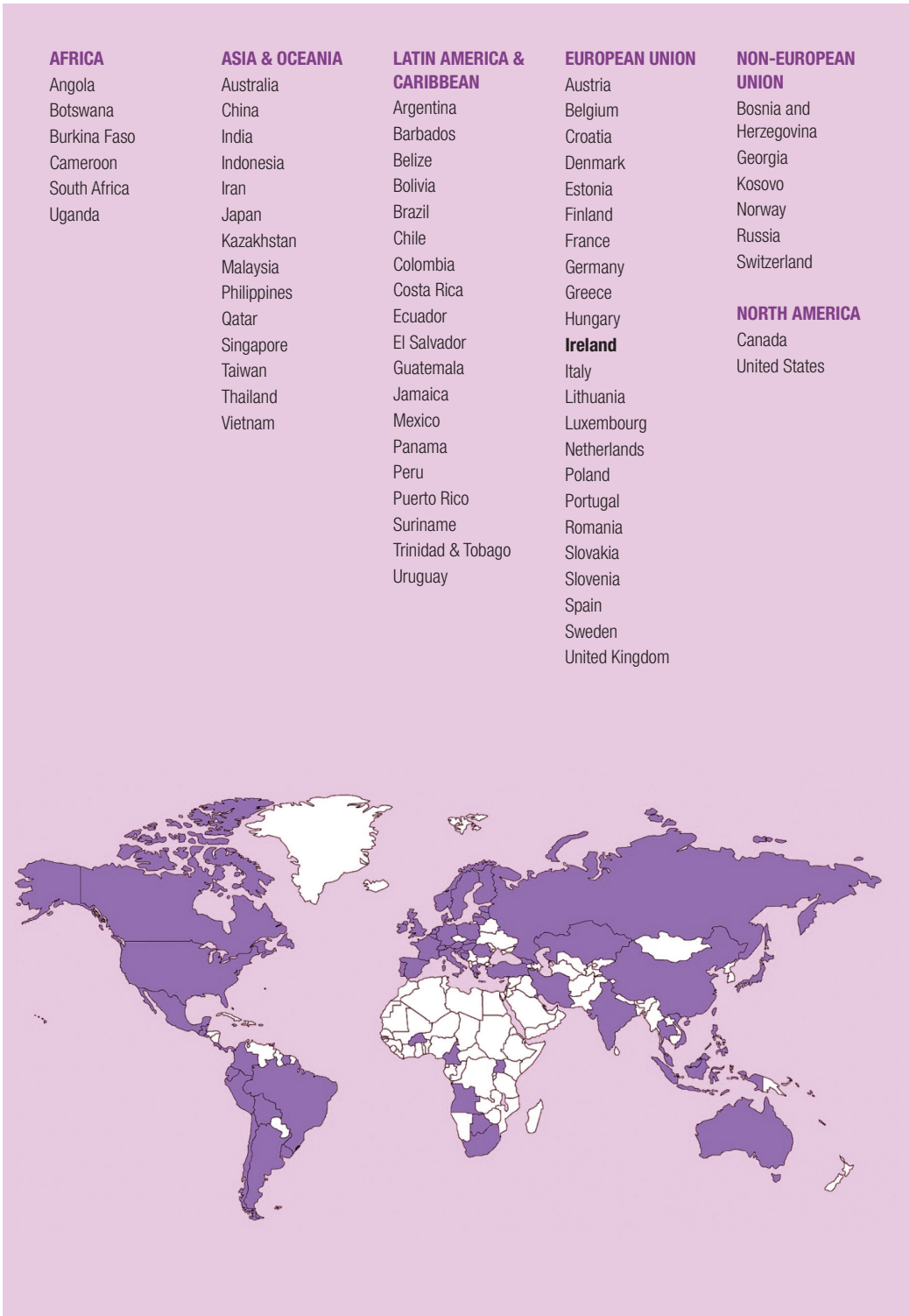


Source: Adapted from Global Entrepreneurship Monitor 2014 Global Report, Slavica Singer, José Ernesto Amorós, Daniel Moska, page 23

⁶⁶ Figure 3 illustrates the entrepreneurial process with reference to these definitions.

APPENDIX 2: GLOBAL RESULTS

FIGURE 4: GEM'S GLOBAL COVERAGE: MAP OF ECONOMIES INCLUDED IN GEM 2014



ENTREPRENEURIAL ACTIVITY IN GEM ECONOMIES IN 2014 BY REGION

	Nascent entrepreneurship rate	New business ownership rate	Early stage entrepreneurial activity (TEA)	Established business ownership rate	Discontinuation of businesses
AFRICA					
Angola	9.5	12.4	21.5	6.5	15.1
Botswana	23.1	11.1	32.8	5	15.1
Burkina Faso	12.7	9.7	21.7	17.7	10.8
Cameroon	26.4	13.7	37.4	11.5	17.7
South Africa	3.9	3.2	7	2.7	3.9
Uganda	8.9	28.1	35.5	35.9	21.2
Average (unweighted)	14.1	13	26	13.2	14
ASIA & OCEANIA					
Australia	7.6	5.7	13.1	9.8	3.9
China	5.4	10.2	15.5	11.6	1.4
India	4.1	2.5	6.6	3.7	1.2
Indonesia	4.4	10.1	14.2	11.9	4.2
Iran	7.5	8.7	16	10.9	5.7
Japan	2.7	1.3	3.8	7.2	1.1
Kazakhstan	8.1	6.2	13.7	7.4	2.9
Malaysia	1.4	4.6	5.9	8.5	2
Philippines	8.2	10.5	18.4	6.2	12.6
Qatar	11.3	5.4	16.4	3.5	4.8
Singapore	6.4	4.8	11	2.9	2.4
Taiwan	4.4	4.1	8.5	12.2	5.1
Thailand	7.6	16.7	23.3	33.1	4.2
Vietnam	2	13.3	15.3	22.2	3.6
Average (unweighted)	5.8	7.4	13	10.8	3.9
LATIN AMERICA & CARIBBEAN					
Argentina	9.5	5.2	14.4	9.1	4.9
Barbados	8.5	4.2	12.7	7.1	3.7
Belize	4.3	3	7.1	3.7	4.7
Bolivia	21.5	7.1	27.4	7.6	6.9
Brazil	3.7	13.8	17.2	17.5	4.1
Chile	16.6	11	26.8	8.8	8.3
Colombia	12.4	6.7	18.5	4.9	5.6
Costa Rica	7.6	3.7	11.3	2.5	4.9
Ecuador	24.5	9.9	32.6	17.7	8.1
El Salvador	11.4	8.7	19.5	12.7	10.8
Guatemala	12	9.2	20.4	7.4	4.4
Jamaica	7.9	11.9	19.3	14.4	6.3
Mexico	12.7	6.4	19	4.5	5.6
Panama	13.1	4.1	17.1	3.4	4.5
Peru	23.1	7.3	28.8	9.2	8
Puerto Rico	8.8	1.3	10	1.3	3.6
Suriname	1.9	0.2	2.1	5.2	0.2
Trinidad & Tobago	7.5	7.4	14.6	8.5	2.8
Uruguay	10.5	5.7	16.1	6.7	4.4
Average (unweighted)	11.4	6.7	17.6	8	5.4

ENTREPRENEURIAL ACTIVITY IN GEM ECONOMIES IN 2014 BY REGION

	Nascent entrepreneurship rate	New business ownership rate	Early stage entrepreneurial activity (TEA)	Established business ownership rate	Discontinuation of businesses
EUROPEAN UNION					
Austria	5.8	3.1	8.7	9.9	2.7
Belgium	2.9	2.5	5.4	3.5	2.3
Croatia	6	2	8	3.6	3.8
Denmark	3.1	2.5	5.5	5.1	2.2
Estonia	6.3	3.5	9.4	5.7	2
Finland	3.4	2.3	5.6	6.6	2.3
France	3.7	1.7	5.3	2.9	1.7
Germany	3.1	2.3	5.3	5.2	1.7
Greece	4.6	3.4	7.9	12.8	2.8
Hungary	5.6	3.9	9.3	7.9	3.1
Ireland	4.4	2.5	6.5	9.9	1.9
Italy	3.2	1.3	4.4	4.3	2.1
Lithuania	6.1	5.3	11.3	7.8	2.9
Luxembourg	4.9	2.3	7.1	3.7	2.6
Netherlands	5.2	4.5	9.5	9.6	1.8
Poland	5.8	3.6	9.2	7.3	4.2
Portugal	5.8	4.4	10	7.6	3
Romania	5.3	6.2	11.3	7.6	3.2
Slovakia	6.7	4.4	10.9	7.8	5.2
Slovenia	3.8	2.7	6.3	4.8	1.5
Spain	3.3	2.2	5.5	7	1.9
Sweden	4.9	1.9	6.7	6.5	2.1
United Kingdom	6.3	4.5	10.7	6.5	1.9
Average (unweighted)	4.8	3.2	7.8	6.7	2.6
NON-EUROPEAN UNION					
Bosnia and Herzegovina	4.5	2.9	7.4	6.7	4.5
Georgia	4.1	3.2	7.2	7.3	2.5
Kosovo	2.5	1.8	4	2.1	6.6
Norway	2.8	3	5.7	5.4	1.9
Russia	2.4	2.4	4.7	3.9	1.2
Switzerland	3.4	3.8	7.1	9.1	1.5
Average (unweighted)	3.3	2.8	6	5.7	3
NORTH AMERICA					
	%	%	%	%	%
Canada	7.9	5.6	13	9.4	4.2
United States	9.7	4.3	13.8	6.9	4
Average (unweighted)	8.8	4.9	13.4	8.2	4.1

Source: GEM Global Report 2014.

