

Insight Report

Enhancing Europe's Competitiveness

Fostering Innovation-driven Entrepreneurship in Europe

June 2014



In collaboration with A.T. Kearney

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Contents

- 3 Preface
- 5 Executive Summary
- 7 Section One: How Innovation Capabilities Influence the Competitiveness Divide
- 8 Section Two: A Life Cycle Approach to Fostering Innovation-driven Entrepreneurship: Stand Up, Start Up, Then Scale Up
 - 11 Survey Results: Assessing Conditions for Innovation-driven Entrepreneurship across Europe
 - 14 Stand Up: Fostering an Entrepreneurial Mindset and Culture across the Continent
 - 18 Start up: Supporting the Establishment and Initial Expansion of Innovation-driven Ventures
 - 24 Scale Up: The Collaborative Road to Sustainable Growth
- 32 Section Three: Perspectives from Policy-makers
- 44 Section Four: A European Agenda to Foster Innovation-driven Entrepreneurship
- 50 Section Five: A Look Ahead – Opinion Pieces on the Future of Innovation
- 55 Conclusion
- 56 Endnotes
- 58 Further Reading
- 59 Acknowledgements
- 63 Project Team

Preface



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What if Europe were producing as many fast-growing, innovative companies as the United States, with the same level of global impact? If Europeans were registering as many patents linked to emerging technologies as Chinese individuals and companies? If the culture of entrepreneurship in Europe were as robust and ambitious as that of Israel? What impact would this have on Europe's economy and society? It is reasonable to assume that European output and productivity growth would be significantly higher. Europe would be attracting top talent from all over the world, even drawing the best minds from Silicon Valley. And, perhaps most importantly, Europe would be a significant source of jobs in future-oriented sectors, helping and inspiring jobseekers to constantly upgrade their skills to take part in the next European success story.

Unfortunately, although Europe includes five of the top 10 most innovative countries in the world, as a region its innovation capabilities and overall competitiveness lag behind those of key competitor countries. Multiple data sources indicate that European conditions are far from ideal for entrepreneurs and fast-growing companies, and fragmentation hinders access to markets, sources of capital and supportive initiatives. As the global innovation frontier moves inexorably forward, Europe is in danger of falling further behind, putting at risk its outlook for productivity, growth, human capital development and job creation.

This report, part of the World Economic Forum's "*Fostering Innovation-driven Entrepreneurship in Europe*" project, examines what steps can be taken to fire up Europe's competitiveness and innovation capabilities by expanding the number and quality of serial entrepreneurs and fast-growing, scalable ventures. It finds that, for a truly innovative Europe to compete successfully on the global stage – as envisaged by the European Commission's EU 2020 Strategy – leaders from government, business and civil society must take active steps. They must focus, connect and partner to improve conditions for innovative ventures at all stages of the entrepreneurial life cycle. As such, this report will be a useful contribution to policy-makers at the European and national levels, and a vital resource for entrepreneurs, corporate leaders, academics and civil society actors whose collaboration on these issues is essential.

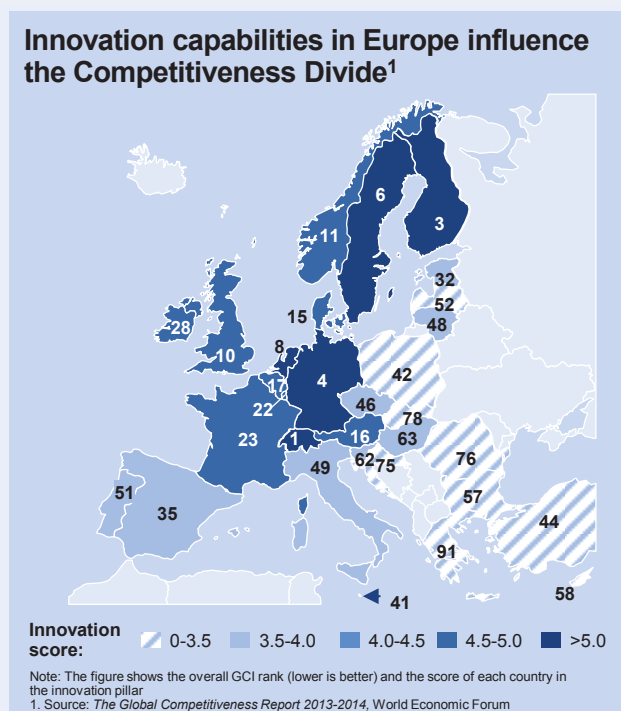
The development of the project and this report have shone the light on the benefits of reducing fragmentation and increasing collaboration across different disciplines and stakeholders. The report is the outcome of close engagement between the Forum's Network of Global Agenda Councils, Young Global Leaders, Global Shapers, senior European policy-makers and business leaders from Forum Member companies, in addition to 1,132 survey respondents and numerous global and European experts from academia and civil society.

I would like to thank all project participants, and in particular the project workstream leaders and advisory board members, for their generosity with their time, ideas and support for this work.

As part of its commitment to supporting European competitiveness and innovation, the Forum will continue this workstream throughout 2014 and 2015, both by continuing to promote its work around innovation-driven entrepreneurship, and through a new research project focused on open innovation ecosystems in Europe. We at the Forum hope you will join us to help realize better conditions for world-leading innovation in Europe, in line with the Forum's motto, "Entrepreneurship in the Global Public Interest".

Figure 1: Illustration of Challenges and Approaches to Fostering Innovation-Driven Entrepreneurship

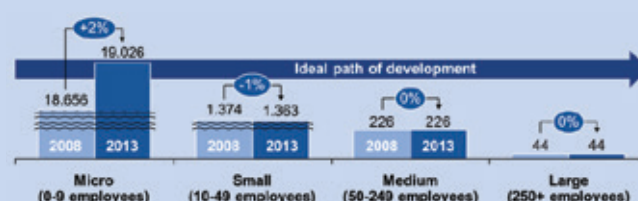
Source: Project Team



8 out of 10 jobs generated in the European Union since 2008 were created in small and medium-sized companies¹

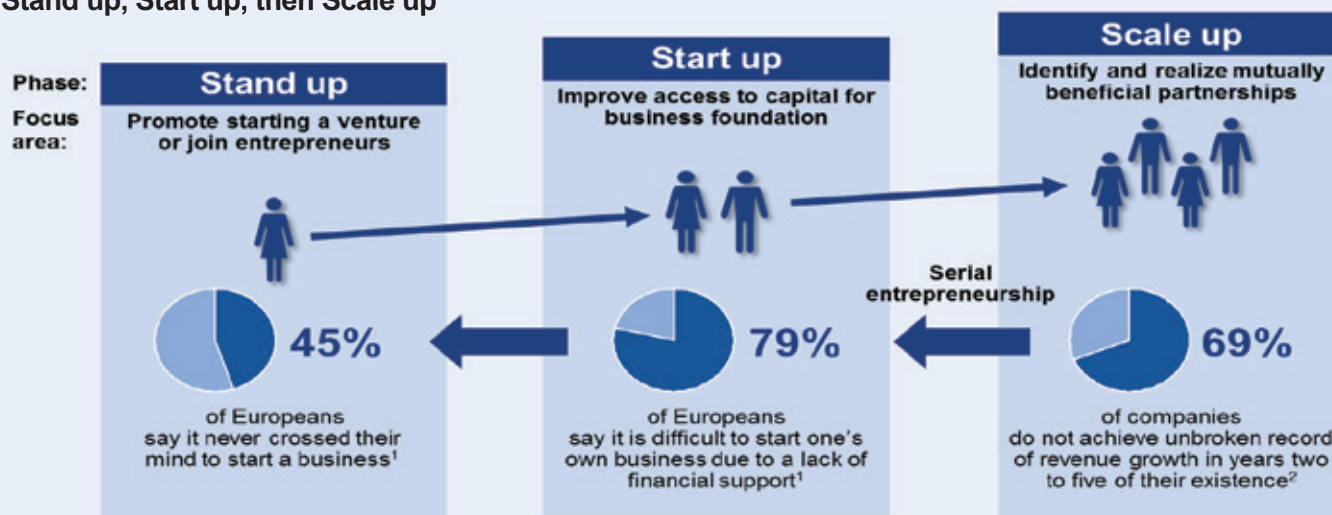


While the number of micro companies in the European Union has increased by 370,000 (2%) between 2008 and 2013, the number of small, medium and large companies has not grown¹ (in 1,000 companies)



1. Source: Eurostat statistics on enterprises in the European Union

A Life Cycle Approach to Fostering Innovation-Driven Entrepreneurship: Stand up, Start up, then Scale up



1. Source: *Entrepreneurship in the EU and beyond*, European Commission

2. Source: *Global Entrepreneurship and the Successful Growth Strategies of Early-Stage Companies*, World Economic Forum

A European Agenda to Foster Innovation-Driven Entrepreneurship



Executive Summary

Produced as part of the World Economic Forum's project "*Fostering Innovation-Driven Entrepreneurship in Europe*", this report addresses the challenge of lagging European performance with regard to the region's innovation capabilities and the conditions for scalable entrepreneurship. As section one illustrates, this challenge includes persistent innovation divides between European economies as well as between Europe overall and comparator economies such as the United States. The report suggests a forward-looking agenda designed to contribute to Europe's competitiveness and growth by encouraging a robust environment of ambitious, serial entrepreneurs who envisage, create and scale innovation-driven ventures.

In addition to extensive inputs from the Forum's Members, Global Shapers, Young Global Leaders, Network of Global Agenda Councils and leading policy-makers across Europe, the findings in the report have benefitted from data gathered from over 60 structured interviews and eight interactive workshops (convened in Bad Ragaz, Berlin, Brussels, Dalian, Davos, Geneva and London) as well as an online survey of entrepreneurs across Europe which gathered 1,132 responses.

As a result of this collaboration, four central ideas have emerged from the Forum's work in this field.

Fostering innovation-driven entrepreneurship in Europe requires a comprehensive view of the entire entrepreneurial life cycle.¹

Section two describes how the life cycle of an innovation-driven entrepreneurial venture can be divided into three phases – stand up, start up and scale up (see Figure 1). The requirements of each of these phases and focus areas of the project are summed up below:

- Stand up – Promoting the attitudes and skills required to mobilize Europeans with both the desire and the ability to create scalable entrepreneurial ventures
- Start up – Gathering the resources to start a business, with a particular focus on access to capital for entrepreneurs across the European Union
- Scale up – Enabling ventures to scale, with a particular focus on collaborations that simultaneously improve the innovation capacity of all partners to create growth and jobs across the region

Stakeholders have significant scope to positively influence external factors affecting each of these phases. Survey responses from across Europe show that participants perceive conditions to be most positive for the stand up phase. However the scale up phase is seen as far more challenging for European entrepreneurs, with only 41% of respondents saying that conditions are favourable in their country, compared to 63% of North American respondents.

In each phase of the life cycle, challenges and examples of practices have been identified to foster entrepreneurship in such a way as to encourage serial entrepreneurs to interact meaningfully with other economic actors, and to examine the factors that comprise a supporting environment for entrepreneurs to develop and scale ideas.

Policy-makers, business leaders and individuals are significantly motivated to improve the conditions for entrepreneurship in Europe.

Section three summarises contributions from the highest levels of policy-making, including European heads of government, senior ministers and European Commissioners. The contributions show that public sector leadership are highly aware of the need to foster innovation-driven entrepreneurship, and that a large number of relevant priorities are already on the policy agenda. These include interventions to tailor education to the needs of entrepreneurial careers, improve access to finance, enhance the availability of and access to relevant talent, and create better conditions for cross-stakeholder or cross-regional collaboration between different actors.

In addition to policy-makers' ongoing efforts, private actors are very willing to contribute. An overwhelming majority of survey respondents (87%) say they would personally support initiatives in their countries, such as the provision of educational or financial opportunities for prospective entrepreneurs. Further, a number of leading multinationals are actively incorporating support for entrepreneurs into their business activities in order to harness the innovation capabilities of new ventures and to engage with local communities in new ways.

To more effectively and efficiently support innovation-driven entrepreneurship in Europe, stakeholders need to focus, connect and partner.

Section four proposes a pan-European agenda for more effectively promoting innovation-driven entrepreneurship, designed to harness the potential of stronger private engagement with various private and public actors, and overcome the challenge of geographical fragmentation affecting entrepreneurship initiatives across Europe. Three key elements of this agenda are relevant to the entire entrepreneurial life cycle:

Focus: More explicit criteria that can help stakeholders identify and invest in momentum-building entrepreneurship initiatives are needed.

Connect: In order to overcome the challenge of fragmented European markets and entrepreneurial support services, stakeholder need to create better and new connections across countries, sectors and programmes that meet key criteria. A more transparent, inclusive and Europe-wide database and network of initiatives would greatly assist in promoting innovation-driven entrepreneurship.

Partner: Building on an enabling network, stakeholders must be encouraged and supported to collaborate and partner across initiatives, regions, organization types and sectors to achieve scale and momentum for new ventures and ideas.

Supporting the innovations of today in isolated sectors is not enough – Europe needs to create ecosystems that will support innovations emerging in unconventional ways across government and business.

Entrepreneurial ecosystems are deeply affected by technological and cultural developments. As digital infrastructure and its applications for enterprises continue to develop, the transaction costs of collaborations will decrease and the ability of different sectors to adopt new ways of working will increase. Section five therefore presents two visionary pieces on the future of government and corporate innovation, laying the ground for further discussion on how Europe can prepare itself in the long term for successful innovation environments attuned to the breakthroughs yet to materialize.

This report aims to spur debate on the most effective ways to improve the enabling conditions for innovation-driven entrepreneurship across Europe. While the emphasis is particularly on start-ups and small and medium-sized companies (SMEs) as vehicles for value-added activity, the ideas in this report are intended to apply more broadly to all contexts, including entrepreneurial activity within large companies and in the civil society sector.²

The World Economic Forum hopes that readers will be inspired to focus attention and energy towards building momentum to tackle the key challenges and opportunities for promoting innovation-driven entrepreneurship in Europe. The Forum and its partners will continue to support this work, in particular through further research and dialogue on how to foster the development of a robust European Open Innovation Ecosystem.



Section One: How Innovation Capabilities Influence the Competitiveness Divide

Despite significant efforts to restore economic dynamism through macroeconomic interventions and structural reforms, growth expectations remain tempered across advanced economies, and in the Eurozone in particular, where growth rates remain low and unemployment stubbornly high. Europe continues to struggle to increase its competitiveness and set its economy on a more solid footing. This is due, in part, to continued uncertainty about sections of the European financial system, inadequate competition in the services sector and fragmentation of markets in key strategic sectors.

The Global Competitiveness Report 2013-2014 (Figure 2) shows that Europe's competitiveness is far from even, with a sharp divide between a highly competitive Northern Europe and Southern and Central-Eastern Europe which trail behind. This divide is particularly strong in innovation performance, one of the key drivers of competitiveness for Europe, given its advanced stage of economic development and the imperative to focus its production on high value-added, innovation-rich products and services. While five

out of the 10 most innovative countries of the world are European, many other European economies have much ground to cover. This result is confirmed by the Forum's 2014 edition of the *EU2020 Competitiveness Report*, which indicates that Europe has the greatest gap with benchmark economies and the greatest divergence between its member states with regard to measures of "smart" growth, particularly with reference to the digital agenda and innovation.

This report aims to show how to further improve innovation capabilities in Europe by fostering innovative new ventures. Countries that have less developed innovation capabilities must be aided in their efforts to catch up, while leading innovators must be supported to continue to grow sustainably. Importantly, promoting innovation does not mean only focusing on factors related directly to research and development, but also requires improvements across other pillars such as higher education, training and technological readiness.

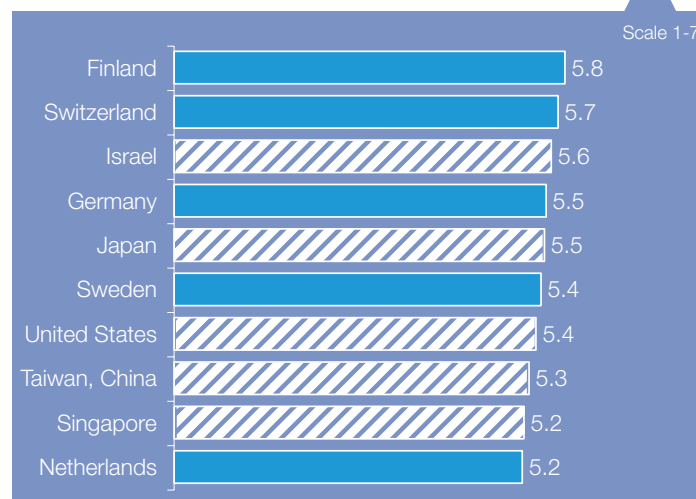
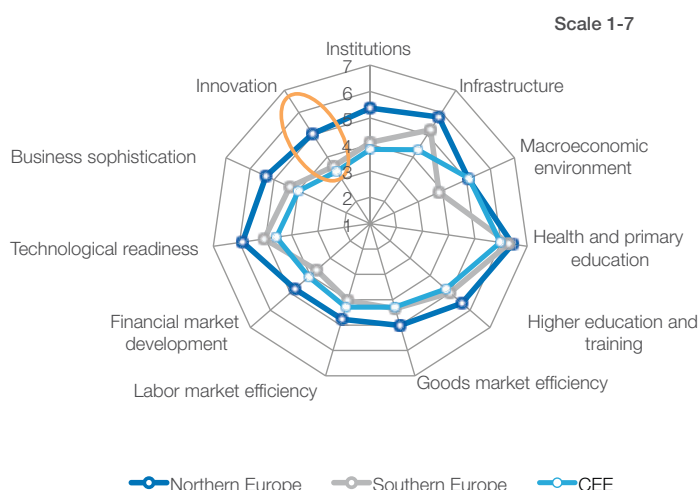
Figure 2: Defining Competitiveness, Comparison of European Regions,³ Top 10 Countries in Innovation Globally

Source: *The Global Competitiveness Report 2013-2014*

Defining Competitiveness

The set of factors, policies and institutions that determine the level of productivity of a country taking into account its level of development.

The 12 Pillars of Competitiveness



Section Two: A Life Cycle Approach to Fostering Innovation-driven Entrepreneurship: Stand Up, Start Up, Then Scale Up



Section Two: A Life Cycle Approach to Fostering Innovation-driven Entrepreneurship: Stand Up, Start Up, Then Scale Up

Innovation is driven by many actors, including companies, academic institutions and individuals. Although some large corporations are strong innovators, small and medium enterprises (SMEs) are frequently the source of ideas for products brought to market by large corporations.⁴ In Europe, SMEs account for over 99% of all firms, two-thirds of jobs, eight out of 10 jobs net generated since 2008 and more than half of the total added value created by businesses.⁵

Nevertheless, SMEs experience high levels of organizational and employment churn, symptomatic of the real but volatile growth, innovation and employment opportunities they present. Figure 3 shows that SMEs in different European countries have performed very heterogeneously, showing the need for specific approaches to rally countries that are strong performers while allowing those that have been struggling to catch up.

It is estimated that only 50% of European start-ups survive the first five years.⁶ While the number of micro companies in the European Union increased by 370,000 (2%) between 2008 and 2013, the number of small, medium and large companies registered no net growth, showing that SMEs face difficulties in scaling up and making a significant difference to growth and employment across Europe.⁷

This report focuses on the challenge of scaling innovative entrepreneurial organizations. It identifies key needs and challenges in different phases of organizational development and suggests that paying more attention to the entire entrepreneurial life cycle enables entrepreneurs, large corporations and policy-makers to help start-ups and SMEs to scale successfully, while also improving the innovation capacity of large organizations across Europe. Three important life cycle phases, and the challenges they present, are analysed:

- **Stand up** – Assessing what drives individuals to desire and believe they have the ability to start an innovative company or join a market innovator start-up or SME as an employee
- **Start up** – Assessing the success factors for an entrepreneur in establishing an innovative organization and making it a viable venture, in particular to be able to secure the required financial and human capital and increase the likelihood for the business to break even
- **Scale up** – Assessing success factors in enabling a business to expand in terms of market access, revenues, added value and number of employees, in particular identifying and realizing win-win opportunities for collaboration between market leaders and market disruptors

Figure 3: SMEs Struggling to Reach or Exceed the 2008 Level of Employment and Value Added⁵

Source: Project Team based on Eurostat

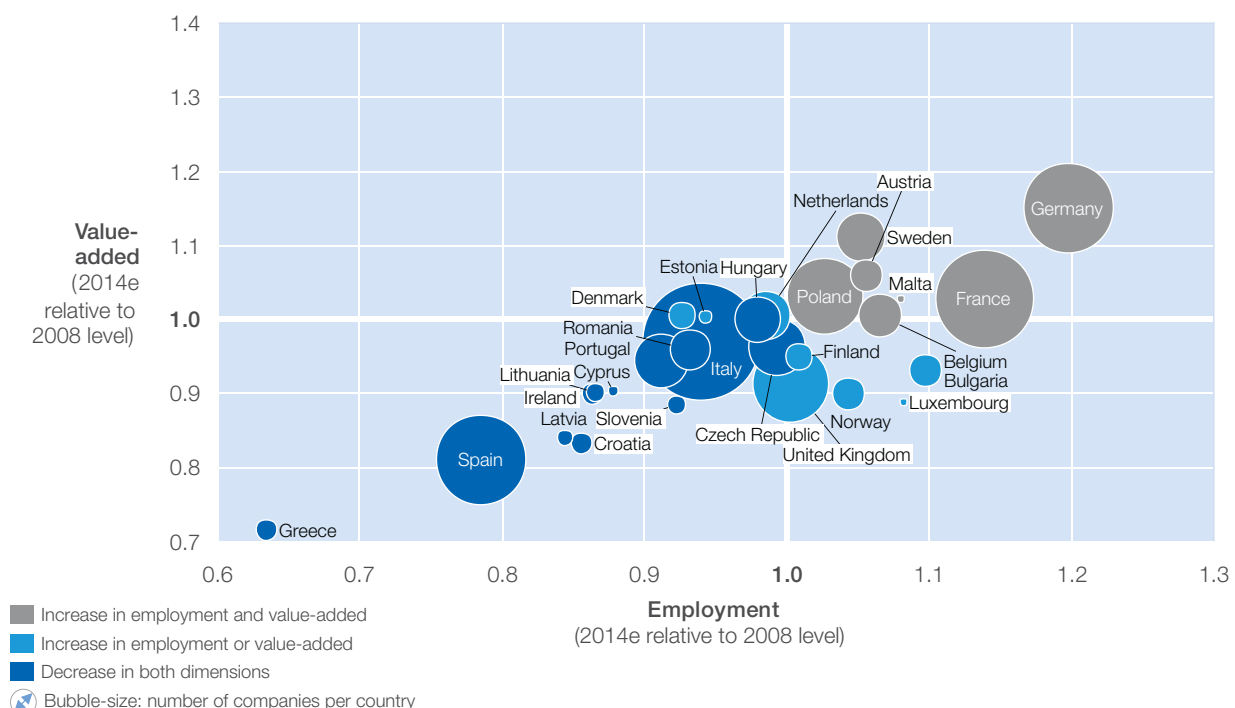
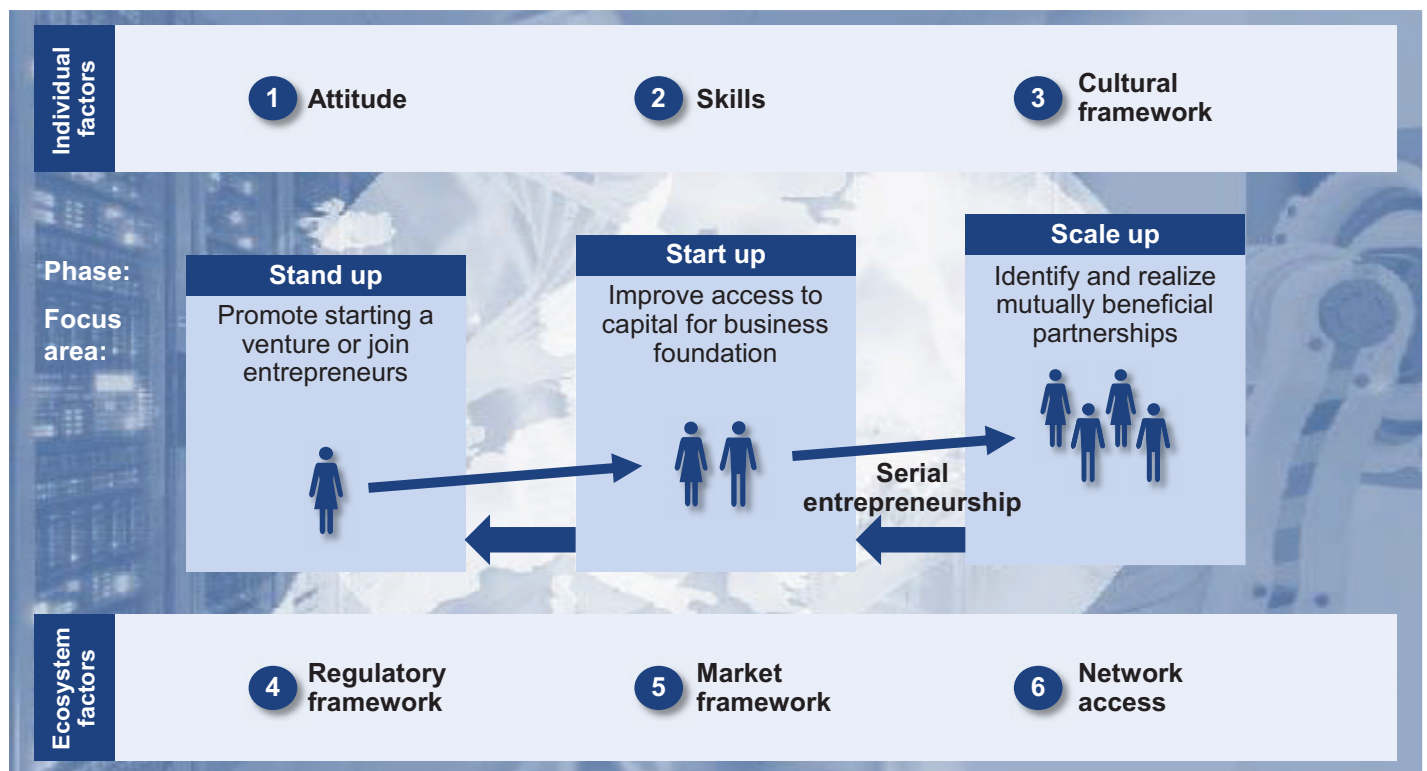


Figure 4: A Life Cycle Model for Entrepreneurship⁶

Source: Project Team



In the following pages, a detailed model is introduced for each life cycle phase, showcasing key influencing factors, discussing the main challenges, and featuring leading initiatives illustrative of the ideal conditions for that phase.

Each phase highlights different key influencing factors from among the six displayed in Figure 4:

- **Attitude** refers to the individual's mindset, particularly their risk-taking drive and level of perseverance – qualities identified as essential for an entrepreneur.
- **Skills** refer to the set of job-related and behavioural skills required to successfully found or work in a fast-growing, innovative organization.
- **Cultural/social framework** refers to all the social and cultural factors that either support or inhibit an individual's decision to engage in the entrepreneurial ecosystem rather than other occupational pathways.
- **Regulatory framework** refers to the administrative processes and rules required to start and operate a company, including licensing, tax and labour market regulations.
- **Market framework** refers to the availability of necessary inputs, transformation processes and customer demand necessary to found and develop a venture.
- **Network access** refers to the availability of supporting partners, advisers and enablers who transfer know-how and create opportunities for growth.

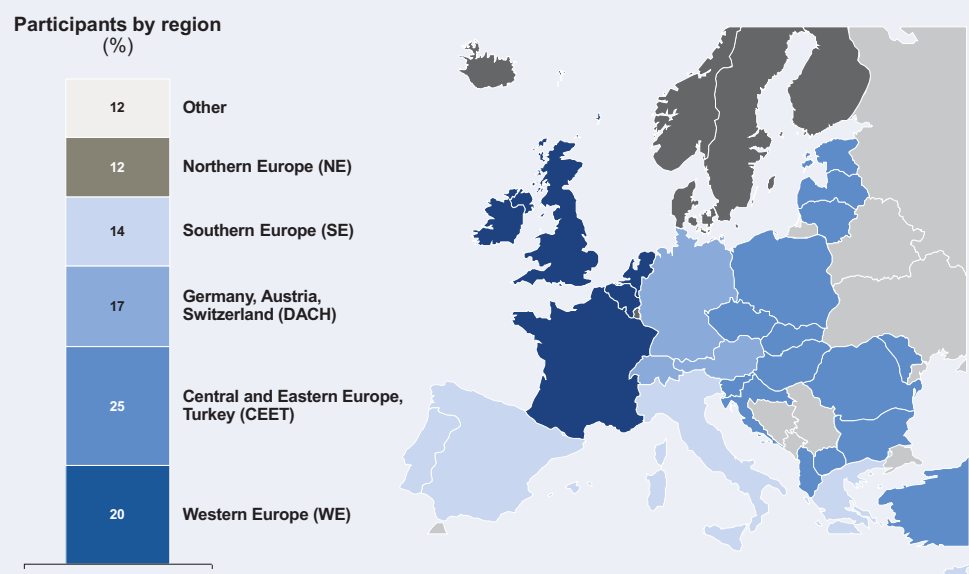
For the purpose of this report, innovation is considered in a broad sense as the capability to manage an idea or invention, whether involving new products, processes, services or business models, leading up to successful commercialization. Entrepreneurship is defined as “the pursuit of opportunities beyond the resources you currently control.”¹⁰

Turning an innovative idea into economic activity creates companies, economic growth and jobs. However, the entrepreneurial life cycle is not designed to end at the successful scaling of a venture. The goal of a healthy and robust entrepreneurial ecosystem is to foster serial entrepreneurs who persevere over multiple ventures and, upon achieving success, continue to support entrepreneurial activities as investors, mentors and role models.

Survey Results: Assessing Conditions for Innovation-driven Entrepreneurship across Europe

Figure 5: Overview of Participants by Region; n=1,132

Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014

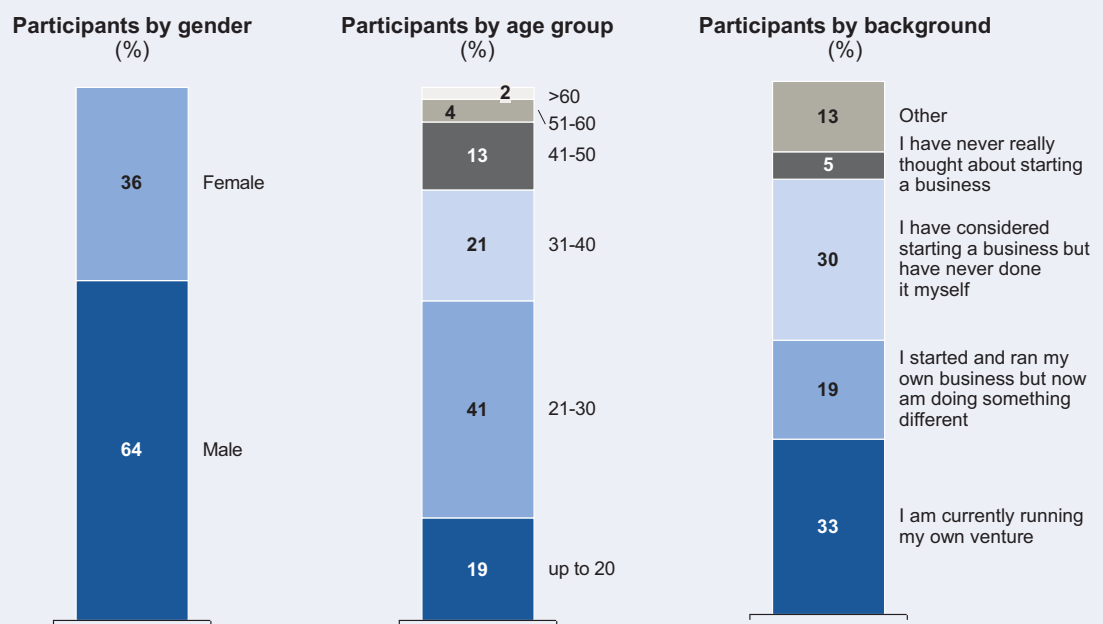


To better understand the motivations and external factors influencing European entrepreneurs and to test project hypotheses, the Forum partnered with Research+Data Insights, Junior Achievement-Young Enterprise (JA-YE) Europe, and the European Confederation of Young Entrepreneurs (YES) to survey a broad range of Europeans with experience or interest in entrepreneurship.

Conducted in February and March 2014, the online survey received 1,132 responses from across Europe, with additional responses coming from comparison regions such as North America (see Figure 5). Influenced by social media-driven outreach and promoted through the Forum’s Global Shapers Community and the networks of survey partners, respondents were on average young (60% were under the age of 30). There were more male (64%) than female respondents (36%). A third of respondents were currently running their own businesses, a further 19% had past experience as entrepreneurs, and 30% had considered starting a venture but not done it yet (see Figure 6).

Figure 6: Overview of Demographic Information

Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014



After asking respondents about what influenced their motivation to engage in entrepreneurial activities (see page 15), the survey asked current and would-be entrepreneurs to rate their assessment of how favourable their country of residence was in terms of the three phases in the life cycle discussed above: promoting entrepreneurship, starting a business, and scaling a venture.

Overall across Europe, conditions were perceived most positively for the stand up phase, with only 30% claiming that conditions were either very or somewhat unfavourable, and 54% stating they were either very or somewhat favourable. Conditions for the start up phase were perceived as only marginally less favourable. The scale up phase was seen as significantly more difficult across Europe – 37% found conditions unfavourable in their country and only 41% perceived them as somewhat or very favourable (see Figure 7).

These results are more positive than many experts engaged in the project expected. However, when compared with North America the picture is less impressive; North America-based respondents were significantly more positive when it came to conditions in their environment – 66% said they perceive favourable conditions for stand up, with the number rising to 69% for start up and maintaining a robust 63% for scale up.

When comparing the assessment of conditions between different countries and regions within Europe, Northern European countries (Denmark, Finland, Iceland, Norway and Sweden) tend to perform significantly better than the rest of the region for the stand up and start up phases. Germany, Austria and Switzerland receive the highest rating for the scale up phase. Southern Europe (defined here as Cyprus, Greece, Italy, Malta, Portugal and Spain) performs significantly worse than average (see Figure 8). Interestingly, no significant difference exists between assessments of any phase in Central and Eastern Europe and Turkey when compared with Western Europe (defined here as Luxembourg, Belgium, France, Netherlands, Republic of Ireland and United Kingdom), indicating a potential draw for entrepreneurs from these economies to Central and Eastern European (CEE) countries to take advantage of lower fixed and labour costs when starting or scaling a venture. A country-wise split of results is given in Figure 9. Perceived conditions for stand up and start up are best in Estonia, Denmark and the Netherlands. For the scale up phase, Switzerland, Poland and Denmark take a lead.

Further results from the survey are integrated throughout this report.

Figure 7: Perception of Conditions per Phase of the Entrepreneurial Life Cycle: Stand Up, Start Up, Scale Up; n=951

Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014

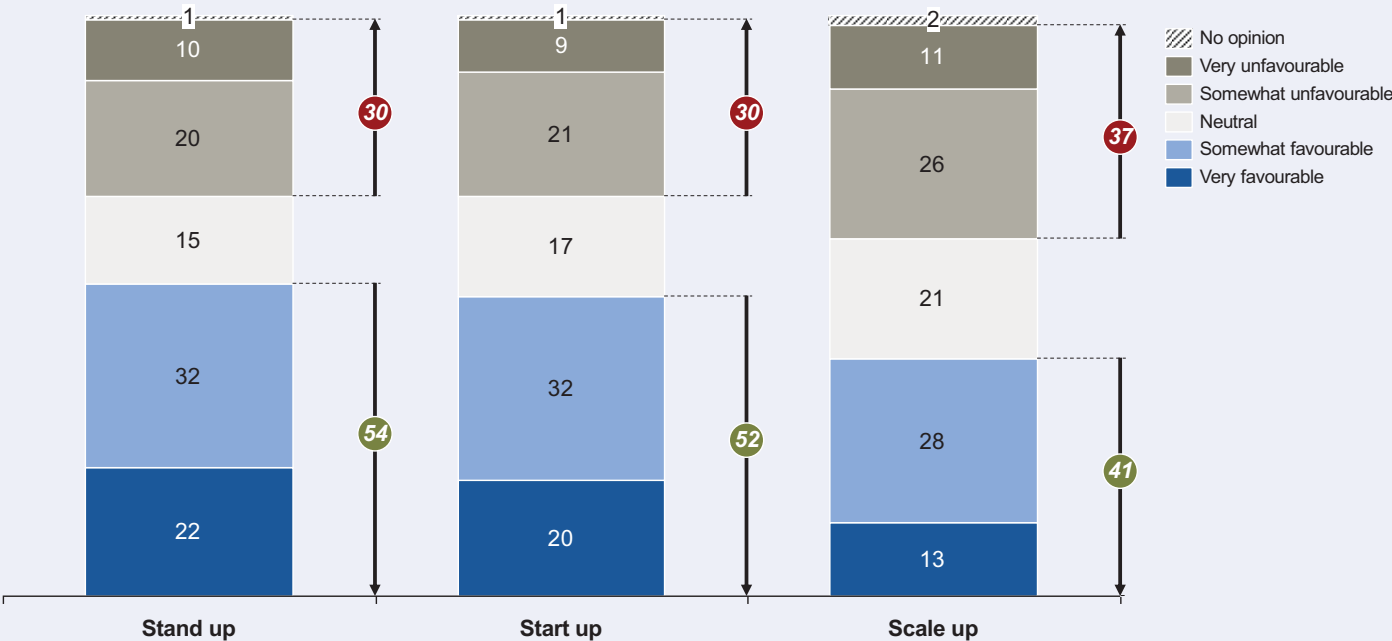


Figure 8: Perception of Conditions per Phase of the Entrepreneurial Life Cycle: Stand Up, Start Up, Scale Up (% of somewhat favorable or very favorable answers); n=951

Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014

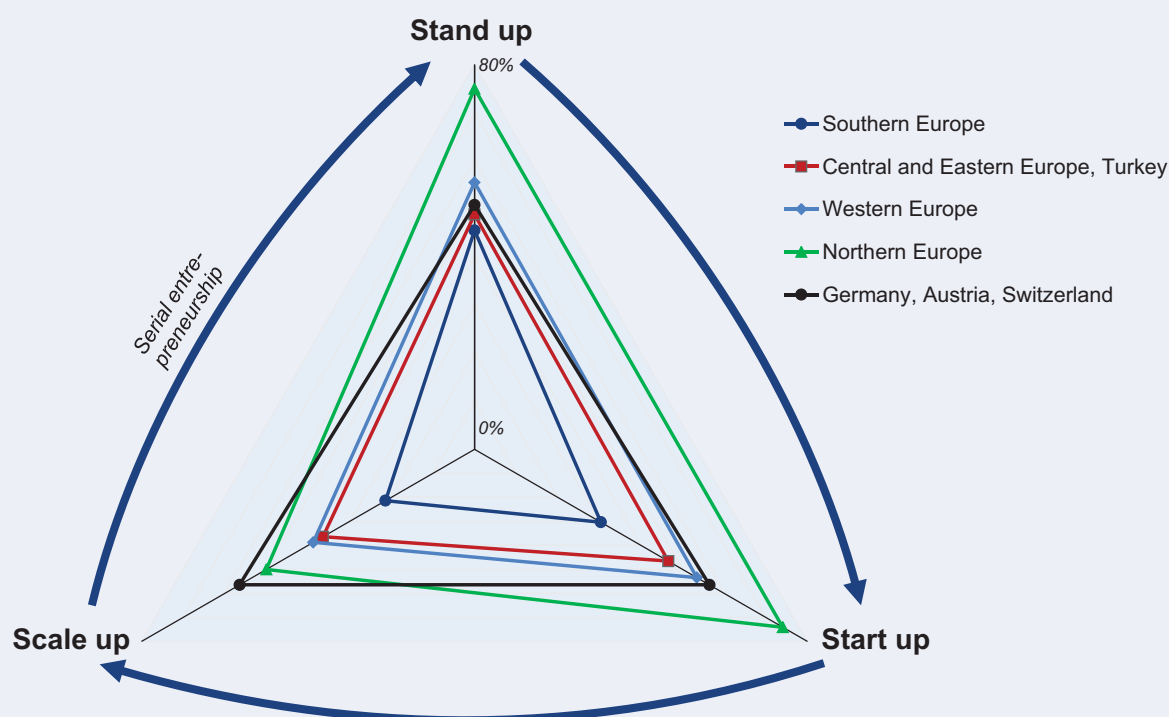


Figure 9: Conditions per Country and Life Cycle Phase based on Countries with More Than 20 Responses (average of responses; 1: very unfavourable; 2: somewhat unfavourable; 3 neutral; 4: somewhat favourable; 5 very favourable)

Note: Regional averages are not restricted to countries with more than 20 responses; regional/country split focuses on Europe and North America.
Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014

Country	Perceived conditions per life cycle phase			n
	Stand Up	Start Up	Scale Up	
Overall	3.4	3.3	3.1	1,130
Central, Eastern Europe and Turkey (CEET)	3.3	3.3	3.1	278
Albania	3.3	3.1	3.2	26
Czech Republic	2.5	3.0	2.8	26
Estonia	4.3	4.5	3.4	29
Latvia	3.4	3.3	3.1	65
Poland	3.3	3.5	3.5	20
Turkey	3.3	3.4	3.3	45
Germany, Austria and Switzerland (DACH)	3.3	3.5	3.4	187
Germany	3.2	3.4	3.4	105
Switzerland	3.6	3.7	3.6	68
Northern Europe (NE)	3.9	3.9	3.4	139
Denmark	4.0	3.9	3.5	82
Southern Europe (SE)	3.0	2.6	2.3	162
Russia	3.0	2.8	2.7	28
Greece	2.5	2.4	2.4	29
Italy	2.7	2.6	1.6	33
Portugal	3.6	3.0	2.9	70
Spain	2.4	2.1	2.0	25
Western Europe (WE)	3.4	3.4	3.0	229
Belgium	3.1	2.9	2.7	80
France	2.9	3.3	2.1	34
Netherlands	3.9	3.8	3.4	51
United Kingdom	3.5	3.6	3.4	59
Overall average for Europe	3.3	3.3	3.0	1,031
Overall average for North America	3.8	3.8	3.7	36

Stand up: Fostering an Entrepreneurial Mindset and Culture across the Continent



Stand up: Fostering an Entrepreneurial Mindset and Culture across the Continent

It takes an entrepreneurial mindset to found a company, or the willingness and ability to take the risk of joining an innovative start-up as an employee.¹² Figure 10 details a conceptual model for the factors influencing whether a person or group has what it takes to found or join an innovation-driven venture.

Three core factors to foster entrepreneurial culture

The decision to become an entrepreneur or join an innovative entrepreneurial venture is complex.¹³ This analysis focuses on three categories of individual factors that were highlighted in interviews and workshops:

- A positive *attitude* towards entrepreneurship and risk as an enabler for selecting an entrepreneurial career with relevance throughout the process.
- The *skills* (such as business intelligence and the capability for idea building) to start or join an entrepreneurial business and turn inspiration into reality.
- The *cultural/social framework* – family, friends, peer entrepreneurs and role models – that influences the decision and roll-out process.

Understanding what motivates European entrepreneurs

The Forum's survey of 1,132 Europeans with experience or interest in entrepreneurship revealed that the top three motivators to "stand up" are: to work independently and have more control of one's work (67% of respondents), to create an innovative offering to take to market or pursue an idea (59%), and to challenge oneself (51%).

Interestingly, although the least motivating factor indicated was "to earn money" (38%), when looking at the opportunity cost of the decision, the same group said that relative to other career opportunities, engaging in entrepreneurial activities is less attractive in terms of job security (64%), financial benefits (29%) and long-term career prospects (26%). Concern about financial benefits is greater among respondents potentially joining an entrepreneurial venture as an employee (37%) than those starting their own venture (29%). These results indicate that policy-makers might do well to focus on attracting new entrepreneurs by reinforcing the non-pecuniary benefits of innovation-driven entrepreneurship, as well as those mechanisms that help protect against the employment and financial risks of creating or joining a new venture.

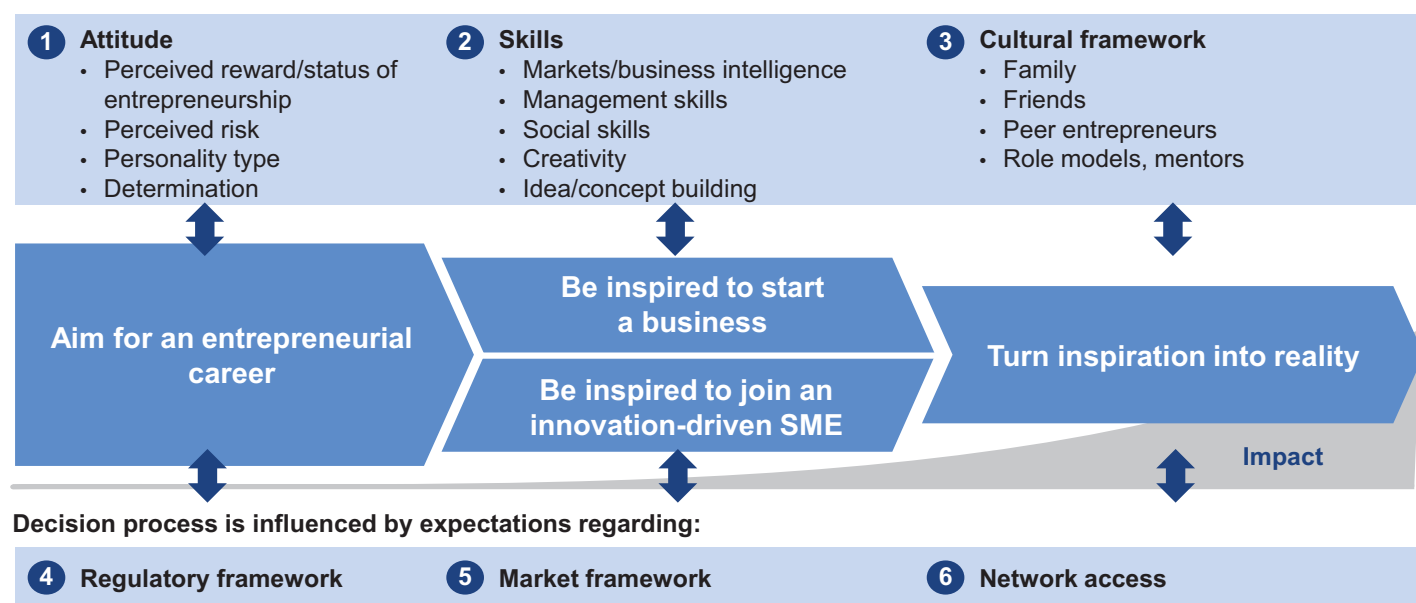
Challenges for promoting entrepreneurship

Attitude: People are risk-averse and aim less for radical innovation

Fear of failure is a key dimension frequently shown to be a roadblock for entrepreneurship, and seems to be more prevalent in Europe than in other regions.¹⁴ Studies have found evidence that the recent economic turbulence has resulted in entrepreneurs taking less risk overall. For example, in the high-tech sector, it seems that entrepreneurs are less inclined to aim for radical innovation.¹⁵ This is a key challenge, as overcoming and learning from failure is crucial for successful entrepreneurship. Consider this: Employees of the Finnish start-up Rovio had developed 51 programmes, none of which was a commercial success. After going through this, their 52nd programme, Angry Birds, finally delivered an overwhelming success and has charted 500 million downloads.

Figure 10: A Conceptual Model of Factors Driving the Decision to Become an Entrepreneur or Joining a Market Innovator – The Six Influencing Factors of Innovation-driven Entrepreneurship

Source: Project Team



Attitude also refers to determination and ambition. Although much attention is currently paid to measuring entrepreneurial activity, it is the quality of entrepreneurship that determines whether a company will become a multinational some years after foundation or not. While, for example, the Netherlands has achieved the highest European percentage of entrepreneurs among adult population, the country does not perform significantly better than others with regard to successful scaling of businesses. One explanation for this may be that many Dutch entrepreneurs do not have the ambition for their businesses to be Europe-wide or global. Since increasing the ambition of large numbers of existing entrepreneurs is a difficult task, recent research has suggested concentrating efforts towards “high potential” entrepreneurs with elevated levels of ambition, and facilitating companies already exhibiting fast growth.¹⁶

Skills: Entrepreneurship schools and universities

Possessing the skills to found and operate a business is an important complement to the attitude of risk-taking and perseverance that successful entrepreneurs display. Entrepreneurship education is undergoing steady development in Europe, but there remains room for further expansion in primary, secondary and tertiary contexts. However, expanding such schemes requires well-trained instructors to both teach and offer practical experience to young people that directly link to the needs of a start-up.

Educational experiences have been shown to be powerful influencers of entrepreneurial activity: in a joint study, JA Sweden (member of JA-YE Europe) and the Stockholm School of Economics demonstrated that “mini company” programmes have a significantly positive effect on the creation of new firms, on firm survival, and on job creation in organizations featuring programme participants.¹⁷ This is strongly reinforced by the Forum’s survey, which reveals that entrepreneurship education was one of the most meaningful forms of prior exposure to entrepreneurship for 54% of the respondents. The European Commission endorses this by

stating: “Investing in entrepreneurship education is one of the highest return investments Europe can make... Whether or not they go on to found businesses or social enterprises, young people who benefit from entrepreneurial learning develop business knowledge and essential skills and attitudes, including creativity, initiative, tenacity, teamwork, understanding of risk and a sense of responsibility.”¹⁸

Cultural/Social framework: Drawing attention to entrepreneurial career options

The third and possibly most important factor is culture, which determines individual attitudes towards entrepreneurship, and how much support they get along the way. One aspect of this is the attention paid by Europeans to the possibility of a career as an entrepreneur. According to the European Commission’s Eurobarometer (Figure 11), 45% of Europeans have never thought of starting a company. Self-employment is a less popular option today than it was in 2009, with a clear majority in the European Union (EU) now favouring work as an employee. Another is the prevailing attitude towards entrepreneurs, which, while favourable, lags the professions. While 79% of Europeans tend to agree that entrepreneurs create new products and services that benefit everyone and 87% believe they create jobs, professionals (such as architects, lawyers, doctors and accountants) nevertheless enjoy a more favourable opinion among Europeans.¹⁹

The importance of family and peer influence is underlined by the fact that more than a third of entrepreneurs who responded to the Forum’s survey indicated that each of these factors was an important, meaningful experience that encouraged them to start their own venture. Early exposure to entrepreneurship, entrepreneurial thinking and peer-level success stories is therefore key to transmitting an entrepreneur-friendly culture. As mentioned above, this culture should also foster high levels of ambition, such that the desire to start a business is accompanied by a desire to create innovative offerings that possess the potential to have large-scale impact across Europe and the world.

Figure 11: Reasons for Not Having Started a Business, Based on a Survey of 30,881 Respondents

Source: *Entrepreneurship in the EU and Beyond*, European Commission

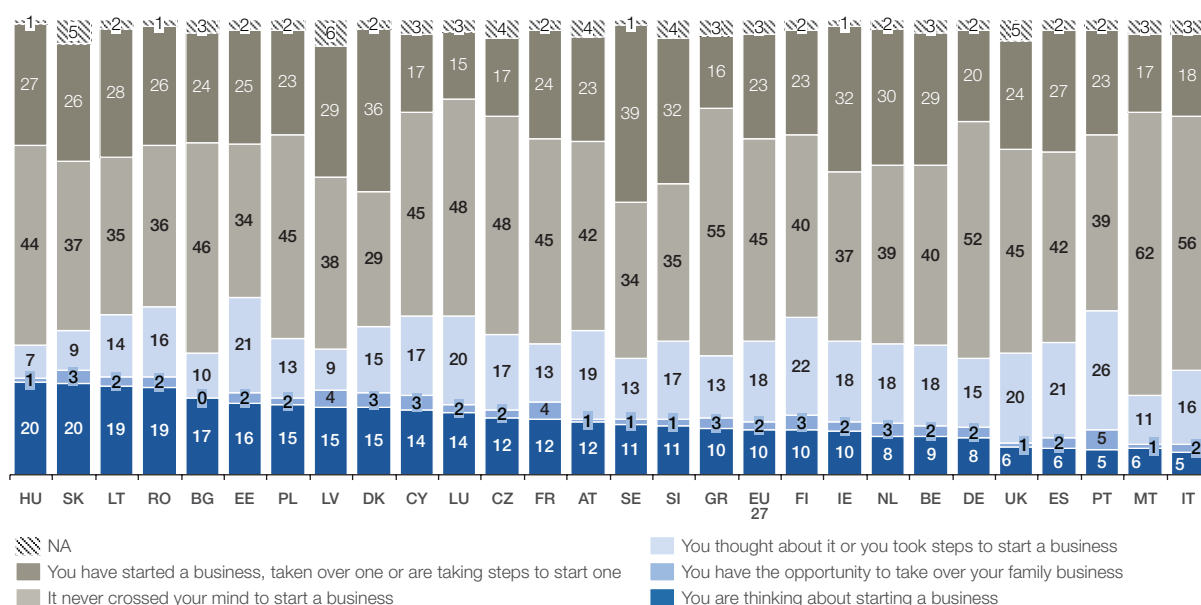


Table 1: Practices in collaboratively promoting entrepreneurship and entrepreneurial careers, with examples

Source: Project Team

Actors	Leading initiatives to foster attitude, skills and cultural/social framework	Leading initiatives to foster regulatory framework, market framework and network access
Private	Private platforms to connect mentors and mentees, entrepreneurs and interns, entrepreneurs and potential entrepreneurs <i>Mentorsme.co.uk</i> is a national network of over 10,000 experienced mentors offering free or paid mentoring.²⁰ <i>Enternships.com</i> has helped over 5,500 companies find graduate talent for entrepreneurial internships.²¹ <i>Founders4Schools</i> reached 2,500 students in a pilot programme in 2011-2012; the platform connects entrepreneurs with teachers to inspire talent at school with success stories.²²	Bottom-up networks for entrepreneurs engaging in policy support <i>Campus Party</i>, <i>Le Web</i> and <i>Pioneers</i> are leading international conferences gathering entrepreneurs and talent, promoting entrepreneurship by providing access to broad and dynamic networks and by influencing policy.²³
Public-private	Public-platforms to connect private actors with schools and private universities to set up education programmes, student projects or events to inspire talent with success stories <i>Junior Achievement Young Enterprise Europe</i> is Europe's largest provider of entrepreneurship education programmes. It reached 3.1 million students in 2012.²⁴ <i>IMP³rove</i> offers intrapreneurial experiences (that is, behaving like an entrepreneur while working within a large organization) in consulting SMEs in innovation management based on an extensive European benchmarking database. Over 3,500 companies in more than 30 countries have used <i>IMP³rove</i>.²⁵ <i>The European Forum for Entrepreneurship Research</i> (EFER) has trained 472 professors in entrepreneurship, organizes events and publishes regularly on entrepreneurship since its founding in 1987.²⁶	Large-scale event series to promote entrepreneurship <i>Global Entrepreneurship Week</i>, the world's largest campaign to promote entrepreneurship, inspires and connects potential future entrepreneurs. It has held approximately 35,000 events in 125 countries.²⁷ Bottom-up networks of entrepreneurs providing bottom-up policy support <i>European Young Innovators Forum (EYIF)</i> is building innovation ecosystems in Europe by encouraging young Europeans to take more risks in innovation and entrepreneurship, and encouraging governments, businesses, society and individuals to support and reward such risk-taking through policy frameworks and access to mentors, finance and markets. EYIF has rapidly become the leading foundation for youth innovation in Europe, reaching more than 500,000 participants.²⁸ Partnering across stakeholder groups to improve regulatory framework <i>Start-up Europe</i> was launched in March 2013 with a six-part plan to accelerate and connect local entrepreneurship ecosystems in Europe, with a focus on tech start-ups.²⁹ The <i>European Digital Forum</i> is a first-of-its kind think tank dedicated to empowering tech entrepreneurs and growing Europe's digital economy.³⁰
Public	Systematic entrepreneurship education throughout the curriculum, tailoring content to market needs Initiatives exist in a dozen countries on cooperation between education and business, entrepreneurial competitions, certification of entrepreneurship skills, the setting-up and running of student training firms, and teacher training and support.³¹	Comprehensive entrepreneurship programmes <i>The Entrepreneurship and Innovation Programme</i> under the European Competitiveness and Innovation Framework Programme (CIP) had a budget of € 2.17 billion for the period 2007-2013. Achievements include numerous projects with universities and non-governmental organizations to improve entrepreneurship education, and the European SME Week with 1,562 events across and beyond Europe in 2012.

Start up: Supporting the Establishment and Initial Expansion of Innovation-driven Ventures



Start up: Supporting the Establishment and Initial Expansion of Innovation-driven Ventures

In the second, “start up” phase of the entrepreneurship life cycle ecosystem factors play a crucial role. This section focuses on access to capital as a key bottleneck in starting a company: 79% of Europeans specify access to finance as an issue preventing them from starting or expanding a business.²⁹ While regulatory frameworks are often also cited as a barrier to business set-up and operation in Europe, these are very heterogeneous across European countries – for example, in some countries, all the necessary licenses required to start a business to manufacture small IT devices can be obtained in less than 10 days, while in others it can take more than 80 days.³⁰

As Figure 12 indicates, finance comes in a number of forms that differ in relevance and accessibility at different stages of a venture’s growth. Friends and family are often the earliest form of seed finance, frequently complemented by funds drawn from incubators and business angels. Venture capital is primarily available in Europe to ventures that are past the “proof of concept” stage, while bank loans and other forms of growth capital require evidence of successful operation and profits that indicate future success at larger scales.

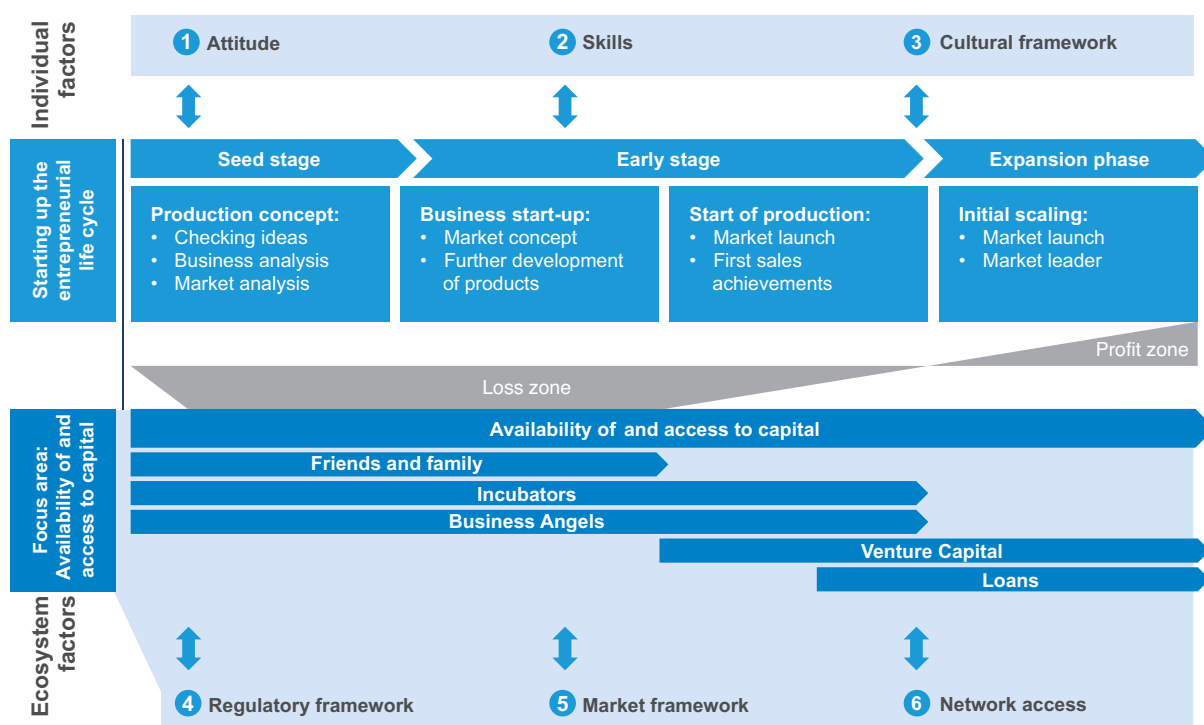
Even though major cities are booming, venture capital supply has decreased by 56% since 2007

The EU is home to 19.0 million micro companies (those with less than 10 employees), constituting the preponderant majority of the 20.6 million SMEs in Europe in 2013.³¹ How many businesses are set up in a given period varies across Europe: in Spain and Italy, fewer businesses were started in 2013 than in 2008, while France, Sweden and the United Kingdom have experienced an increase.³² However, Europe’s major innovation hubs are booming. Between 2008 and 2012, the number of start-ups in Berlin increased from 36,700 to 44,200 per year.³³ Yet, venture capital fundraising in the early and expansion stages amounted to only €3.6 billion in 2012, compared with €8.2 billion in 2007 – a drop of 56%.

This section examines the reasons for this contraction in access to capital in further depth, considering the drivers of the overall situation and segmenting the analysis by actors, with a focus on the role of business angels, venture capital and banks.

Figure 12: Overview of Start-up Phase

Source: Project team, based on financing stage overview by OECD³⁹



The challenge of access to capital

Mediocre long-term performance dampens capital supply despite a number of recent success stories

The quality of ventures demanding capital and the return expected of them in prevailing market conditions play a key role in determining access to capital. Europe does not lack capital, but there is a lack of appetite to invest in entrepreneurial ventures as an asset class, partly due to a perception of low returns for investors. Indeed, from 1980 to 2012 and including the years of the financial crisis, venture funds reported an average internal rate of return of only 1.27%, with the top quartile earning 18.49%.³⁴ However, while data is hard to come by, in recent years the European venture capital segment has seen a number of notable successes such as Supercell and Spotify. Many European venture capital experts say the sector is stronger than the long-term data indicate.



Today, non-European investors recognize Europe's strong development. Take digital as an example. In music, Europe is the home of Spotify, SoundCloud and Shazam. In gaming, there is Rovio, Supercell and King. In e-commerce, there is Skyscanner, Privalia or Zalando. In software, you find Criteo, Unity and OpenX. Since Skype, the speed at which Europe is generating billion-euro companies has been dramatically increasing.



Matthias Ummerhofer, Head, Venture Capital, European Investment Fund

Supply of business angel financing: Transparency of availability and "smartness" of money needs to be improved

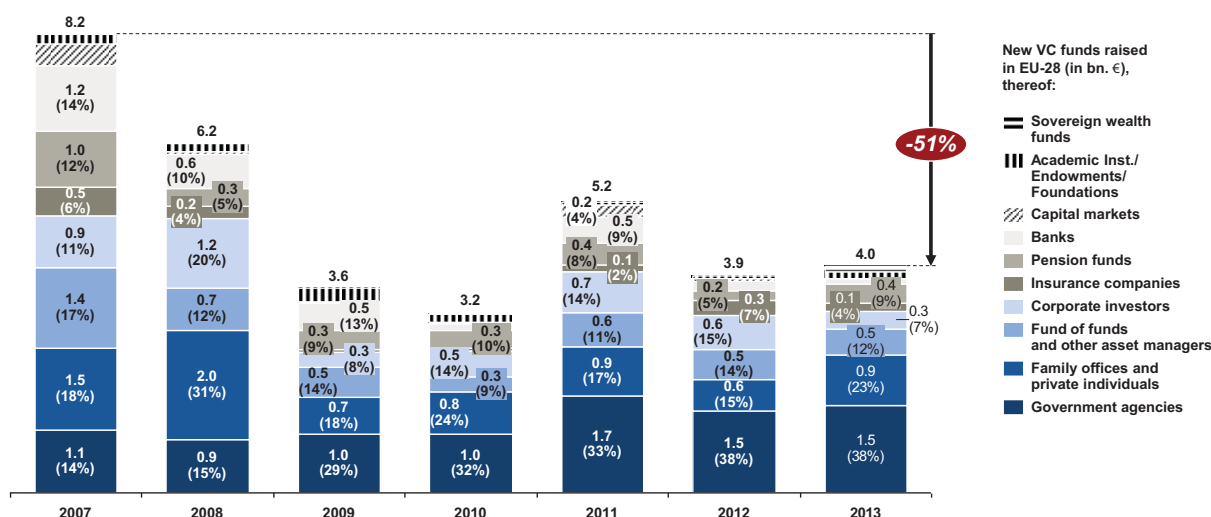
Business angels are a key source of seed financing. "Smart money" from business angels can serve to provide both financing and expert advice. However, transparency on the availability and quality of angel funds is an important issue. This is illustrated by the fact that the visible share of business angel investments only amounts to approximately 10% of the overall market estimate of €5.1 billion for 2012.³⁸ However, while there is room for improvement, project interviewees and workshop participants did not see the actual availability of business angel capital for seed and early-stage financing as a key issue. Rather, the primary focus was on "the missing middle" of financing larger-than-typical angel investments (up to around €500,000) but smaller than the deal size typical of venture capital funds operating in Europe (from €3-5 million up).³⁹

In the aftermath of the crisis, government agencies provide a key share of venture capital

As mentioned above and displayed in Figure 13, the supply of venture capital has seen a sharp decline in recent years. Part of it is linked to higher levels of risk aversion following the financial crisis as investors struggle with an increased regulatory burden.³⁹ This drop in private investment has seen the role of government agencies in venture capital raised from institutional investors increase from pre-crisis activity of 14% in 2007 to 38% in 2013. A reliance on public funds in this way is not a good sign of the health of the venture market – government agencies' financing volumes are typically limited – in the case of the German Gruenderfonds, for example, to €500,000 for the first round and up to €1,500,000 for follow-up rounds – which can create ceilings for subsequent financing, thereby exacerbating the challenge of accessing growth capital.⁴⁰

Figure 13: New Venture Funds Raised in Europe by Investors, 2007-2013 (Incremental Amount Raised per Year in Billion Euro and as a Percentage of Total)

Source: European Private Equity and Venture Capital Association (EVCA)



The sources of financing for European venture funds differ strongly between European regions, as shown in Figure 14. While in Germany, Austria and Switzerland (DACH), as in the United Kingdom and Ireland, less than 20% of venture funds have come from government agencies, such agencies have accounted for over 40% of venture funding in Central and Eastern Europe. Banks are particularly important for venture funds in Southern Europe (22% of financing) and Central and Eastern Europe (CEE) (26%), giving an indication as to why financing in these regions has become more challenging in the aftermath of the financial crisis, and may remain tight as regulation and capital requirements restrict the ability of banks to invest. In CEE, family offices and private individuals do not contribute a significant share of financing, whereas this group represents more than 20% of funds raised in DACH, Southern Europe and Western Europe. Corporate investors take a share greater than 20% only in DACH. Funds of funds – which hold a portfolio of other investment funds rather than investing directly in stocks, bonds or other securities – and capital markets are particularly important in Western and Northern Europe.

Europe's next challenge is to increase the number of high-growth businesses receiving financing rounds

Further financing challenges appear when start-up businesses attempt to scale their activities. Comparing seed/start-up/early-stage rounds with follow-on rounds between the United States and Europe in Figure 15, the drop from seed to follow-on rounds is steeper in Europe, illustrating the European “valley of death.” Of course, some drop is natural as a portion of start-ups invariably fail, but the extent of the difference between Europe and the United States does indicate greater difficulty in accessing growth capital in Europe.⁴²

Figure 14: Sources of Funds – European Venture Funds by Region⁴¹ (Percentage of Total Incremental Fundraising, 2007-2013)

Source: European Private Equity and Venture Capital Association (EVCA)

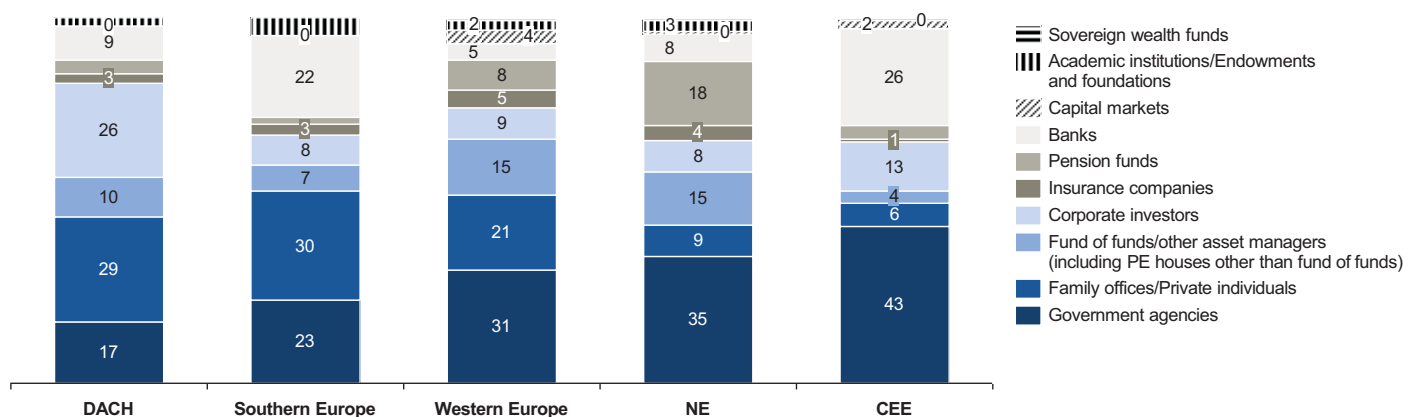
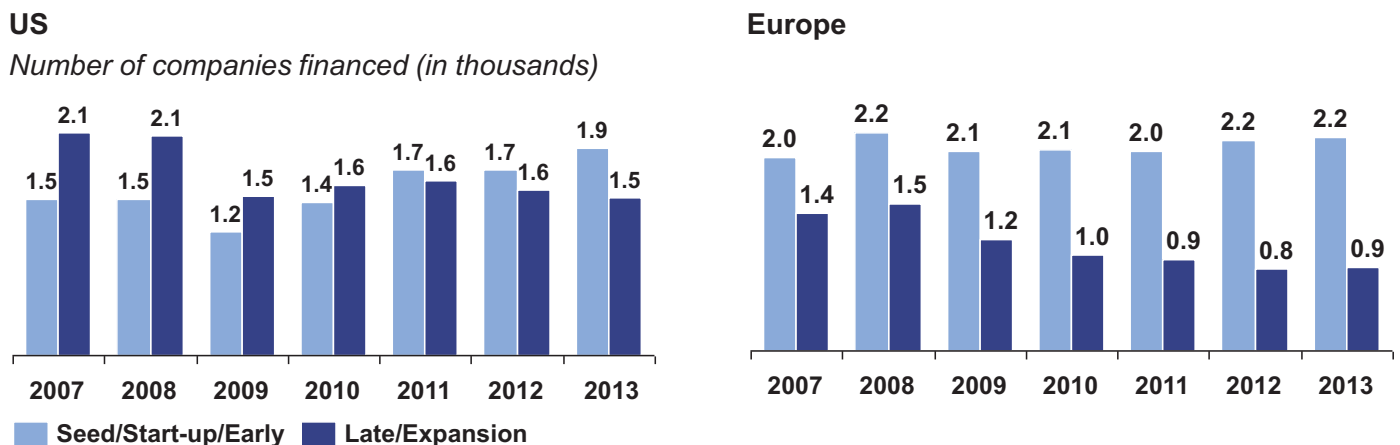


Figure 15: Imbalance between Seed and Follow-on Rounds by Number and Region

Source: European Private Equity and Venture Capital Association (EVCA); National Venture Capital Association/Thomson Reuters



Increased demand for collateral after the economic crisis restricts access to bank loans for entrepreneurs

The *European Small Business Finance Outlook 2013* and *The Global Competitiveness Report 2013-2014* show that the financial and economic crisis continues to impact capital supply by influencing financing conditions. In particular, greater demand for collateral by banks has made it more difficult to access credit.⁴³

In some countries, such as the United Kingdom, potential difficulty with access to bank loans is alleviated by easier access to venture capital. However, as Figure 16 indicates, restricted access to bank loans and venture capital reflects Europe's competitiveness divide, with Northern European countries being among global leaders in access to venture capital and loans.



The growing number of legislative initiatives in the wake of the financial crisis has amplified the burden for long-term investors. Capital standards like Basel III and Solvency II have pushed banks and insurance companies out of European long-term equity financing, impacting private equity and venture capital.



André Loesekrug-Pietri, Managing Partner, A CAPITAL

Figure 16: Access to Venture Capital and Bank Loans in EU-28, the United States and BRIC Countries (Brazil, Russia, India, China), Average of Survey Respondent Scores per Country

Survey questions: Access to venture capital: In your country, how easy is it for entrepreneurs with innovative but risky projects to find venture capital? (1 = extremely difficult, 7 = extremely easy); Access to bank loans: In your country, how easy is it to obtain bank credit with only a good business plan and no collateral? (1 = extremely difficult, 7 = extremely easy)

Source: Global Competitiveness Index 2013-2014

**Access to
venture capital**

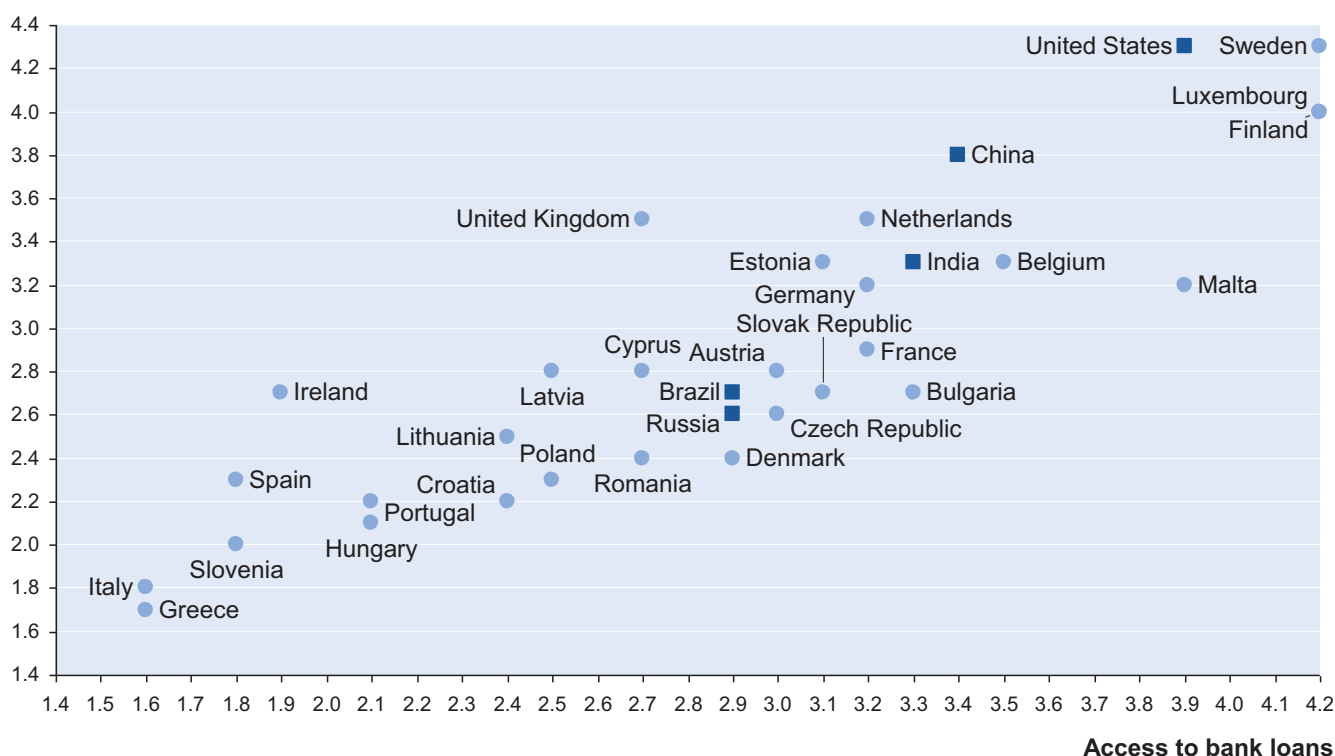


Table 2: Practices to Collaboratively Promote Access to Capital, with Examples

Source: Project Team

Financing phase		
Actors	Seed/early stage	Later stage and expansion stage
Private	Focusing on private actors <i>The European Business Angel Week</i> will increase visibility of angel investments; 140 events were held in 34 countries in November 2013.⁴⁴ <i>Using crowd-funding.</i> In a large number of emerging platforms, both funding needs and funding purposes are communicated through an open call to a forum – the crowd. In 2012, global crowd-funding reached \$ 2.7 billion raised (of which some 44% was lending and 4% equity). Global crowd-funding grew 81% in 2012, accelerating from 64% growth in 2011, while European crowd-funding volumes grew slower – 65% to \$945 million.⁴⁵ At the current market development stage, due diligences for lending and equity crowd-funding can be an issue due to the low market power of individual investors.⁴⁶	Offering alternative instruments to classic loans – Intermediated disintermediation <i>Setting up mini-bonds</i>, e.g. of €10 million volume, which are accessible to medium-sized companies and can be traded, and do not depend on bank financing, can help. The market for mini-bonds has expected grown strongly – from £90 million in 2012 to £1 billion in 2013 in the United Kingdom.⁴⁷ “We need an intermediated disintermediation.” Andrea Illy, Chief Executive Officer, Illycaffè
Public-private	Rethinking the role of public entities as co-investors joining private investments <i>Co-investment funds</i> provide 1) the opportunity to invest in larger companies and 2) increased potential to diversify investment amounts. Take the EBAN/EIF collaboration between business angels and the EIF, for example. In Portugal, business angels invested €2 million on average prior to the launch of a co-investment initiative; afterwards, the average investment became €11 million. In the United Kingdom, the <i>Scottish Co-Investment Fund (SCF)</i> is a £72 million equity investment fund. In venture capital, for example, the fund invests £0.5-2.0 million in deals of £2-10 million. The fund operates at minimal cost on a fully commercial basis. Offering combined support services and financing A growing number of European accelerators and incubators can combine financial support with networking, mentorship and physical space for entrepreneurs. A recent study by Telefonica indicates that over the past five years, the number of incubators and accelerators has increased at an annual rate of 29% to an overall number of 260 start-up programmes in Europe, compared with around 200 in the United States.* * Incubator: provision of physical space, usually without funding but with mentorship network, informal event programmes, consulting services, investor exposure and public funding links. Accelerator: provision of pre-seed investment, usually taking a minority share in the start-up; start-ups profit from both events and mentoring. Source: Salido, Sabás and Freixas (2013), “The Accelerator and Incubator Ecosystem in Europe,” Telefonica.	Creating and aligning partnerships between companies, universities and research organizations Finland is a leading country in <i>innovation cooperation</i> between companies and the research sector. In SMEs, an investment of €1 by Finland's funding agency Tekes produces €21 of turnover annually; for every euro invested by Tekes, companies increase their own R&D expenditure by two euros. A total of 47 of the 50 fastest growing companies in Finland are Tekes customers. These successes are not linked to higher spending; in relation to gross domestic product, public funding for R&D activities in Finland is 3%, compared with 7% on average in the EU and 14% in the US.⁴⁸ “We need to strengthen access to capital across the region beyond the early stage by creating a partnership between public and private investors in a new European fund-of-funds for venture capital” Dörte Höppner, Chief Executive, The European Private Equity and Venture Capital Association (EVCA) “We need more of a pan-European mentality, both on the investor's and on the entrepreneur's side.” Karen E. Wilson, Senior Fellow, Bruegel, and Organisation for Economic Co-operation and Development (OECD)
Public	Reducing costs for entrepreneurs⁴⁹ “We invest in the business environment to create a feeling of opportunities.” Ali Babacan, Deputy Prime Minister of Turkey The Turkish state reduces taxes for techno parks – eligible businesses do not have to pay income or corporate taxes on revenues derived from certain development projects.⁴⁷	

Scale up: The Collaborative Road to Sustainable Growth



Scale up: The Collaborative Road to Sustainable Growth

For Europe to realize the potential of its innovative entrepreneurial ventures, the ventures must scale well beyond simply being viable, local businesses employing a handful of people and serving a small customer base. The primary ways for start-ups to achieve scale tend to be: organic, acquisitions, or collaboration. While the first two options generally require large levels of equity or debt financing, collaborative strategies enable “win-win” situations for both partners while offering potential for the start-up partner to profit from the resources and backbone of the large corporation partner. This section therefore examines the potential within Europe to foster collaborations that enable the scaling of innovative ventures to the benefit of all parties concerned.

“
When helping SMEs in Europe, we should not lose sight of those entrepreneurs who have the potential to go international. We want to create European Champions.”

Carl Bildt, Minister of Foreign Affairs of Sweden; Chair, Global Agenda Council on Europe

Collaboration between large market-leading corporations and innovators can create opportunities throughout the value chain. Collaboration may occur in many areas, including research and development (R&D), sourcing, manufacturing and sales. The focus of this section is on R&D collaboration broadly defined, whereby a start-up/innovative SME and a large company agree to work together on the development or implementation of novel know-how by making use of the resources and competencies of both organizations.⁵¹ An overview of the benefits and risks of collaboration for entrepreneurs and large corporates is shown in Table 3.

“
The solutions being pioneered by start-ups are an important element of our innovation strategy. This year alone, for example, we have seen more than 300 start-ups and entrepreneurs take part in our Open Innovation project, and have launched partnerships to develop 60 new tech businesses over the next three-years.”

”
Anthony Jenkins, Chief Executive Officer, Barclays

“
Microsoft is actively working to provide opportunities for European SMEs and start-ups by providing access to digital tools, training and mentorship to ensure their growth and thus contribute to fuelling the European economy.”

”
Jan Mülhfeit, Chairman, Europe, Microsoft Corporation

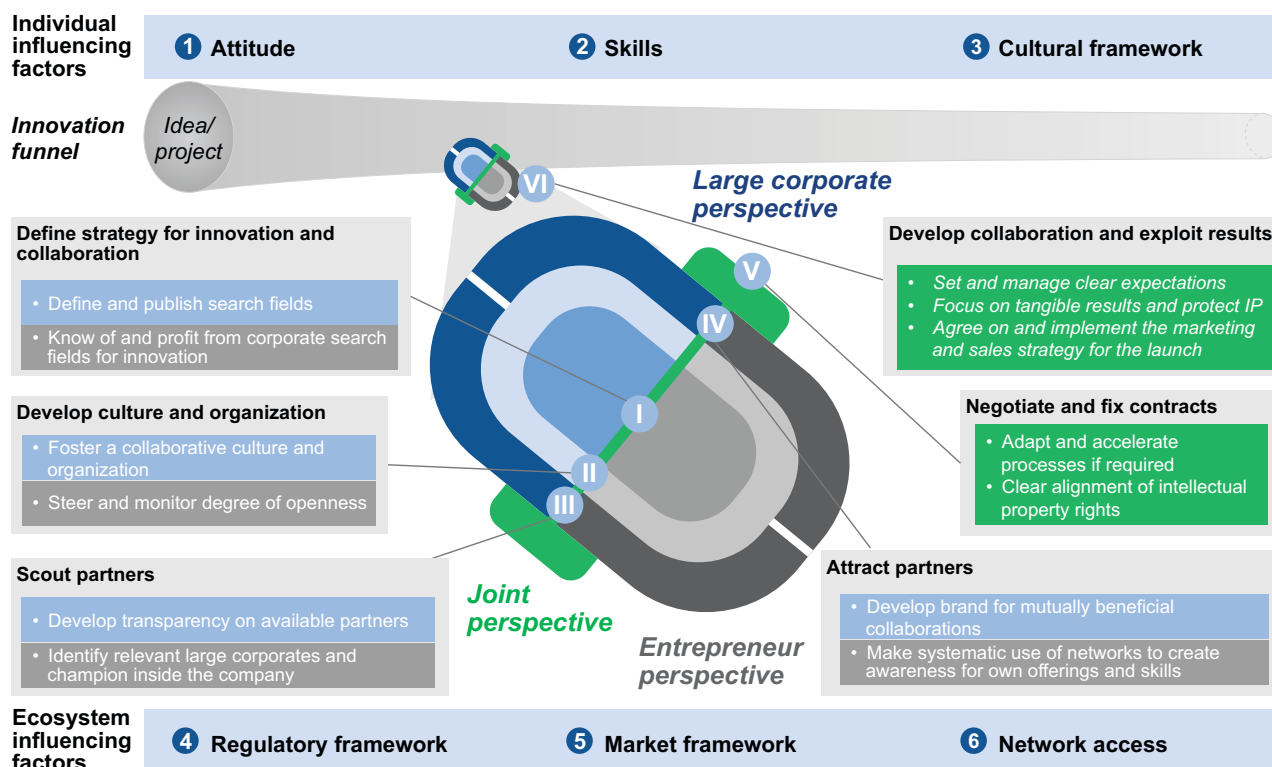
Table 3: The Give and Take of Collaboration – Key Aspects Based on Project Interviews and Workshops

Source: Project Team

Benefit for large corporates	Benefit for entrepreneurs	Risk to one or both partners
Company shares in high-potential entrepreneurial ventures	Access to finance	Loss of reputation if collaboration fails, loss of investment/independence
Ideas/concepts, possibilities to test ideas quickly and outside complex structures, access to technology, rapid prototyping	Commercialized innovation in an accelerated process	IP ownership, disputes, issues
Specialized talent and resources	Access to talent and resources	Loss of talent or resources
Specific partner network	Access to business partners, opportunity to demonstrate capabilities and to create success cases for marketing	Branding issues
Specific customer intelligence, access to specific customer segments	Learning about new application fields, access to new markets and sales network to access the market	Unclear or too high expectations
Entrepreneurial spirit and culture	Experience and advice	Dilution of organizational culture and cultural clashes

Figure 17: Six Dimensions of Successful Collaborations with Key Challenges and Influencing Factors

Source: Project Team



The analysis is based on the *six dimensions of successful collaboration* shown in Figure 17. Dimensions one to four address the different perspectives of entrepreneurs and large corporations: first, there has to be a *strategy for innovation and collaboration*. Second, a *culture* for co-creation and adequate *organization* needs to be developed. Building contacts requires work on aspects three and four: becoming a magnet for *attracting partners* with a reputation for successful collaboration, and *scouting for partners* effectively and efficiently to monitor and evaluate future business opportunities. *Negotiating and fixing contracts* needs to offer mutual benefits within a lean process to accelerate progress with innovation projects as compared to a purely internal effort. *Developing collaborations and exploiting results* requires joint efforts to translate the collaboration into successful business impact for both partners. With regard to influencing factors of the entrepreneurial life cycle, this section focuses on *network access*, in particular on access to business partners.

Challenges for collaboration

Almost one-third (30%) of respondents to the Forum's survey on innovation-driven entrepreneurship had partnered with a large corporation or organization in a former venture. Respondents report that a lack of transparency and visibility of opportunities (39%), a weak culture of collaboration (34%) and the difficulty of setting up and operating collaborations (32%) inhibit this type of partnership.

European survey participants rated the enabling factors for collaboration and co-creation either neutrally or low on average (see Figure 18). They indicated partnerships would result in improvements in a number of areas: they would improve opportunities to bring ideas to market (80%), to access customers outside local markets (69%) and to access finance (68%).

Specific challenges per dimension are shown in Table 4.

Figure 18: Enabling Factors for Collaboration and Co-Creation between Entrepreneurs, Academia and Large Corporations (% of respondents); n=855

Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014

	Very low	Somewhat low	Neutral	Somewhat high	Very high	No opinion
Culture of collaboration and co-creation	76 9%	213 25%	229 27%	246 29%	59 7%	32 4%
Transparency and visibility of opportunities for collaboration	83 10%	255 30%	249 29%	186 22%	42 5%	40 5%
Ease of setting up and operating collaborations	61 7%	212 25%	291 34%	209 24%	45 5%	37 4%

Up to 10%
 11-20%
 21-30%
 >30%

Table 4: Challenges Guiding Entrepreneurs and Large Corporations in Partnerships

Source: Project Team

Dimension	Challenges for large corporates	Challenges for entrepreneurs
Defining strategy for innovation and collaboration	Defining and publicising search fields As a first step, capability gaps within the organization need to be clearly identified so that they can form the basis of the search for suitable collaborators. This would also lower transaction costs for potential partners.	Know of and profit from corporate search fields for innovation Entrepreneurs in start-ups/innovative SMEs need to be proactive to monitor how far their activities are relevant for large partners, considering their capacity to manage collaborations without compromising their core fields of work.
Developing culture and organization	Fostering a collaborative culture and organization Both a soft cultural and a hard organizational component need to be considered: from a cultural perspective, collaboration requires a new paradigm of open R&D. Importantly, this requires support throughout the corporate hierarchy. From an organizational perspective, developing a specific structure and processes to institutionalize collaboration is crucial to systematically realize opportunities – e.g. by creating separate units for venturing or R&D collaboration. The independence of these units has been highlighted as an important enabler for disruptive innovation. ⁵²	Steering and monitoring degree of openness The “not-invented-here” syndrome that leads to external work being seen as competition and a threat to one’s own organization should be overcome. The degree and scope of openness are crucial: opening up without protected intellectual property (IP) or without a considerable time allocation for R&D inherits major risk for entrepreneurs. ⁵³
Scouting for partners	Developing transparency on available partners Any firm may find an enormous number of potential market innovators to collaborate with. For example, there were 44,200 start-ups in just the city of Berlin in 2012, and 21 million SMEs in EU-28 alone. ⁵⁴	Identifying a relevant large corporate and a champion inside the company There are 43,700 large corporations in EU-28. Nevertheless, from the perspective of an innovative SME, the number of large corporations representing potential partners is much more tractable, and the challenge lies in identifying the relevant contact within the organization.
Attracting partners	Developing a brand for mutually beneficial collaborations Given the immense number of entrepreneurs, the likelihood of actively identifying the most suitable start-ups or SME partners is limited. Complementary, large corporations need to seek ways to attract high-potential partners.	Making systematic use of networks to create awareness about strengths and skills There are high transaction costs involved in building collaborations due to the lack of information about needs. Creating awareness about one’s skills and strengths is imperative for attracting potential large corporate partners.
Negotiating and fixing contracts	Adapting and accelerating processes, assigning intellectual property rights clearly Speed matters. Finding the right mix of rigour and pragmatism when negotiating a win-win contract is important. Setting up a collaboration requires fast and lean processes at both partners’ ends to fully realize the potential of accelerating R&D while keeping the approach tractable for the smaller partner. A key challenge is integrating the smaller partner in the procurement processes of the large corporation, which are usually complex and can burden the smaller partner. To build trust between partners, potential benefits and in particular intellectual property rights need to be assigned clearly.	
Developing collaboration and exploiting results	Setting and managing clear expectations, focusing on tangible results and IP protection, and agreeing on and implementing a marketing and sales strategy for the launch Timescales are a key aspect while developing and strengthening partnerships. Frequently, frictions occur due to the amount of time it takes a large corporate to make a decision, process a contract or issue a payment. Because entrepreneurs and particularly start-ups operate on shortened timescales, it is often important to set expectations upfront. Securing IP rights can form the basis of unique innovation-driven business models. Marketing and sales activities related to the results of the collaboration need to be considered as early as possible so as to allocate resources accordingly.	

“

Boosting collaboration is about systematically identifying win-win situations for both sides.

”

Jim Andrew, Chief Innovation Officer, Philips

“

Opening-up systematically in their innovation activities along their product- or service life cycles will be key for larger companies in order get to the next level of speed, effectiveness and competitiveness. The order of magnitude for this need for a specific company might differ by the industry it is operating in, but there is no way not pursuing it and building the respective necessary capabilities.

”

Kai Engel, Partner and Managing Director, Germany, A.T. Kearney

Table 5: Practices to Promote Collaboration, with Examples

Source: Project Team

Dimension	Practice/example
Defining a strategy for innovation and collaboration	“Focus on potential corporate partners whose leaders personally support collaboration with smaller companies: these organizations can more flexibly accommodate SMEs’ particular needs.” Robyn Scott, Co-Founder, OneLeap; Young Global Leader “If large corporations systematically publish their search fields, there will be an increase in transparency, which ultimately boosts collaboration.” Martin Vollmer, Chief Technology Officer, Clariant
Developing culture and organization	Promoting an R&D setup with specific organizational structures integrating employees, partners and customers <i>Barclays Open Innovation:</i>⁵⁵ The project began with a survey of business units, which returned more than 80 challenges that could be addressed by start-ups and entrepreneurs. Over 300 individuals - founders and entrepreneurs – pitched their proposed solutions to specific challenges in a series of presentations and one-to-one sessions which involved more than 60 members of the Barclays team. The result was 171 one-to-one evaluations and 92 companies selected to launch pilots and develop partnerships. Barclays is now working to scale this model for open innovation across the group and in different regions and problem sets. <i>Phonebloks/Motorola:</i>⁵⁶ Phonebloks’ aim is to develop a modular cellular phone to provide the opportunity to change, for example, the camera or the memory card without having to change the entire phone. The approach was open-source, and made for the entire world; Phonebloks has more than 960,000 supporters. Motorola committed to open up its corporate R&D, using a platform for exchange with the Phonebloks community. To retain independence, Phonebloks is financed by donations. Motorola will provide a developer’s kit to allow the community to contribute to product development.

Dimension	Practice/example
Developing culture and organization (continued)	Ensuring senior executive support for external collaborations <i>BT/MySinglePoint (MSP):</i>⁵⁷ BT uses multiple mechanisms to ensure that collaboration with start-ups and SMEs delivers results. First, BT has dedicated scouting teams in Silicon Valley and Israel, led by a senior executive with enough credibility in the company to champion collaboration cases. Second, BT involves senior executives early in the collaboration process, by organizing meetings with selected companies during dedicated off-site sessions. As an example, over the last six months, BT has been working closely with the Israeli start-up MSP. The engagement with MSP started with an innovation scouting trip to Israel, attended by BT's Technology, Services & Operations Chief Architect. This senior level sponsorship provided access to the right operational teams, and led to a rapid evaluation of MSP with a live trial in BT quickly following the initial engagement. Running an entire division aimed at providing digital services to UK SMEs helps senior executives understand the perspective of smaller companies and what they expect from a partnership. BT has specific "light" versions of processes for running proof of concept studies, and the scouting team ensures the company is respectful of start-up resources. "There is always the potential for an impedance mismatch between large corporates and start-ups, the key is to seek senior executive sponsorship early enough to optimize resource alignment." Jean-Marc Frangos, Managing Director, External Innovation, BT
	Creating a culture for co-creation "Preparing an organization to collaborate has several dimensions: we need to work both on capability to absorb external input and willingness to realize opportunities." Thomas Müller-Kirschbaum, Corporate Senior Vice-President, Research & Development/Sustainability, Henkel "Large corporations need to internally promote the benefits of collaborations with startups to help the organisation foster these kinds of opportunities." Miles Kirby, Managing Director of Qualcomm Ventures, responsible for investments in Western and Eastern Europe "To systematically foster collaboration between large companies and entrepreneurs we have to start with specific topics – e.g. 3D printing – around which co-creation can happen. We are not lacking good ideas, we are not lacking potential cooperation opportunities. Large companies can provide the challenges and can provide the market needs to give those ideas a direction. They should meet in virtual and/or real spaces to engage, experiment and ultimately co-create." Sven Scheuble, Vice-President and Head, Siemens Technology-to-Business Center "Conduct experiments to truly understand the 'living organism' of collaborations." Sir Tim Hunt, Principal Scientist, Cancer Research UK; Nobel Laureate
Scouting for partners	Conducting a broad search for partners <i>Siemens/PhysX:</i>⁵⁸ At the Siemens Technology-to-Business Center (TTB) the idea of Game Engine Modelling (GEM) was born, i.e. to apply game engine components and architecture to machine simulation. TTB scouted for a lightweight, inexpensive consumer-level game engine as a fundamental building block. As such, TTB licensed a game engine called PhysX from a small Swedish gaming start-up. PhysX provided the basic engine for modelling various forces, such as gravity and acceleration. Ultimately, the project led to an industry-leading product called "Mechatronics Concept Designer".

Dimension	Practice/example
Scouting for partners (continued)	Drawing on intermediaries supporting connections between challenges and solvers <i>Innocentive</i> works with over 300,000 solvers from more than 200 countries, and has posted more than 1,650 external challenges and thousands of internal challenges. The CEO-Collaborative Forum (CEO CF) is where CEOs from high-growth companies convene to explore practical solutions to critical problems about finance, raising capital, shareholder issues, their board growth strategies and other challenging real-life issues. They receive peer-collaborative feedback from an experienced community of CEOs. <i>Startup Europe Partnership</i> is a platform where startups meet corporates, with a goal: to make things happen, whether that means procurement (corporates buy products and services from startups), strategic investments and eventually acquisition.⁵⁶ “Finding the right entry point and the right champion is crucial: a person who is senior enough to bend some rules if necessary for collaboration with a start-up/SME.” Rajeeb Dey, Chief Executive Officer, Enternships.com; Young Global Leader Building a database and evaluating data with a clearly defined process <i>Google Ventures</i> uses algorithms with data from academic literature or from due diligences. As summarized in <i>The New York Times</i>: “Is it better to invest in someone who started a company in a mediocre year for returns and did well, or started one in a good year with mediocre results? Most people say the first case. But results from academic studies show it is the second, because that indicates the founders have a better sense of market timing.”⁶⁰
Attracting partners	Developing a brand as a leading collaborator “Start-ups have choices. It is important that we bring something more to the table than investment and scalability potential for the innovations being developed by them. In this new phase in our venturing and open innovation efforts we want to become a magnet for innovation that attracts partners. We want to create the conditions that partners can actually find us and consider us a partner of choice. Therefore, we will profile ourselves and define very clearly what value we can bring to them.” Jorge Fernandes, Vice-President, Innovation Program Office, DSM <i>Telefonica Wayra</i> is an accelerator programme with a strong brand and a global approach. Wayra as a brand stands on its own two feet and has its own prestige. It has avoided any sense of being owned by a corporate, which could be a concern for entrepreneurs.
Negotiating and fixing contracts	Accelerating contract development with lean and partly standardized documents “We need to lower transaction cost and create a fast track that facilitates selling of products.” Javier Santiso, Managing Director, Global Affairs and New Ventures, Telefonica; Young Global Leader “Getting to a draft contract needs to be a question of days, not months – otherwise the opportunity to accelerate processes is turned into a risk.” Fridolin Stary, Senior Vice-President, Research and Development, Wacker Chemie

Dimension	Practice/example
Developing collaboration and exploiting results	Being adaptable to the needs of the partner, developing ongoing mutual benefits and safeguarding IP rights as a basis for a future-proof business model <i>ABB/Fastned:</i>⁶¹ ABB delivers multi-standard 50 kW fast chargers for electric vehicles and industry-leading software solutions for remote servicing. Fastned, a Dutch start-up, has received governmental concessions to build 201 charging stations out of the 245 planned for the country. A team of 15 ABB employees collaborated with Fastned to develop the concept. <i>DSM/Provexis:</i>⁶² Provexis created Fruitflow®, a natural tomato extract that prevents blood platelets from hyper-aggregating and helps to maintain a healthy blood flow. DSM invested to acquire a minority share through its venturing arm and agreed with Provexis on an exclusive, global licensing agreement for Fruitflow®. Provexis maintains its intellectual property rights and contributes technical and scientific expertise; DSM provides skills, know-how and a network to take the product to customers at a global level. Both parties participate in commercialization of the project through a profit-sharing agreement. <i>Henkel/Krüger&Salecker:</i>⁶³ Krüger&Salecker (KS) is a supplier of high value special machinery well known for its flexibility, creativity and precise operation. Its main business is based on technologies for the food industry and tailor-made systems and solutions for the car, train and aircraft industries. Henkel and KS developed a unique process for the innovative ball-shaped toilet rim block Bref “Power Activ.” The synergy of technical know-how from KS and formulation and processing knowledge from Henkel resulted in a cross-industry success in which a conversion process originally used for soft sweets was adapted for the high-speed production of a cleaning product. Thanks to excellent upfront development and professional teamwork, KS and Henkel managed to shorten the ramp-up to less than three weeks. Currently, Henkel produces more than 100 million high quality rim blocks per year with reliability and efficiency. “Adapt processes and project management to address start-ups/SMEs specifically.” Paul Campbell, Chief Executive Officer, Start-up Genie

Section Three: Perspectives from Policy-makers



Section Three: Perspectives from Policy-makers

A fresh view on successes and future challenges in fostering entrepreneurship

To gain a deeper insight into national and regional priorities, as well as the focus areas for policies relevant to innovation-driven entrepreneurship, the World Economic Forum conducted interviews with a wide range of leading European policy-makers from member states and the European Commission. This section showcases selected results from four areas of discussion:



The role of innovation-driven entrepreneurship in the economy: Which role does innovation-driven entrepreneurship play for your economy? Could you estimate what proportion of SME employees in your country are working in innovation-driven SMEs?



A recent success in fostering entrepreneurship: Which recent success in improving conditions for innovation-driven entrepreneurship in your country would you like to highlight?



Current and future challenges of high priority on the policy agenda: What are the key challenges faced by entrepreneurs in your country?



Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: What should policy-makers be doing? What activities by other actors will be crucial to support policy-makers in improving the environment for innovation-driven entrepreneurship?

In general, policy-makers highlighted the important role of entrepreneurship for the European economy. Key activities on the policy agenda include steps to tailor education to the needs of entrepreneurial careers, interventions to improve access to finance, labour market interventions to improve access to talent, and projects to improve framework conditions for cross-stakeholder or cross-regional collaboration between various actors.

Figure 19: Selected Policy Makers Contributing to the Report (in alphabetical order)

	Daniel Calleja Crespo Director-General, Enterprise and Industry Directorate- General, European Commission		Neelie Kroes Vice- President and Commissioner for the Digital Agenda, European Commission		Mark Rutte Prime Minister of the Netherlands
	Toomas Hendrik Ilves President of Estonia		Henrik Sass Larsen Minister for Business and Growth of Denmark		Bohuslav Sobotka Prime Minister of the Czech Republic
	Jyrki Katainen Prime Minister of Finland		António Pires de Lima Minister of Economy of Portugal		David Willetts Minister of State for Universities and Science of the United Kingdom



Daniel Calleja Crespo

Director-General, Enterprise and Industry Directorate-General, European Commission

The role of innovation-driven entrepreneurship in your economy: “More than 20 million SMEs in Europe have a key role to play in fostering innovation. SMEs have the ability to market new products quickly and to adapt easily to the needs of their customers. It is no surprise that innovative SMEs are the main driver for growth. According to Eurostat, 53% of SMEs in Europe were involved in innovative activities in 2008-2010 and thus could be described as “innovation-driven.” However, there are huge discrepancies among member states: 79% of SMEs in Germany are innovative, but only 27% in Bulgaria.”

A recent success in fostering entrepreneurship: “Supporting business scale-up is a big challenge in many smaller markets. Risk capital still has issues investing across borders. In this context, a new regulation on venture capital funds has been approved recently: fund managers can now have a European passport and market their funds across the EU.”

Current and future challenges of high priority on the policy agenda: “Challenges cut across regulatory areas as varied as taxation, visas and social security provisions, but also personal issues such as cultural and educational aspirations and role models. Every European region needs an environment conducive to business start-up and successful in mobilizing talent. Many regions are working on Smart Specialization Strategies. European initiatives complement the national efforts in this respect mainly through financial instruments.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: “Within the new 7-year European research and innovation programme, Horizon 2020, around €3 billion will be spent specifically on innovation-driven entrepreneurship in start-ups and established enterprises. Funding will be channelled to innovation projects supported by a convincing business plan. Projects could be between €0.8 and €3.0 million, of which up to 70% could be provided as a grant. These are amounts large enough to bridge the “Valley of Death” but the projects would still require substantial investments from other sources.

Under Horizon 2020, about €140 million is expected to be allocated until 2020 for “Cluster facilitated projects for new industrial value chains,” which will support cross-sectoral and cross-regional collaboration and innovation projects driven by SMEs. The initiative will start in 2015 with a planned budget of €24.9 million as indicated in the “Innovation in SMEs” work programme. The objective of the innovation actions is not to support clusters as such but to use clusters to better unlock the innovation potential of SMEs. To that effect, Horizon 2020 requires allocation of at least 75% of these funds directly or indirectly to SMEs.

The new programme for the Competitiveness of Enterprises and SMEs (COSME) running from 2014 to 2020 with a planned budget of €2.3 billion will continue to provide guarantees and venture capital to SMEs and will work in conjunction with Horizon 2020.

In early 2013, the Commission launched a public consultation on how to foster the supply of long-term financing and to facilitate SMEs’ access to alternative sources of finance, such as dedicated SME markets, securitization, transparency of information between banks and SMEs, and crowd-funding. Based on the public consultation, the Commission proposed specific actions in March 2014 to stimulate new and different ways of unlocking long-term financing.

By 2020 every pupil across Europe should have had an entrepreneurial experience before leaving secondary school. Regulatory red tape should be reduced and regulatory obligations of businesses should become clearer and simpler. Europe also needs to give a chance to honest “second starters” to start their businesses faster than they can today. These companies tend to survive longer than average start-ups, grow faster and employ more workers.”



Toomas Hendrik Ilves
President of Estonia

The role of innovation-driven entrepreneurship in your economy: “Innovation-driven entrepreneurship is seen as a key driver of growth for the years to come. The recently adopted ‘Estonian Entrepreneurship Growth Strategy 2020’ marks innovative enterprises as a key target group. In our terminology, they are called ‘growth clients’ – emerging and fast-growing ambitious enterprises. For emerging enterprises it means that by the end of the second year of operation their estimated annual sales must exceed €200,000 and their export intensity must be at least 25%. Today, there are almost 2,600 enterprises meeting these criteria. Our main task is to help them increase their innovative skills, enhance development activities and help them enter exports markets.”

A recent success in fostering entrepreneurship: “Enterprise Estonia has established a network of salaried professional export advisers residing in major target markets, who provide advice and market information, as well as assistance in finding export partners. The service is partially free (initial advice) and partially for a fee (partner search and market research).”

Current and future challenges of high priority on the policy agenda: “The growth outlook and ambitiousness of enterprises is expressed by entrepreneurs’ expectations concerning the increase in employee numbers as well as their ambitions on the international market. While the level of internationalization in Estonia is comparable with the average level in countries at the same development level, expectations of early-stage enterprises concerning a fast increase in employee numbers (i.e. more than 10 employees in five years and over 50% of growth) are lower, remaining lower when compared with the respective indicators in Latvia and Lithuania.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe:

- *Enterprise Development Programme:* An all-in-one policy instrument, based on strategic client management by Enterprise Estonia, providing coaching and grants to individual enterprises for activities ranging from R&D and innovation to export marketing
- *Cooperation programmes* (focusing on smart specialization areas): Incentivizing co-creation, including programmes to support innovation clusters
- *Entrepreneurship promotion:* Promoting entrepreneurship as a career choice and raising general awareness on entrepreneurship
- *Start-up Estonia programme:* Promoting the creation and growth of enterprises with global ambition
- *Venture funds:* Including a fund of funds of €120 million for business angel co-investment, venture capital and expansion capital (of this, €60 million is public money). In addition, the Baltic Innovation Funds (for Estonia, Lithuania and Latvia) has a volume of €200 million for later stage and bigger investments (of which €100 million is public money).”

Figure 20: Toomas Hendrik Ilves, President of Estonia, delivering his speech at the project workshop during the World Economic Forum Annual Meeting 2014





Jyrki Katainen
Prime Minister of Finland

The role of innovation-driven entrepreneurship in your economy: “Innovation-driven entrepreneurship is one of the key focus areas in the Finnish government’s economic policy. Most of the economic policy measures that the government takes include the aspect of supporting innovation. Forty-six per cent of all Finnish enterprises had innovation activity related to products and processes in 2008-2010. The number of innovative high growth companies that grow over 20% a year during a three-year period is approximately 200-300. These companies could be seen as truly ‘innovation-driven’ companies. Innovation expenditure reported by enterprises totalled €7.3 billion in 2010.”

A recent success in fostering entrepreneurship: “The Vigo accelerator programme for innovative, high-growth companies has attracted a great deal of direct foreign investment in Finnish start-ups. For instance, the flagship enterprise Supercell received a €1 billion investment from Japanese investors. This proves that the quality of deal flow has improved. Several Vigo teams have also raised their own small-scale funds.”

Current and future challenges of high priority on the policy agenda: “There is still a lot to do for streamlining public services for companies, and the capital market needs support (public financing). One of the biggest challenges is to harness the potential of Finland’s high R&D input (3.55% of GDP in 2012) into successful entrepreneurship. The access to finance of early-phase start-ups is always problematic and there is still a funding gap.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: “The overall policy is that the government encourages Finnish companies to seek new growth markets and to renew their businesses through public incentives and services. Innovation policies are at the core of this process. The government support system for enterprises is easy and simple to use, and the taxation base is broad and simple for companies and supports growth entrepreneurship. The goal is that Finland should have one of the best framework conditions for entrepreneurship and high growth enterprises in the world.”

Figure 21: Jyrki Katainen, Prime Minister of Finland, delivering his speech at the project workshop during the World Economic Forum Annual Meeting 2014





Neelie Kroes

Vice-President and Commissioner for the Digital Agenda, European Commission

The role of innovation-driven entrepreneurship in your economy: “It’s quite simple – it’s about growing the economy and solving our social challenges. If we just do the same things over and over again, or just open corner shops, then we will have artificially limited growth and we will be stuck with some real social problems.”

A recent success in fostering entrepreneurship: “I’m not sure there are any government-led major successes. The crisis has forced more people to be entrepreneurs, so that is a silver-lining on what has otherwise been a terrible time. The internet generally is a platform that has massively reduced barriers to being an entrepreneur. Governments that have worked to spread broadband, keep the internet open and introduce net neutrality can take a good deal of the credit for that. And the European Commission and existing entrepreneurs are also working to change the culture and the atmosphere of debate around entrepreneurship. That is a long, thankless task, but it’s important.”

Current and future challenges of high priority on the policy agenda: “Finding the right people with the right skills. The Schengen agreement and the internet both help; poor links between universities and the labour market don’t help. We should be giving tax incentives to start-ups. Businesses need a global plan from day one if they want to scale. It’s not enough to just complain about lack of early finance, although that is a problem.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: “The Startup Manifesto by leading European entrepreneurs is a great road map for changes we can all make. The Startup Europe Partnership will provide much of the tools and analysis needed to push legal and cultural change.”

Figure 22: Neelie Kroes, Vice-President and Commissioner for the Digital Agenda, European Commission, delivering her speech at the project workshop during the World Economic Forum Annual Meeting 2014





Henrik Sass Larsen

Minister for Business and Growth of Denmark

The role of innovation-driven entrepreneurship in your economy: “Entrepreneurs play a key role in securing competition and innovation in the economy. In recent years innovation-driven entrepreneurship has become an important part of Danish policy. In December 2012 the Danish government published a national innovation strategy, ‘Denmark – A Nation of Solutions’.”

A recent success in fostering entrepreneurship: “In 2009, the Danish Foundation for Entrepreneurship launched a national strategy for entrepreneurship in education and training. A result of this is an increase in entrepreneurship courses embedded in the education system from 8% in 2009-2010 to 15% in 2012-2013. Impact measurements from the foundation show a high, positive view in students’ intentions and attitude towards entrepreneurship.”

Current and future challenges of high priority on the policy agenda: “As in many other countries, innovative Danish entrepreneurs can find it difficult to finance their business projects. The Danish Growth Fund offers a number of products, including loans, guarantees and venture investments, to help tackle the issue. Furthermore, the Danish regions are exploring the opportunity to include successful serial entrepreneurs and professionals from large, existing companies in networks for entrepreneurs with particular potential. These networks are to build competencies and help entrepreneurs attract finance.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: “The Danish Ministry of Business and Growth has announced that the access to equity finance, as opposed to loans, will be a key focus area in the years to come. Among other things, we wish to further explore the opportunities for working with the Danish pension sector to provide capital to high-potential SMEs and start-ups.

It is crucial that the Danish knowledge institutions cooperate with business and act as an engine for innovation in the global knowledge economy.

Open and innovative large companies play a vital role in the emergence and development of entrepreneurial ecosystems. Instead of cannibalizing start-ups, established businesses might cooperate with start-ups on developing new products and business ideas; they might encourage a corporate culture with spin-outs and employee circulation; and they might view being located in a strong and innovative entrepreneurial ecosystem as a long-term value. Involving more large companies in their local entrepreneurial ecosystem is one cornerstone of a strong Danish entrepreneurial ecosystem in 2020.

This should be supplemented by a highly developed market for venture capital, being the second cornerstone, and a strong link between knowledge institutions and the private sector as the third cornerstone.”



António Pires de Lima
Minister of Economy of Portugal

The role of innovation-driven entrepreneurship in your economy: “Innovation-driven entrepreneurship played a central role during the recent period of strong economic adjustment, where, leveraged by its effects, the Portuguese economy suffered structural changes: becoming a highly exporting, increasingly innovative and entrepreneurial economy. Our exports have grown significantly (at the fastest pace in EU15, and have increased their technological profile). Our innovation performance posted the highest growth in the EU, and Portuguese SMEs are introducing product and process innovations much more intensively than their EU counterparts (Portugal 48% vs EU 34%). Portugal is steadily becoming an innovation-driven start-up nation (in 2013 there were 35,000 new companies incorporated) and entrepreneurship is the driving force behind employment and job creation in Portugal.”

A recent success in fostering entrepreneurship: “Portugal has been referenced as a country with complete incentive support schemes for innovation and entrepreneurship by providing a well-balanced mix of financial (direct and indirect) and non-financial measures specifically tailored to cover every phase of the innovation value chain. More recently, the government launched a set of incentive measures. The corporate tax reform introduced a simplified reporting system for SMEs, a reduced tax rate for companies with reduced profits, and a set of dedicated instruments to support patenting activities by firms. The revision of the tax incentive system to business R&D had its timeframe extended, and enhanced support for patenting activities and PhD staffing by companies were introduced. The new Tax Investment Law will introduce radical policy measures, such as 0% corporate tax rate for start-ups in the first three years of operation and a 6% bonus on technology innovation activities.”

Current and future challenges of high priority on the policy agenda: “Portugal still struggles to extract economic value out of its scientific excellence, and Portuguese business innovation lags behind its European peers in technological outputs of the innovation effort. To enhance our innovation performance further, we must tackle an insufficient level of collaboration and industry-science linkages, we need to increment alternative sources of capital to finance entrepreneurship, and we must act decisively in nurturing the best investment environment possible. Against this background, the government recently launched its Industrial Development Strategy for Growth and Employment, introducing an assertive agenda along three key intervention areas (human capital, R&D and financing), and we will invest over €6,000 million in R&D, innovation and SME competitiveness (2014-2020).”

Key activities of an agenda to foster innovation-driven entrepreneurship in Europe: “Recognizing that the importance of the innovation-driven entrepreneurship phenomena is transnational, Portugal, Spain and Italy, with the express support of the EU Vice-President for Industry and Entrepreneurship, are closely collaborating to jointly develop an economic and industrial policy agenda for the South of Europe. We will need a bolder attitude in implementing a convergent growth model, both through national and regional policies as well as a coordinated effort on a European level, in particular through the EU Competitiveness Council.

The adequate promotion of a consistent innovation-driven entrepreneurship policy requires us to focus on five defining factors to successfully reindustrialize Europe: the promotion of research and innovation; the continued improvement of our European workers’ skills and knowledge; the access to adequately priced financing, in particular for SMEs; the advancement of the EU internal market and access to international markets; and an enabling business regulatory environment.”



Mark Rutte

Prime Minister of the Netherlands

The role of innovation-driven entrepreneurship in your economy: “Innovation-driven entrepreneurs introduce new products, new services and new methods, thereby making a significant contribution to the Dutch economy. Among the innovation-driven economies in the EU-28, the Netherlands is the most entrepreneurial economy in terms of new and nascent entrepreneurship according to the Global Entrepreneurship Monitor.”

A recent success in fostering entrepreneurship: “Recent successes by the Netherlands in improving the conditions for innovation-driven entrepreneurship are the top sector approach, valorization grants and an action plan for skilled technical workers. The top sector approach focuses on nine sectors that are highly competitive in the global market. These sectors are stimulated to remain highly competitive by intensifying cooperation between knowledge institutions, the government and entrepreneurs.”

Current and future challenges of high priority on the policy agenda: “The main challenge is to increase the share of high-growth firms. There is a strong belief that we can and should be more ambitious when it comes to our country’s ability to generate high-growth firms. To further improve the ecosystem in which entrepreneurs can pursue an active and ambitious growth strategy, the ambitious entrepreneurship programme has been developed. The programme tries to identify and reduce barriers to growth and stimulate firms to realize their growth potential.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: “The Dutch government is actively pursuing measures that should better enable high-potential companies to realize their potential. Short- to medium-term policy initiatives include:

- *Optimizing access to finance:* Developing an early-stage financing scheme and enhancing risk-capital financing (by stimulating the existing fund to fund financing schemes). This has been achieved with a new Dutch Venture Initiative for scaling up successful businesses and a new instrument aimed at the proof-of-concept phase.
- *Optimizing access to innovation:* The focus is on developing innovation instruments for start-ups and growing companies. The research and development tax credit (WBSO) will be geared to this target group.
- *Access to knowledge:* Valorization and entrepreneurship education will be fully provided at knowledge institutions. Entrepreneurship education will focus more on entrepreneurial skills.
- *Access to the Netherlands:* High potentials and innovation-driven entrepreneurs are expected to be able to obtain a one-year visa for the Netherlands this year.
- *Access to the world:* Connecting Dutch ecosystems with those of other countries, such as the ecosystem in Silicon Valley.
- *Optimizing framework conditions:* Diminishing the barriers to entrepreneurship and growth.

Our long-term aim is to develop a functional ecosystem for ambitious entrepreneurs, with good opportunities for high potentials to become entrepreneurs and realize their growth potential. The Dutch government is committed to seeking opportunities to optimize the framework conditions to better accommodate the needs of high-potential firms. To achieve this, there is an ongoing dialogue with the relevant stakeholders to discuss factors that hamper growth and to identify policy actions and other measures that can facilitate it.”



Bohuslav Sobotka
Prime Minister of the Czech Republic

The role of innovation-driven entrepreneurship in your economy: “Innovation-driven entrepreneurship is one of the most important drivers for sustainable development of the economy in the Czech Republic. This is reflected in several strategic initiatives (esp. the National Reform Programme, National Innovation Strategy and International Competitiveness Strategy), as well as in the overall “3i vision” (innovation, institutions, infrastructure) for the enhancement of the competitiveness of the Czech Republic.”

A recent success in fostering entrepreneurship: “The most important success can be seen in the rising awareness in the society, including the media, of the relevance of entrepreneurship which should motivate more individuals to start their own company. A recent success especially for innovation-driven entrepreneurship can be seen in the enlargement of support activities by the government with programs such as the CzechEcoSystem that offers coaching schemes for high-tech start-ups and CzechAccelerator that enables start-ups and growth companies to explore international opportunities e.g. in Silicon Valley.”

Current and future challenges of high priority on the policy agenda: “Key challenges that firms face include the need for effective collaboration and better mutual understanding between public research and enterprises, effective use of existing science and technological infrastructure, and the availability of skilled workforce and experienced managers. We need to promote strategic and long-term partnerships between companies and research institutions, combining public and private resources in order to facilitate commercial applicability of findings. Another difficulty seen by enterprises is increasing cost and impaired access to funding. However, the problems faced relatively differ among enterprises of different sizes, in particular, with micro entrepreneurs seeing easier access to funding as absolutely crucial. Almost 25% of them highlighted this problem. With the growing size of an enterprise, the importance of this issue decreases while the relevance of other difficulties increases, including severe competition, availability of skilled employees and managers, and cost of production and labour.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: “Key activities in relation to innovation-driven entrepreneurship can be mainly seen in a better motivation and support of a) the foundation of innovation-driven start-ups and b) a better motivation of SMEs to enhance and enlarge their innovation activities. The government also plans to establish new programmes using financial instruments and investment funds to improve SME and start-up access to funding.

The enhancement of the general image of entrepreneurs in the Czech society will be crucial. This needs the cooperation of several stakeholders, mainly the media, but also other actors who can motivate highly-skilled people to found an innovation-driven company, e.g. university professors. The improvement of commercialization activities by academic spinoffs or of the situation for seed and early-stage financing for technology-intensive ventures, e.g. in life sciences, will be most significant. Furthermore, changes in early education are of vital importance in the long-term perspective as there is a clear need for more focus on developing entrepreneurial attitudes, beliefs and other personal characteristics such as self-efficacy, creativity, self-responsibility and willingness to learn.

The cornerstones of an entrepreneurial ecosystem in 2020 can be described as an ecosystem that encourages the foundation and growth of entrepreneurial ventures of different groups of entrepreneurs within the country and offers targeted support for each of these groups, e.g. for academic spin-offs.”



David Willetts

Minister of State for Universities and Science of the United Kingdom

The role of innovation-driven entrepreneurship in the economy: “Innovation-driven businesses of all sizes display better performance than others, with on average 13% higher productivity, more exports, and better survival rates. Over time, on an economy-wide scale, innovation has contributed as much as 70% to the UK’s economic growth. Many of the 4.9 million SMEs in the UK are engaged in innovation. In 2012, 43% of SMEs had introduced new or significantly improved products or services over the past year.”

A recent success in fostering entrepreneurship: “In 2011, 27% of small business innovators considered the non-availability of finance a significant obstacle to innovation. The British Business Bank was launched in 2013 to address this long-standing gap in the supply of finance by helping private-sector finance providers increase their lending to SMEs. In 2013, it supported over £650 million of total lending and investment.”

Current and future challenges of high priority on the policy agenda: “In the most recent Small Business Survey in 2012, SMEs identified a number of obstacles to their success, including the economy, taxation, regulations, competition and cash-flow issues. There were also a number of barriers that innovative SMEs experience over and above those that do not innovate:

- **The inherent risk of innovation**, quoted by 22% of small firms
- **The direct cost of innovation**, quoted by 21% of small firms
- **Market domination by established businesses**, quoted by 11% of small firms
- **Lack of skilled personnel**, quoted by 8% of small firms.”

Key activities on an agenda to foster innovation-driven entrepreneurship in Europe: “The UK government’s *Small Business: Great Ambition* statement highlights its commitment to help small businesses unlock their potential by making it easier to:

- **Finance business growth** by promoting a more diverse finance market, unlocking up to £10 billion of additional finance through the British Business Bank and tackling late payment.
- **Hire staff** by reforming employment law, helping up to 1.25 million businesses cut their employment costs, and supporting apprenticeships.
- **Develop new ideas** by helping businesses accelerate innovation and by improving intellectual property protection.
- **Break into new markets**, simplifying access to the £230 billion public procurement market, helping small businesses improve their online presence and supporting exports.
- **Get the right support**, by simplifying the business support landscape and improving awareness.”

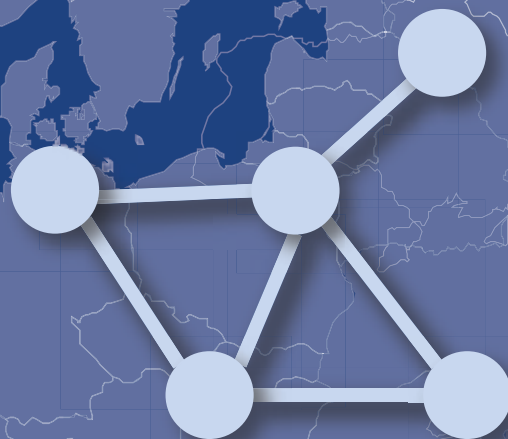


Section Four: A European Agenda to Foster Innovation-driven Entrepreneurship

Focus



Connect



Partner



Section Four: A European Agenda to Foster Innovation-driven Entrepreneurship

The need for a coherent European agenda: focus, connect and partner

A comprehensive approach to fostering innovation-driven entrepreneurship in Europe requires addressing the key challenges across all three of the stand-up, start-up and scale-up phases. Building on input from policy-makers, 10 hubs of the World Economic Forum's Global Shapers Community across Europe (a distinguished group of under-30 year-olds from diverse backgrounds), civil society organizations, academia, and corporate representatives, opportunities in three main categories emerge:

- **Focus:** Identifying and specifying explicit criteria for recognizing and investing in momentum-building entrepreneurship initiatives
- **Connect:** Developing a transparent, inclusive, Europe-wide database and network of initiatives for entrepreneurship
- **Partner:** Developing entrepreneurship initiatives that achieve both scale and momentum by connecting stakeholders better

Together, focusing stakeholders on what works at scale, connecting actors and developing effective partnership approaches can lead to a more integrated innovation ecosystem that can contribute to growth in European industries and regions.⁶⁴ This section presents an overview of the core ideas within the focus, connect and partner agenda, then explores how these ideas can be applied to the different life cycle phases.

Focus: Identifying and specifying explicit criteria for recognizing and investing in momentum-building entrepreneurship initiatives

Working towards the goal of a more integrated innovation ecosystem in Europe requires an active discussion on the criteria required to assess the effect of ongoing

entrepreneurship initiatives in the region. The following criteria can help gauge the potential of a proposed intervention for achieving scale and momentum within an integrated innovation ecosystem:

- Does the intervention adopt an integrative approach, appropriately intervening in the critical phases of the entrepreneurial life cycle and leveraging the potential to partner between regions, industries and actors?
- Is the intervention explicitly designed to be “paid forward” and to create its own forward momentum? Any beneficiary should commit to giving something to a new venture so as to pass on the momentum or serve as a multiplier rather than as an endpoint.

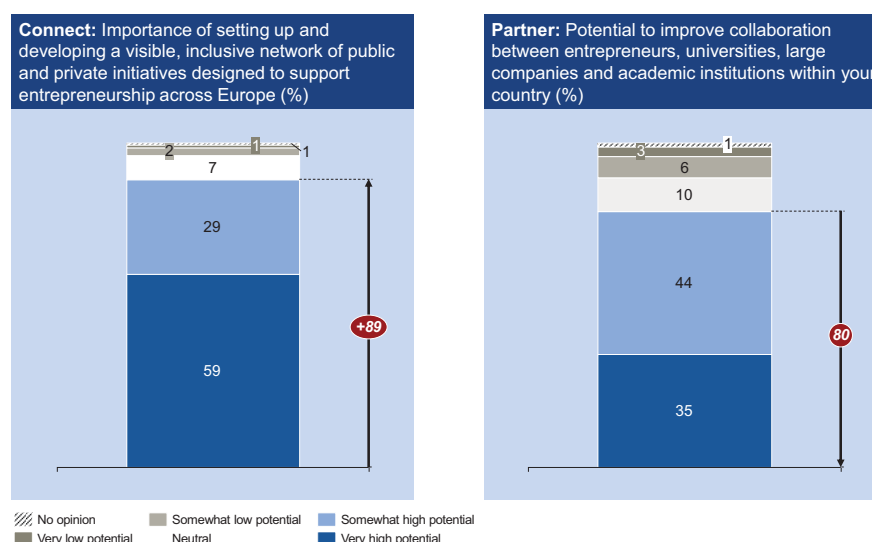
Connect: Reducing fragmentation and developing a transparent, inclusive, Europe-wide database and network of initiatives for entrepreneurship

Establishing a visible, inclusive network of public and private initiatives is considered to be somewhat important or very important by 89% of survey participants (Figure 23). Such a network is the key element for reducing fragmentation, increasing transparency and integrating initiatives across the entrepreneurial life cycle. It is targeted at initiatives by entrepreneurs themselves and aims to influence a range of actors, including representatives of schools, civil society, universities, business angels, accelerators, incubators, venture capitalists and corporate intrapreneurs.

Currently, it takes significant research to appreciate, for example, the number and type of public and private mentoring initiatives available for entrepreneurs in a given European country. This poses difficulties for not only for those seeking mentorship but also those wishing to impart mentoring services as well as those trying to bring together different mentoring initiatives. A network connecting entrepreneurship initiatives could lower this kind of transaction cost and improve transparency.

Figure 23: Agenda to Foster Innovation-driven Entrepreneurship: Connect and Partner; n=805

Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014



Primarily providing infrastructure for decentralized communication and exchange, the network could evolve and govern itself according to various innovation focus areas. One important aspect of such a network would be a layer of data, not only on the initiatives themselves, but on the interests, needs, preferences and locations of relevant stakeholders, including entrepreneurs, interested businesses, civil society stakeholders, investors and potential mentors. Emerging examples of resources and partnership networks are detailed below.

Partner: Developing entrepreneurship initiatives that achieve both scale and momentum by connecting stakeholders better

The ultimate goal of this report is a more integrated European innovation ecosystem that supports serial entrepreneurs. Increasing transparency across relevant activities and support services should therefore be complemented and followed by active partnerships between stakeholders. Linking stakeholders and programmes across countries, sectors, industries and areas of focus can help activities that produce tangible results achieve greater scale and momentum. Fully 80% of project survey participants see significant potential to improve the level and impact of collaboration between entrepreneurs, universities, large companies and academic institutions (Figure 23).

Connecting and partnering to help entrepreneurs stand up

As highlighted above, many Europeans seem to lack the attitude and outlook required to become a serial entrepreneur. Among Europeans, 45% have never thought of starting a business; 18% have thought of starting a company but have given up the idea.⁶⁵

Furthermore, there is evidence of a skill gap. Over half (57%) of survey participants said they think it is very important to tailor the education curricula in schools and universities to focus on the skills that entrepreneurs require. 55% said it is very important to provide more opportunities for potential entrepreneurs to obtain practical experience in an innovative business or start-up.

This being the case, there is significant potential in Europe to:



Connect entrepreneurs with schools and universities, celebrate peer-level success stories to create awareness, initiate programmes to improve skills, and generally foster positive individual and societal attitudes towards entrepreneurship. A key opportunity exists in entrepreneurship schools and universities. Strengthening this connection has an effect for both the next generation labour force and the education system. Teachers and professors can be trained as entrepreneurship developers to inspire and encourage potential entrepreneurs

to take action. Entrepreneurship can be shown as the ability to navigate increased complexity, overcome career barriers, and more closely leverage personal strengths. Moreover, educational institutes provide a good opportunity to measure entrepreneurial attitude in a forward-looking way by assessing children's mindset in school. Starting with local networks between schools, universities and entrepreneurs, this type of intervention could scale up to influence the culture among entire populations. Research shows that individuals are most influenced by those they regard as their peers; a focus on telling the stories of "ordinary entrepreneurs" and how they overcame barriers in practical, relatable ways could do much to foster a culture that promotes entrepreneurship.



Partner to encourage active engagement in start-ups as employees and as founders. Individual attitudes and skills can be effectively influenced by direct experience in a start-up environment, for example through internship programmes or employment opportunities. These experiences build on school-based programmes and often lead to employees founding their own businesses.

Connecting and partnering to help entrepreneurs start up

As outlined above, a key challenge for European entrepreneurs is accessing critical resources, particularly capital. Among Europeans, 51% say it is difficult to obtain sufficient information on how to start a business; 79% say that it is difficult to start one's own business due to a lack of available financial support.⁶⁵ 48% think it is very important to help private investors unlock capital in Europe and direct it towards venture markets. 44% highlight the importance of providing mentoring to new founders.

This being the case, there is significant potential in Europe to:



Connect a network of resources for start-ups and focus attention on private actors to strengthen the European support system. The starting point for more sustainable development is the mobilization of mentors. Moreover, connecting actors to improve access to capital is of key importance to enable progress towards a more transparent, single European market for risk finance.



Partner to support start-ups and find new models of co-investment by complementary resources in order to improve capital supply. European states have shown massive engagement to support entrepreneurship. Co-investment models, both those enabling the state

to join hands with private actors to top up investments, and those making it possible for private actors to join forces to support entrepreneurship, can have multiplier effects. Investments in pan-European fund structures support the above-mentioned development towards a European single market for risk finance.

Connecting and partnering to help entrepreneurs scale up

Only 31% of companies have an unbroken record of revenue growth in years two to five of their existence.⁶⁶ Furthermore, European SMEs often seem to hit a ceiling beyond which they do not grow. This being the case, there is significant potential in Europe to:



Connect large corporations and entrepreneurs to monitor the potential for collaboration. It is important to involve the wider corporate ecosystem, not just the biggest companies. There will be an interesting tier of companies who are not in a position to create their own accelerator or incubator; they need different points of access to the world of start-ups, while start-ups need a way to access them to provide them with goods and services.

The best way of doing this is to align on a standard format to systematically publish search fields online to boost the development of platforms that can draw on the data.



Partner to realize mutually beneficial relationships. All parties concerned must prepare to open up further from a cultural and organizational perspective. They conduct experiments on how to

realize specific opportunities to step up collaboration between entrepreneurs and large corporations, starting with a specific topic around which the large corporation can foster innovation; for example by providing market insight and technology expertise in a virtual or physical space where others can participate and experiment together to co-create. Once initial success stories emerge, it helps to publicize the resulting new ways of collaboration and create the appetite for doing more in other fields.

Mobilizing support for an innovation-focused agenda

Survey results as shown in Figure 24 indicate strong willingness among private actors to engage directly. The overwhelming majority of respondents (87%) say they would personally support initiatives in their countries ranging from educational support to financing opportunities for prospective entrepreneurs.

As the figure shows, willingness to support initiatives increases steadily with at higher levels of entrepreneurial experience; only 23% of those who have not thought of starting a business say they would be “very likely” to personally support initiatives, compared with 56% of those who currently run their own ventures. While 55% of respondents say they would be willing to provide mentoring to new founders, 49% say they would be willing to tailor the education curricula in schools and universities to focus on the skills that entrepreneurs require, and 46% say they would be willing to provide more opportunities for potential entrepreneurs to obtain practical experience in an innovative business or start-up.

The key to success of this agenda is mobilizing stakeholders who are willing to promote it in multiple contexts. For this purpose, the World Economic Forum is working with constituents to create momentum for the agenda among various stakeholders across Europe.

Figure 24: Survey Results: Personally, to Foster Entrepreneurship I Would be Willing to Engage in the Following Action This Year (% of respondents); n=632

Source: World Economic Forum European Survey on Fostering Innovation-driven Entrepreneurship 2014



Quotes from Global Shapers on the European Agenda

“

We should design a code for entrepreneurial initiatives: creating a charter outlining the types of interventions we want to talk about; thinking through organizational culture and the contribution to society.

”

Global Shaper Hub, London

“

Every young person should attend at least one action-driven entrepreneurship class during their education.

”

Global Shapers Hub, Geneva

“

Global Shapers should organize match-making events between entrepreneurs and large corporations.

”

Global Shapers Hub, Vilnius

“

We should create a board of mentors and advisers for young European change-makers.

”

Global Shapers Hub, Düsseldorf

“

We should complement policy frameworks with grassroots-driven initiatives.

”

Global Shapers Hub, Zurich

“

We should build a network of structures which converges on common parameters and goals. The network will merge different structures willing to cooperate and share resources, ideas and expertise.

”

Global Shaper Hub, Genoa

“

We should organize school road shows and share that being an entrepreneur is a great opportunity.

”

Global Shapers Hub, Torino

“

We should instil a ‘yes we can’ attitude in the European DNA.

”

Global Shapers Hub, Lisbon

“

We propose fostering an active collaboration between entrepreneurs and high school/university professors or students to ensure we progress towards decreasing the gap between education and the marketplace.

”

Global Shapers Hub, Hub Madrid

Quotes from thought leaders on the European Agenda

“

We need to work on connecting the dots in Europe to foster entrepreneurship.

”

Ann Mettler, Executive Director, Lisbon Council

“

We need to build entrepreneurial culture by ‘enterprising the schools’ and getting young people talking about business.

”

Gordon Brown, UN Special Envoy for Global Education

“

Various forms of women-led economic activity are important to the growth agenda. But the greatest impact could be delivered by increasing the number of women-funded and women-led high-growth enterprises. To this end public funds could be used to leverage private funds and create innovative funding schemes such as women-friendly SME financing facilities, microfinance institutions, venture capital funds and innovation grants all linked to business mentoring and training of substantial scale and availability for women entrepreneurs who want to take their companies to European markets and beyonds.

”

Daria Golebiowska-Tataj, Executive Member, Governing Board, European Institute of Innovation and Technology

“

Innovation-driven entrepreneurship in Europe depends in large part on how well we can prepare this generation of digital natives to turn their ideas into action. It starts from a very young age Entrepreneurship is not just a mindset, it is a set of important skills and competences that can be learned. The research shows how critical it is to expose them early on to this opportunity.

”

Caroline Jenner, Chief Executive Officer, Junior Achievement-Young Enterprise (JA-YE) Europe

“

We need to think in terms of innovation hubs, less in terms of regions or countries.

”

Jimmy Wales, Founder and Chair Emeritus, Board of Trustees, Wikimedia Foundation

“

It’s time for a fundamental change of thinking in Europe. We need to create an entrepreneur-friendly culture that encourages young people to take risks and assume the lead on change and progress in partnership with governments, businesses, civil-society and individuals who support and reward risk-taking.

”

Kumardev Chatterjee, Founder and President, European Young Innovators Forum

“

We need to rethink education of the next generation of entrepreneurs to encourage market-generating innovation as a basis for sustainable economic growth.

”

Clayton Christensen, Professor of Business Administration, Harvard Graduate School of Business Administration

Section Five: A Look Ahead – Opinion Pieces on the Future of Innovation



Section Five: A Look Ahead – Opinion Pieces on the Future of Innovation

Today, the benchmarks for successful entrepreneurial ecosystems and innovation hubs tend to be Silicon Valley and Tel Aviv. Meanwhile, China is quietly emerging as an innovation powerhouse, with Chinese patent offices having registered more than twice as many patents as European offices in 2012.⁶⁸ Which cities and countries will epitomize innovation ecosystems in 10-20 years' time?

It is critical to look beyond what is currently perceived as leading practice in innovation and entrepreneurship, and consider the forces that might shape the future of governments and corporations in terms of innovation. European stakeholders must prepare for new public and private-sector activities that will unleash future waves of innovation. Just consider, as an example, how the advent of the sharing economy (in the form of Airbnb and Uber) is challenging government and industry approaches in the United States and Europe.

This section therefore presents two forward-looking pieces by leading academics to highlight how the public and private sectors might change their organizational forms as well as relationships to new ideas to fulfil the demand for continued growth and productivity in European economies. Understanding, anticipating and shaping these shifts will be critical to ensuring that Europe prepares ecosystems ready for the next decade of breakthrough innovation.

Box 1: Will Innovation-driven Entrepreneurship Change the Potential and Impact of Government Resources?

Bruno Larvin, Executive Director, European Competitiveness Initiative, INSEAD

Observers of Europe's history have often noted that, since the European Steel and Coal Community Agreement of 18 April 1951, Europe's construction has moved in leaps and bounds: crises and conflicts have often been the source of significant advances in institutions, attitudes, policies and agendas.

Today, with the need to invest in innovative economies and innovative governments higher than ever, a key question arises – should we expect more government-led innovation from the current combination of crises in Europe? If so, how might European institutions and Europe's national governments innovate within some of the key crisis-affected fields, for example with regard to the Eurozone, with regard to responsibilities of the Commission vis-à-vis member states, with regard to resolving tensions among members about immigration or labour market issues, and on identifying avenues for consensus with external partners on the protection of personal data?

Indeed, if Europe's history can be of any value here, it seems reasonable to expect a new wave of “government-led and governance innovations” comparable to what was seen during the most active years of European construction. And this would be more than timely: in the coming decade, Europe's capacity to remain a leader in innovation will depend significantly on the ability of its public institutions (typically national governments and European institutions) to transform themselves through innovation. This will require the active combination of three avenues of innovation, which, for the sake of brevity, I shall nickname here as hotplates, back-burners and lighthouses.

- **Hotplates:** European institutions and governments will need to rapidly and significantly enhance their respective and collective abilities to react swiftly to new challenges. The recent example of allied governments eavesdropping on European government leaders has raised unprecedented issues in which government efficiency, trust and personal freedoms are intertwined. In such a situation, governments need to be swift and innovative to identify solutions that will not only protect their future alliances and trusted relations internationally, but also respond to the expectations of their respective public opinions. Several European countries have equipped themselves with independent structures (such as the Commission Informatique et Liberté – CNIL – in France) whose mandate is precisely to ensure that personal freedoms are respected and protected in a digital environment. Efforts to share government-owned data intelligently can also help in this respect: the strategy initiated in countries like the United Kingdom around “datagov” (in which central and local governments offer access to their data on traffic, criminality or available services, for example) and “opengov” (in which collaborating with local citizens and communities provides bottom-up validation and feedback on policies) have played a positive role in allowing ordinary citizens to “regain ownership” of their data, generate collective value out of them, and feel more comfortable about trusting their own government authorities in a digital environment.
- **Back-burners:** These are mostly efforts and initiatives that need to be pursued across a medium-to-long term period, maintaining momentum for systemic innovation and reform. To be efficient in such areas, governments need strong support from various stakeholder communities (including business and civil society), because the duration of the policies required will often exceed that of their electoral mandate. Several European countries have proved successful in such areas, often helped by some crises of their own. For example, the collapse of the Iron Curtain in the early 1990s has led Estonia (and to some extent Finland) to bring radical changes not

only to their government policies (e.g. in education) but also to the practical functioning of their electoral and decision-making mechanisms. Estonia, one of the smallest European members, even became a world leader in e-voting and e-government as a result. E-government remains a gold mine for initiating and sustaining longer-term reforms in governance and public management, but now needs to be focused more around “public service functionalities” than on “informatization of public services,” as was traditionally the case. The examples of what other countries (such as Singapore) are doing in new areas such as Big Data and business analytics to improve the quality and delivery of their public services can also be an inspiration for European governments, both at the national and local levels.

- **Lighthouses:** These are “government transformation” ambitions, which are best expressed as visions for the next generation. They often are the domain in which governments feel least comfortable, and yet the ones in which their leadership can be most critically important. They have to do with the combined identification of “massive trends and weak signals,” by which governments can offer a horizon to public and private decisions about where and how Europe’s countries, cities, businesses and citizens would best fit in a future global knowledge economy. For example, a key issue to be considered in such a context is that of talent: how much will Europe need (today and tomorrow) in terms of entrepreneurship, innovation and leadership skills, but also of dynamic cross-sectoral re-skilling? How will such skills be generated through formal and life-long learning, through international exposure, migration and so on? And what can (and should) European governments do about it? Here again, the examples of Nordic countries (and especially Finland) show how European education systems can be better tuned to global competition, whereas the recent experience of Switzerland indicates that public opinion may be blinded by short-term concerns about “massive immigration.”

In conclusion, European institutions and governments currently have to face a significant number of challenges, but they have at hand a whole panoply of new tools to foster, lead and even incarnate innovation and entrepreneurship. Building a truly integrated single European digital market relying on a first-class shared broadband infrastructure would offer a powerful backbone to do so – to build a “post-crisis innovative Europe” on the three pillars of innovativeness, talent and openness.⁶⁹

Box 2: The Future Shape of the Innovative Global Corporation: From Fortress Firms to Cambrian Corporations

Mark Esposito, Associate Professor of Business and Economics, Grenoble Graduate School of Business, France, and Instructor, Harvard University Extension School, USA

Olaf Groth, Professor for Global Strategy, Innovation, Management and Economics, HULT International Business School, USA

What might be the future of “the innovative global corporation?” There has been a profound evolution of the corporation over the last 100 years. Corporations have, willingly or unwillingly, developed an ever-greater macro and micro role in economic and social welfare. Corporate entities have become a dominant driving force in society. In many parts of the world, they have become more powerful and wealthier than governments, and their global influence, by any account, is massive. As engines of economic growth, innovation and technological progress, they have brought much good to humanity. But as the financial crisis of 2008 has demonstrated, large corporations have a darker side: when corporations are mismanaged, when their growth is below potential, or when their activities create negative externalities, it can leave the economic state of an entire country or region vulnerable to internal and external shocks.

It is therefore important to ask what role corporations will play as both drivers of innovation and as agents of positive change in the world. Corporations have the ability to solve emerging societal problems while maximizing their own innovation potential, thereby harnessing new sources of growth for themselves and societies at large. But to achieve this will require a number of changes within corporations – a change of internal approaches to innovation, a change of external relationships between traditional and non-traditional stakeholders and the environment, and a change of outlook among the top management.

What might these changes look like over the next 20-30 years? Consider what may be considered a rather extreme and thought-provoking scenario that illuminates a range of trends already visible in corporations today.

In 2030, the world’s largest corporations are those that harness “Swarm Economics,” with hundreds of thousands of individuals coming together to solve the highest value problems, animating the notion that individual actions can collectively create a thorough and more complex solution than is attainable without collaborative platforms. As these distributed innovators cluster around problems, these multinational corporations are defined by their capacity to develop, nurture and harvest participatory business models, with benefits ranging from supply chain savings to local economic inclusiveness.

The transition to this scenario has occurred in two phases. First, between 2014 and 2020, large multinationals have come under increasing pressure to embrace smaller, emerging clusters of innovators. In doing so, firms have nevertheless endeavoured to retain high walls around their operations, meaning that mergers and acquisitions have been the dominant means of engaging with smaller outfits. Over time, these growing “Fortress Firms,” drawing stark distinctions between what is “inside” and “outside” their firm boundaries, have morphed into large corporate territories – multinational conglomerates, with “walls” around them. This has continued the trend of large, developing economy multinationals finding advantage in harvesting opportunities in diverse parts and corners of their economies. At first, new forms of communication and coordination meant that the benefits of acquisition outweighed the challenges of organizational complexity, but over time it has led to the creation of indefensible bureaucratic mega-organizations. By the early 2020s, many major global conglomerates were still struggling with smaller, specialist challengers, yet found it increasingly hard to justify the cost or complexity of absorbing new ventures.

In the second phase, a new set of challengers has emerged to disrupt this “Great Wall” versus “Specialist” paradigm of corporate innovation. A number of medium-sized pioneers have started to disrupt larger global conglomerates while out-innovating specialists, by combining the advantages of scale with the speed of distributed networks. This type of organization has treated societies, markets and stakeholders as a “Coral Reef” consisting of diverse pockets of opportunity. Such organizations have mastered the ability to spark, incubate and funnel “Cambrian Explosions” of cross-fertilization, creativity and innovation between converging domains and technologies in the Reef, rather than seeking to avoid or contain the risk of collisions. Able to innovate cooperatively, both amid and driven by contextual changes, these organizations are also more resilient than either the specialists or the Great Wall Conglomerates, able to fall back on different parts of their Reef for survival in low growth periods.

This is not a far-fetched scenario. A number of pioneers and growing platform-driven ecosystems are already indicating the way to a new model of large-scale, cross-boundary innovation. Simultaneously, both pull and push factors from the current environment are creating an impetus for future organizations to master the ability to innovate across disciplines and domains. Given the rapid political, economic and technological changes that characterize the business environment for multinationals and SMEs alike, organizations that are able to innovate cooperatively amid contextual changes will be most likely to minimize resistance and provide temporary stability during periods of high uncertainty. “Cambrian Corporations” would effectively be able to increase their efficiency ratio by minimizing the impacts of volatility on the availability and pricing of input factors (capital, knowledge, resources and competencies,

labour, infrastructure, logistics, etc.). They would be able to minimize the three critical types of risk in any new venture: market risk, technology risk and team risk.

What does this mean for how organizations operate? To master risk and reap the benefits of new sources of growth in an increasingly volatile and uncertain environment, Cambrian Corporations will need to develop their foresight, design and synthesis capabilities. These capabilities trump more “pure-play,” exclusionary and reductive analytical approaches and preoccupations with overly-linear thinking and analysis. The Cambrian enterprise system must be set up so as to continuously scan Coral Reefs of relationships, niches, innovation nooks and crannies, spanning many different sectors and categories that previously defined industrial organization. The value of this is increased robustness, as sources of growth become more diverse and can be traded frequently across the organization.

Cambrian Corporations will therefore need to embrace change. Such an organizational model pressure-tests and “wind-tunnels” its products and businesses, combusts obsolete structures and processes and reassembles new ones on a much quicker repeat basis. This complexity is managed by way of structured design experimentation in “workout labs” that assemble, pilot, tear down, reassemble and qualify new ventures for disruptive value creation, feasibility and scalability. To achieve this, organizations will need to configure themselves in nodal patterns of many smaller project or programme entities solving discrete problems with the help of external networks and communities of different types in different areas of the Coral Reef of society. As corporations continue to morph in these ways, they increase the ability to expand while avoiding bloated structures that allow catastrophic failures. Counter-intuitively, a greater number of touch-points on higher levels of external complexity could in fact result in reduced complication and leaner systems internally.

Meanwhile, Cambrian Corporations need to remain closely connected with their stakeholders and broader society. New social and economic challenges will emerge, driven by how political systems and economic opportunity interact with shifts such as cloud computing, social networking, the internet of things, synthetic biology, the makers movement and advanced manufacturing. As these trends enable new convergence spaces between previously un- or under-connected domains such as infrastructure, energy, communication, finance and human networks, they will spark a myriad of issues for societies to address. These needs and issues will in turn facilitate new markets for Cambrian Corporations, as well as opportunities to create positive externalities by solving problems. Due to the uncertainty and complexity of these convergence spaces, expansion by corporations into these spaces is likely to happen in a non-linear fashion. Expect lots of experimentation, alignment, misalignment and realignment between these corporations with other sets of stakeholders that are contributing to or are impacted by convergence issues.

Realizing scale economies will have to happen through shared infrastructure systems with other corporations and civic and financial institutions that are modular, decentralized and allowed to grow where problems, solutions and potential profits pop. To realize those “Fast Emerging Profits,” the Cambrian Corporation would need to govern itself in such a way that agility, sensing and capacity for pivots at speed are the overriding organizational design goals.

What does all this mean for talent management? How will people be incentivized to work together? Wasn't the central tenet of the modern corporation the increase of shared trust and hence the lowering of transaction costs? How does this fit with a paradigm of loose configuration, open networks and modular design? The Cambrian Corporation will require a business model that creates incentives, assigns roles, creates value and distributes pay-offs. It will need to become a multi-sided platform in which different actors create and capture value through different roles, as the value web continues to displace linear value chains of merely one-directional value and money flows.

Formal long-term employment contracts between individuals and corporations would become investment relationships in which individuals dedicate capacity and skills in a corporate ecosystem. In turn, corporations will invest in co-learning/co-creation environments and competency development for project-focused networks and communities. Talent will meet in virtual or physical spaces that configure and reconfigure easily to accommodate internal and external actors that are at varying trust-stages with each other, forming cooperative circles. Incentive structures will be geared to helping individuals and groups stretch towards the next level of learning, competency development and solution design sophistication, with rewards ranging from financial awards to personal development programmes to social recognition or status. The Cambrian Corporation is a “Career Game” writ large. In this game, disruption will lose its character of isolated events, instead taking on the character of constant calibration, as second- and third-order effects emerge from converging networks.

If this scenario and its implications for firms sound messy, then that's because it is. The achievement of scale economies across these different parts of the Coral Reef and the different convergence spaces will be highly challenging and non-trivial. It is impossible to predict how exactly Cambrian Corporations will organize, but suffice it to say that the rigid bureaucratic structures that many large multinationals exhibit today will not be suited to accommodate the degree of flexibility needed by innovators inside and outside corporate borders.

In light of this scenario, what should be done next? Knowing the possibility for such a disruptive new model of corporate innovation and social engagement, and the direct challenge it poses to the current prevailing Fortress Firm paradigm, the first question for executives will be whether they can understand the direction and forces

underlying current shifts. The second is to assess the readiness of their organizations to adapt in ways that embrace open innovation and networked approaches to sourcing ideas and capturing value from new economic activity.

The future shape of the global corporation will require a redefinition of what is inside versus what is outside the old Fortress Firm. But it won't do so by stashing more elements behind ever more expansive walls. Instead it will relax the corporation into societies' Coral Reefs tying elements together through distributed infrastructure that enables shared trust mechanisms and incentive models. In this way, problem stakeholders can become solution co-innovators in a sustained fashion and the role of the corporation will have morphed from one of an agent of volatility to that of an agent of stability.

Conclusion

Over the course of 2013 and 2014, the Forum's "*Fostering Innovation-driven Entrepreneurship in Europe*" project has drawn on survey data, structured interviews, workshops and expert contributions to present four key ideas elucidated in this report. These are:

1. Fostering innovation-driven entrepreneurship in Europe requires a comprehensive view of the entire entrepreneurial life cycle, comprising "stand up," "start up" and "scale up" phases.

Policy-makers, business leaders and civil society actors can help support entrepreneurs by taking a nuanced approach to understanding the different phases of a new venture, and by influencing both individual and contextual factors that shape success in each phase.

2. Policy-makers, business leaders and individuals are significantly motivated to improve the conditions for entrepreneurship in Europe that can and should be harnessed.

As the examples of leading practices, policy-maker interviews and survey results show, individuals and organizations across many sectors are highly motivated to do more to support innovation-driven ventures in Europe. Stakeholders should tap into this motivation at scale to create the most supportive environment possible for each life cycle phase, including shifting social and cultural factors to increase the ambition and inclusiveness of entrepreneurial activities and inspire many more "serial entrepreneurs" in Europe.

3. To more effectively and efficiently support innovation-driven entrepreneurship in Europe, stakeholders need to focus, connect and partner, creating greater transparency and increasing collaborations across sectors.

Just as SMEs in Europe tend towards being sub-scale, so too do programmes supporting European entrepreneurs. Increasing the transparency of support systems, focusing on those that are successful and creating connections and partnerships to increase effectiveness should be among the key goals for policy makers and other actors interested in improving entrepreneurial environments.

4. Supporting the innovations of today in isolated sectors is not enough – Europe needs to create ecosystems that will support innovations emerging in unconventional ways across government and business.

A look towards the future reveals that optimizing Europe's supporting environment for entrepreneurship and innovation today is not enough. Major changes in what is regarded as innovation within governments and corporations will drive evolutions in products, processes, approaches and relationships that are likely to fundamentally challenge current models of organization, research and development. European stakeholders must be prepared to harness these shifts, rather than block them, to ensure that Europe regains its position at the innovation frontier and pushes it forward in all directions.

To that end, while also continuing to focus, connect and partner on innovation-driven entrepreneurship, the World Economic Forum will take this research further in the form of a new project focusing on Open Innovation Ecosystems. The Forum welcomes your input on the work described in this report, and your desire to be engaged in its upcoming research on Open Innovation. To contact the Forum, please email europe@weforum.org.

Endnotes

1. The entrepreneurial life cycle is defined here as including the factors influencing an individual to turn an idea into economic activity or join a start-up as an employee, and the factors related to the successful growth of a venture.
2. It is important to note that both entrepreneurship and innovation are very broad concepts with many definitions. Entrepreneurial thinking can and does occur in a broad variety of contexts and organizational forms in a non-linear way. This analysis is not meant to limit entrepreneurial activity to any particular age group, background, industry or sector. However, this discussion deliberately highlights a growth journey that starts with an idea, proceeds to a nascent organization and then scales to achieve its impact, on the understanding that many of the factors influencing this process are also relevant to the experiences of innovators operating within existing companies, working in the public sector or seeking to drive change in other contexts.
3. Northern Europe: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, Netherlands, Sweden, the United Kingdom; Central and Eastern Europe: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic, Slovenia; Southern Europe: Cyprus, Greece, Italy, Malta, Portugal, Spain.
4. United Nations Economic Commission for Europe (2012), *Fostering innovative entrepreneurship – Challenges and Policy Options*.
5. <http://ec.europa.eu/enterprise/policies/sme/facts-figures-analysis/>.
6. EIM Business & Policy Research (2011), *Do SMEs create more and better jobs?*
7. See Eurostat database.
8. Note: Slovakia is not part of the analysis because as of 2010 (and therefore during the assessed time interval) it has applied a new statistical methodology; source: 2013 SBA Fact Sheet Slovakia, European Commission SME: small- and medium-sized companies.
9. Thanks to Dominic Llewellyn of Numbers4Good for naming these stages.
10. Global Education Initiative (2011), *Educating the Next Wave of Entrepreneurs*, World Economic Forum.
11. Northern Europe: Denmark, Finland, Iceland, Norway, Sweden; Central and Eastern Europe and Turkey: Albania, Armenia, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Slovakia, Slovenia, Turkey; DACH: Germany, Austria, Switzerland; Southern Europe: Cyprus, Greece, Italy, Malta, Portugal, Spain; Western Europe: Luxembourg, Belgium, France, Netherlands, Republic of Ireland, United Kingdom.
12. A recent study by Silicon Valley Bank showed that nine out of 10 start-ups in the United Kingdom are hiring, while an equal number say it is challenging to find workers with the skills they need. See Silicon Valley Bank (2013), *Start-up outlook report*.
13. For a general and extensive assessment on entrepreneurs and business-building, see Tjan, Harrington and Hsieh (2012), *Heart, Smarts, Guts, and Luck: What it takes to be an entrepreneur and build a great business*, Harvard Business Review Press.
14. “Just 17.3% of young Europeans believe there are good business opportunities available and that they have the skills and knowledge required to start a business. This compares to 60.0% in sub-Saharan Africa, 40.0% in Latin America and the Caribbean, and 30.0% in the Middle East and North Africa. Asia Pacific and South Asia was the only region to score lower, albeit only marginally at 16.8%.” <http://www.gemconsortium.org/news/783/europe%E2%80%99s-young-people-fear-business-failure-and-lack-of-start-up-skills>, GEM Consortium (2013), *Global Entrepreneurship Monitor*.
15. Diedrichs, E. (2013), *Do SMEs lose their appetite for innovation during the economic crisis?*, Blog on Innovationmanagement.se.
16. Stam, E. et al. (2012), *Ambitious Entrepreneurship – A Review of the academic literature and new directions for public policy*, Report for the Advisory Council for Science and Technology Policy (AWT) and the Flemish Council for Science and Innovation (VRWI).
17. Junior Achievement (JA) Sweden and Stockholm School of Economics (2011), *Practice Makes Perfect?*
18. European Commission (2013), *Entrepreneurship 2020 Action Plan, Reigniting the entrepreneurial spirit in Europe*.
19. European Commission (2012), *Entrepreneurship in the EU and beyond*, Flash Barometer 354, http://ec.europa.eu/public_opinion/flash/fl_354_en.pdf.
20. <http://www.mentorsme.co.uk/>.
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Further Reading

In recent years, many influential publications on the subject of entrepreneurship have been published.

The World Economic Forum has been addressing entrepreneurial ecosystems in several interactive formats and reports. These include the reports *Global Entrepreneurship and Successful Growth Strategies of Early-Stage Companies (2011)* and *Entrepreneurial Ecosystems Around the Globe and Company Growth Dynamics (2013)*, which provide insights on two core questions: 1) What do entrepreneurs perceive to be the difference between entrepreneurial ecosystems around the globe in terms of the availability of the various pillars that make up an ecosystem? 2) Which pillars of an entrepreneurial ecosystem do entrepreneurs view as most important to the growth/success of their companies?

Work on the educational and skills components of the ecosystem includes the Forum reports *Educating the Next Wave of Entrepreneurs (2009)* and *Unlocking Entrepreneurial Capabilities to Meet the Global Challenges of the 21st Century (2011)*, which deliver detailed insights on challenges, opportunities and measures to improve entrepreneurship education. Work on specific regions includes *Accelerating Entrepreneurship in the Arab World*, which highlights 10 recommendations to promote vibrant entrepreneurial ecosystems across the region.

At the European level, the *Start-up Manifesto of the Leaders Club of European Entrepreneurs*, created by the Vice-President of the European Commission, Neelie Kroes, specifically targets tech entrepreneurs and delivers a set of recommendations with a focus on policy measures. The manifesto forms a part of the *Start-up Europe* activities pursued by the European Commission and the Lisbon Council, focusing in particular on the digital agenda.

Finally, the following reports give a deeper understanding of the entrepreneurial environment in Europe:

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