

# TRANSFORMING EUROPEAN START-UPS INTO GLOBAL LEADERS: A VIEW FROM YOUNG EUROPEAN ENTREPRENEURS

A Special Report by ThinkYoung  
Supported by Tata Consultancy Services

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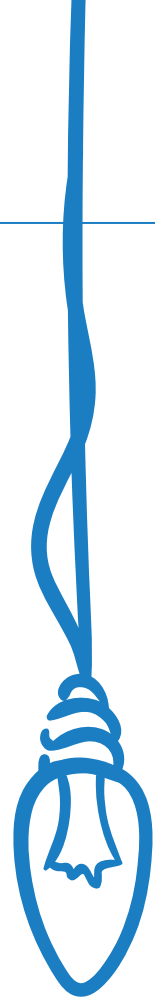
# ABOUT THIS REPORT

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Supporting today's start-ups to become nation champions and ultimately large global corporations can help create a new wave of economic growth, jobs and skills development across Europe. ThinkYoung, supported by Tata Consultancy Services (TCS), has created the following special report on the innovation ecosystem within Europe. The work draws on the experience and first-hand accounts of European start-ups, as well as our own insight and analysis of what the EU can do to help start-ups scale up globally.

We have gathered information from start-ups with diverse origins across Europe. Based in 13 different fields within the technology sector, including health, 3D printing and virtual reality, and 12 different nations across Europe, we have focused on both young and established start-ups as they will be the next generation of European innovators. Many of these start-ups and their innovative businesses are featured within this report.

This report aims to provide a forum where Europe's young entrepreneurs can express their concerns directly to political and business decision-makers as well as contribute to the discourse of innovation and the facilitation of global start-ups within Europe. As a result, this publication represents an opportunity for practitioners in the field to make concrete and rational recommendations to unlock the next wave of economic growth.



# FOREWORD BY AMIT BAJAJ

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Every company was once a start-up. Richard Branson's Virgin empire was created in a red phone box; our own group was founded 150 years ago as a start-up Trading company, Facebook at a university dorm. Today, their stories are well known. It is start-ups that power Silicon Valley and create the unicorn companies that power our economy.

Europe is a large, unified market, thanks to the EU. It is home to some of the world's largest multinational companies, in a range of sectors from car manufacturing and telecom to consumer goods and professional services. And we have growing hotspots of start-up activity. Stockholm, for instance, has the second highest number of 'unicorn' start-ups after San Francisco, despite having a fraction of the investment. There's no scarcity of talent right here in Europe, and the model of European Regional Development Funds has been very successful – as you'll hear from many entrepreneurs quoted in the following pages.

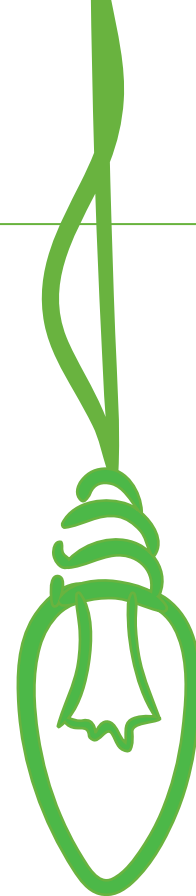
Start-ups have the power to be nimble; all they need is a computer and an idea. Access to the cloud gives them instant access to a whole data centre of computing power. They have the mentality to disrupt established market models – banking, transport and hospitality have all been challenged by the young pretenders (just think Atom, Uber and Airbnb).

With this in mind, we're supporting ThinkYoung, an organisation that seeks to unlock the potential in start-up companies and help them scale-up to compete globally. It takes investment, experience and support to turn a start-up into a worldwide success.

Europe has had some notable start-up successes. Who has not played Angry Birds? Rovio Entertainment is one of Finland's biggest success stories of recent years. Gaming is a hub of activity. And there's potential for far more, across a wider number of sectors. If you look around, there's a huge abundance of talent and ideas across Europe – and now is the time to harness it.

For our part, we've fostered our very own Co-Innovation Network (TCS CoIN™) since 2009, partnering with more than 1,500 start-ups, VCs and academics. And since 2015 we've been supporting Slush, Europe's top start-up event that connects start-ups and tech talent with top-tier international investors, executives and media. We crowdsource the best minds and products to help solve the world's most complex conundrums. So, whether biotech genomics, AI and robotics, we too are looking for that next unicorn opportunity.

This report profiles some of the most exciting young start-ups in Europe, which are part of the ThinkYoung ecosystem. Companies like Robo Wunderkind is bringing programming to kids, for example; Byteflies, Tooteko and Actijoy brings healthtech to the home; Freedrum puts music in your pocket and Photoneo is bringing robotics to life.



**Amit Bajaj**  
CEO Europe,  
Tata Consultancy Services

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## Developing a strong network of connections and partnerships in Europe is vital to the success of innovation on the Continent.

The opportunities for start-ups to drive innovation and develop game-changing ideas to solve some of the world's most pressing challenges is greater than ever before. Initiatives led by organisations like ThinkYoung are a catalyst for change, designed to encourage a mind-set and mentality of innovation and growth. The foundations for this mind-set change are already in place. For instance, in 2016 a ground-breaking report by TCS proved that ambitious young Europeans are not simply using social media to communicate on a personal level, they're also using it to empower their academic and professional lives too. Dubbed #GenerationDirect, they are embracing social media as their chance to circumvent outdated learning and employment processes and in doing so – to reshape our economy and society.

Nobody can survive alone and developing a strong network of connections and partnerships in Europe is vital to the success of innovation on the continent. Listening to the voice of our young entrepreneurs and supporting them in their journey to become tomorrow's leading enterprises, is vitally important. That is why we are proud to support ThinkYoung and the entrepreneurs who will fuel Europe's future economy.

# FOREWORD BY EVA MAYDELL

Digitisation is the defining process of our time. It has already changed the way we live, work, communicate and travel, beyond recognition. Yet, in the grand scheme of things, the digitisation journey has only just begun.

As a Member of the European Parliament for Bulgaria, I believe in the constructive power of open dialogue with stakeholders, especially in the year where Bulgaria takes over as the EU Council Presidency. It means we can have more of a guiding hand to support the work the organisation does.

I am also part of the European Parliament's Committee on Economic and Monetary Affairs (ECON), and I see our work as the link between entrepreneurs and policy makers. As partners, we need to work together to experience the practical problems that businesses face. We listen to what entrepreneurs really need and we seek to find solutions that matter and have positive impact on businesses and society.

We are all part of a rich and supportive eco-system, including industry, academia, venture capital, finance and knowledge building. Technology powerhouses, such as Tata Consultancy Services (TCS) and others, play crucial role in nurturing that ecosystem.

Supporting start-ups is now a key part of the EU's Digital Agenda and I've been actively involved in the Start-Up and Scale-Up Manifestos. We're also pushing forward with the Juncker Investment Plan – a key feature is the European Fund for Strategic Investment, and the results are already there.

We have had some success in developing high-tech companies in Europe, but we are on the cusp of a huge technological leap – the arrival of a new age known as Business 4.0. We need to equip our business community to take full advantage of the opportunities offered by the combination of AI, automation, cloud, and agile development.

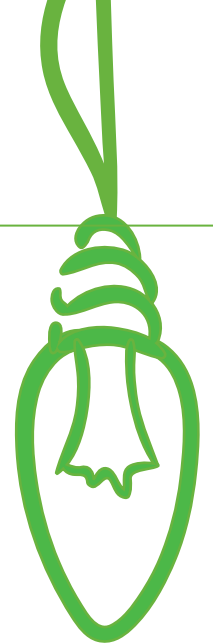
The SME community is the lifeblood of the sector. It creates jobs and prosperity across Europe. Businesses and government need to work together to reduce barriers to growth and help start-ups, especially in the early phases. It means removing barriers between member states. It also means providing specific coaching, tools and support needed to start-ups with the potential and ambition to scale up and make their mark in the global arena.

The IT skills shortage is not just confined to one country and we are committed to tackle the issue at a European-wide level.

The wide representation of businesses from across Europe at ThinkYoung, is an example proving the EU is 'one community' and there are no borders to talent – and ideas – between member states.

We also need to foster a knowledge sharing community. In the long term, our children can learn from businesses too, to build the long term entrepreneurial success that is so critical to our future.

Organisations such as ThinkYoung is a good stepping stone to that process. The initiatives of unity must grow in the future and we can bring the full support of the EU Parliament behind it.



**We also need to foster a knowledge sharing community.**



**Eva Maydell**  
**Member of**  
**the European**  
**Parliament,**  
**European People's**  
**Party, Bulgaria**

# FOREWORD BY ANDREA GEROSA

Europe's strengths, competitive advantage and know-how are reflected in young European successful ventures



**Andrea Gerosa**  
Founder, ThinkYoung

The global start-up scene is bustling with more and more innovative and intricate products. From a European perspective, we host a plethora of talent, ideas and opportunities – and wish to springboard this potential to the forefront of global innovation, and to the top of the global start-up ecosystem.

Here at ThinkYoung, we give voice, study and empower young people. It is our aim to make a better Europe for young people and future generations. As a result, it is our utmost pleasure to present this joint report on what the EU can do to help European start-ups in their quest to become global.

We are honoured to have been able to hear the thoughts and opinions of some of the best young entrepreneurs in Europe on this matter. They have enlightened us with their views on what the EU does well and what can be improved to help start-ups scale up globally. Common concerns put forward revolved around inter-state bureaucracies and regulations as well as access to funding. Member State differentials such as Sweden's domestic policies were found to have successfully supported the creation of some of these start-ups.

Our own analysis and young entrepreneurs' wishes highlighted comparable issues but also stressed an importance on completing the single market, investment in early stage funding and capitalising on the emergence of the Maker's Movement. Reasons as to why Europe falls behind in its facilitation of global start-ups, and what the EU does well in response to this were also explored. This includes the lack of entrepreneurship culture that Europe exhibits, as well as EU initiatives to tackle this such as the European Venture Capital Fund-of-Funds. Progress has been made, but more needs to be done to ensure European talent is given the platform to succeed on the global stage.

Europe's strengths, competitive advantage and know-how are reflected in young European successful ventures: a focus on purpose, an enduring resilience, the importance of having an impact on society and the constant attention to sustainable business models matched with the wellbeing of the environment. This is why the support of companies like Tata Consultancy Services to empower the ecosystem of young entrepreneurs is vital for the long-term success of young entrepreneurs. It is our time, more than ever, to help Europe achieve its full potential and it is with this belief of ours that we present to you this report.

# EXECUTIVE SUMMARY

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With start-ups at both the SME and 'unicorn' level becoming more influential within economies, politics and society worldwide, Europe is well positioned to become the global leader in innovation. This report, developed by ThinkYoung and supported by Tata Consultancy Services (TCS) looks to act as the voice of some of the young European entrepreneurs and outlines what the EU is already doing to facilitate globally competitive European start-ups; how innovation can be further stimulated in Europe; the key components of a successful innovation environment; and how Europe compares to other regions internationally.

## **Recommendations:**

For Europe to create more unicorns, the report recommends that it takes further steps to foster a truly entrepreneurial culture. While Europeans have traditionally tended to prefer stability and certainty, its start-ups must fully commit to entrepreneurial traits such as risk-taking and the associated potential failure.

The EU needs to unify its digital marketplace as much as possible. While much progress has been made, trade barriers – such as high cross-border delivery costs, and divergent VAT, contractual and copyright systems across EU member states – remain.

Needless to say, the fragmentation exists not only when dealing with the markets intended as customers but also when dealing with the red tape related to hiring new talent, paying salaries, dealing with the welfare state and any "back office" aspects of running a company. Among the 15 start-ups we questioned, we found a demand and a need for greater ease of doing business across EU member states.

Increased institutional support for mentoring and consultancy will help start-ups access other European markets and global markets. Many of the entrepreneurs we interviewed had great praise for initiatives such as the European Regional Development Funds, and when founders lacked knowledge of doing business in other European countries, having someone to turn to and help them negotiate different practices was highlighted as invaluable. The EU must continue to work towards forging greater unity between entrepreneurs, investors and international partners within Europe.

Europe must also find ways of further increasing the amount of venture capital (VC) investment available to start-ups. While in the U.S., start-ups can access millions of dollars from a mature venture capital sector to help them scale-up, the European structure is not yet at the same level. While European Regional Development Funds and the like have been critical in getting many start-ups off the ground, this needs to go further to help existing start-ups to scale-up.

There needs to be a better ecosystem focused on helping European start-ups gain better access to financial assistance and improve their ability to access late-stage funding. This type of investment is pivotal to providing start-ups with the resources to scale and compete on the global stage.

## **The key recommendations made by Europe's entrepreneurs are:**

### **1. Complete, strengthen and extend the EU Single Market and the EU Digital Single Market**

An overwhelmingly clear message that emerges is the need for the EU to continue to push for completion of the digital single market. There are still barriers for firms wanting to access different European markets, which limit the opportunities to scale. Standardisation and harmonisation across member states is needed to kick-start the process of scaling up – first within Europe, then globally. A truly single market will offer start-ups in Europe a scale of opportunity similar to large markets like the US.



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## 2. Removing asymmetry in the ease of doing business

Removing local bureaucracy is the oil to make start-ups focus their energy on what is important i.e. growth and building a robust business. Many entrepreneurs reported localised issues with tax systems, paperwork and regulations as obstacles in their growth journeys. Some entrepreneurs point to vast differences in operating environments depending on which country or city they were headquartered in. Some countries, like Estonia, were exemplified as being much better in terms of the ease of doing business.

## 3. Support to scale up, not just to start up

Many entrepreneurs reported that while there was access to capital for start-ups through many regional funds, and business support for start-ups, it was the next stage of scaling-up where support is harder to find. The problems of start-ups are different from 'scale-ups', they're 'vulnerable in different ways' and need special assistance and programmes to support them.

## 4. Capital funds and investment for globalising

Start-ups need much greater access to larger volumes of late-stage funding within Europe. This type of investment is pivotal to provide start-ups with the resource to scale and compete internationally. A lack of investment vehicles and the long lead-times involved in applying for and securing capital must be addressed. Any funding mechanisms should consider not just start-up capital, but look at the lifecycle of investment that start-ups need, until they can become of a scale that they are financially viable and independent.

## 5. Build an entrepreneurial spirit

There appears to be a general lack of a culture for entrepreneurship and risk taking within Europe, with a higher percentage of Europeans preferring employment over self-employment. This needs to be tackled at all levels of the education system through courses, inspiration programmes, exchange programmes and attitudinal training that encourages entrepreneurship and ambitious thinking. The entrepreneurial spirit must also be reflected in Europe's investment in research and innovation to create and boost the next generation of entrepreneurs.

The Investment Plan for Europe, known as the "Juncker Plan," does address some of the issues raised by young European entrepreneurs and has made substantial progress in supporting them. The European Fund for Strategic Investments is firmly on track to deliver the objective of mobilising at least EUR 315 billion in additional investments in the real economy by mid-2018. The European Innovation Council supplies funding for European start-ups at an early stage as well as providing coaching and mentoring for SMEs.

The Commission has also engaged in a structured dialogue with Member States to help remove national obstacles to investment. More recently, in April 2018 the European Commission and the European Investment Fund (EIF) launched the ambitious Pan-European Venture Capital Funds-of-Funds programme (VentureEU) to boost investment in innovative start-up and scale-up companies across Europe.

These and the high number of national level initiatives to support entrepreneurs are excellent initiatives that reflect the priority entrepreneurs enjoy with policy-makers. The best way forward is to keep the dialogue between the policy-makers and entrepreneurs alive.



# THE EU INNOVATION ECOSYSTEM TODAY

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The European Union needs to ensure that Europe's firms remain competitive in a global economy that is increasingly penetrated by digitalisation.

Former US start-ups such as Apple, Alphabet (Google), Facebook, and Amazon are now among the top ten publicly traded companies worldwide in terms of market capitalization. During the past year, two former start-ups based in China, Tencent and Alibaba, have also become part of the top ten. The emergence, scale-up process, and internationalization of these firms appear to have been the result of ecosystems that have supported the birth, incubation and sustained growth of these start-ups.

Of all start-ups valued at over US\$1bn, it is estimated that only 10% are based in the EU, and only 6% are based in EU-27 countries (that is, excluding the United Kingdom). This compares to 53% in the US and 23% in China.

On the face of it, ecosystems that support innovation seem to be barely existent or deficient in Europe. What accounts for Europe's apparent deficit? What has the EU done so far to address these challenges? What are the policies and programs that have been successful and how can these be replicated and scaled? And what is to be done today from a policy perspective, especially in a world that has seen some dramatic changes in the past few years on the social, geo-political and economic front?

These are questions that require profound self-examination and sustained effort to change, should Europe wish to consolidate itself as a future economic power on the global stage.

In this brief analysis, we attempt to provide an overview of the current state of affairs. First, it focuses on the factors that have hindered the appearance of innovative multinationals in Europe. Next, it outlines the policies that the European Union has undertaken to address these deficits. Following this, the strengths of the EU regarding innovation are reviewed. Finally, a brief list of recommendations is presented.

# EUROPEAN ENTREPRENEURSHIP: STATE OF PLAY

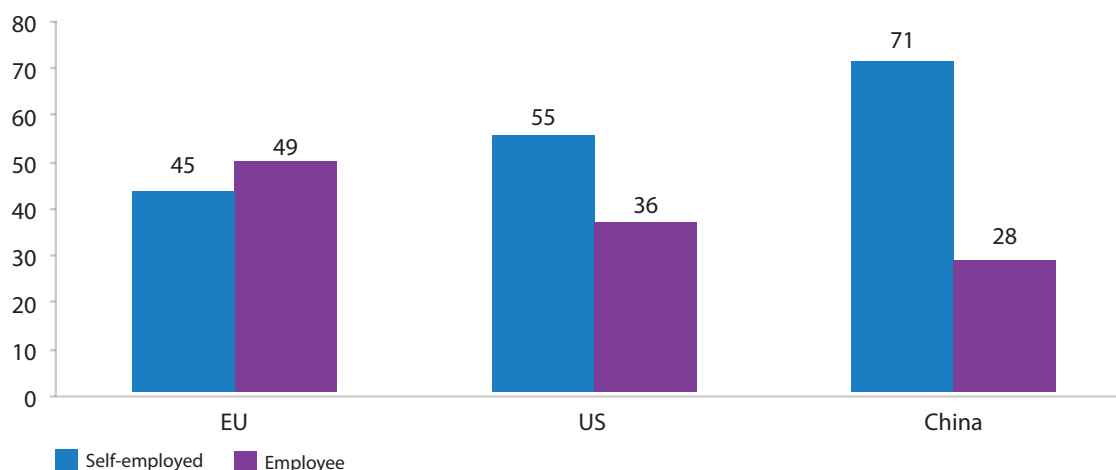
The European project has done much to bring together a group of diverse nations and work towards standardisation of regulations across the continent – easing the complexities of doing cross-border business. However there's more to be done and the still fragmented EU digital market strongly limits the growth for start-ups in Europe. The trade barriers underlying this fragmentation range from high cross-border delivery costs, to divergent VAT, contractual and copyright systems across EU member states. Spotify's case provides an excellent example of Europe's deficits vis-à-vis the US. Although initially setting up their activities in Sweden, the company moved operations to the US in order to scale up. As Spotify's founder and CEO, Daniel Ek, stated recently: "Sweden was too small of a market for us, that just wouldn't happen, whereas if you start a company in the US you have access to a population of 300 million from the get-go."

Furthermore, venture capital is key to stimulating growth and securing the required sustainability of start-ups to reach a global level. Compared to the US, Europe has a significant lack of venture capital investment. This is explained partly by the fact that approximately 30% of venture funding in the US is provided by pension funds, a figure that is significantly lower in Europe. The reason for this is partly regulatory, as pension funds are not allowed to take as many risks in Europe as in the US. Yet perhaps a more important factor is the size of venture capital funds in Europe. Pension funds aim for investments of €50–€100m, yet European venture capital funds tend to have sizes which fall significantly below this threshold.

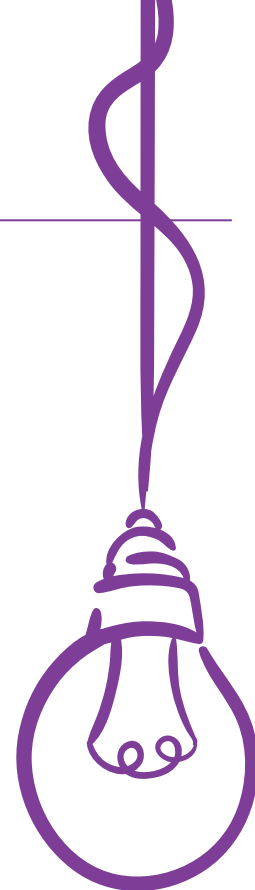
On the other hand, lack of experience in innovation based on digital technologies has also been cited as one of the reasons for Europe's deficit. In Silicon Valley there has been a continuous intergenerational transmission of expertise fostered by a culture of knowledge sharing. Personal computing companies, such as Sun Microsystems or Apple, acquired know-how from the semiconductor companies that had settled in the area in the 1960s, such as Intel. In turn, internet companies, such as Cisco, gained insights from the personal computing firms.

Additionally, there appears to be a considerable lack of entrepreneurial culture in Europe compared to the US and China. The graphs below show these preferential differences. Figure 1 displays a big disparity in preferences over being self-employed or an employee between EU, the US and China, with EU bearing an average of 45% citizens preferring self-employment, compared to 55% in the US and 71% in China. This appears to portray a gap in entrepreneurial ambitions where job stability and clear career progression are preferred in Europe.

**Figure 1: Preference of being self-employed or an employee (%)**

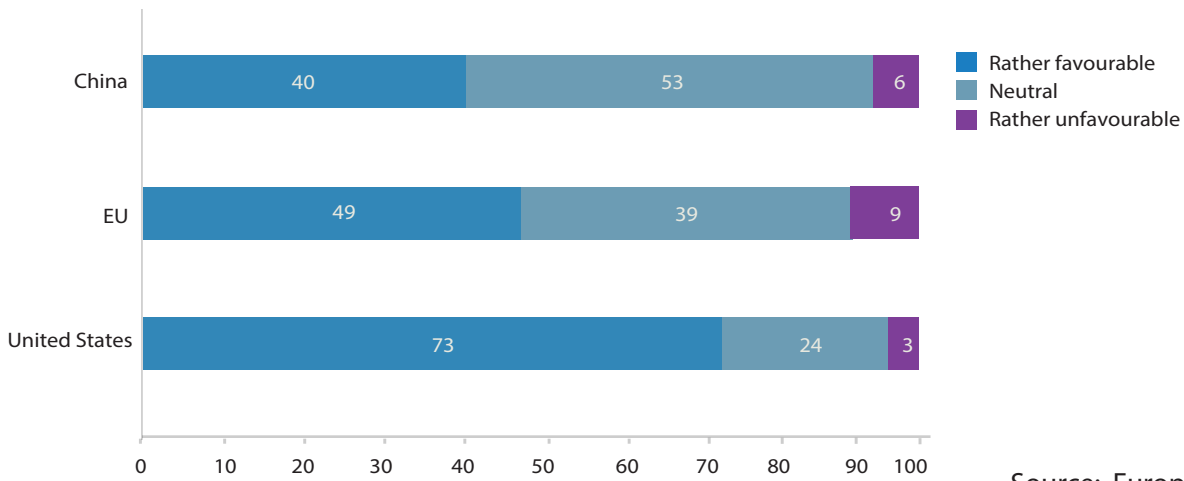


Source: European Commission



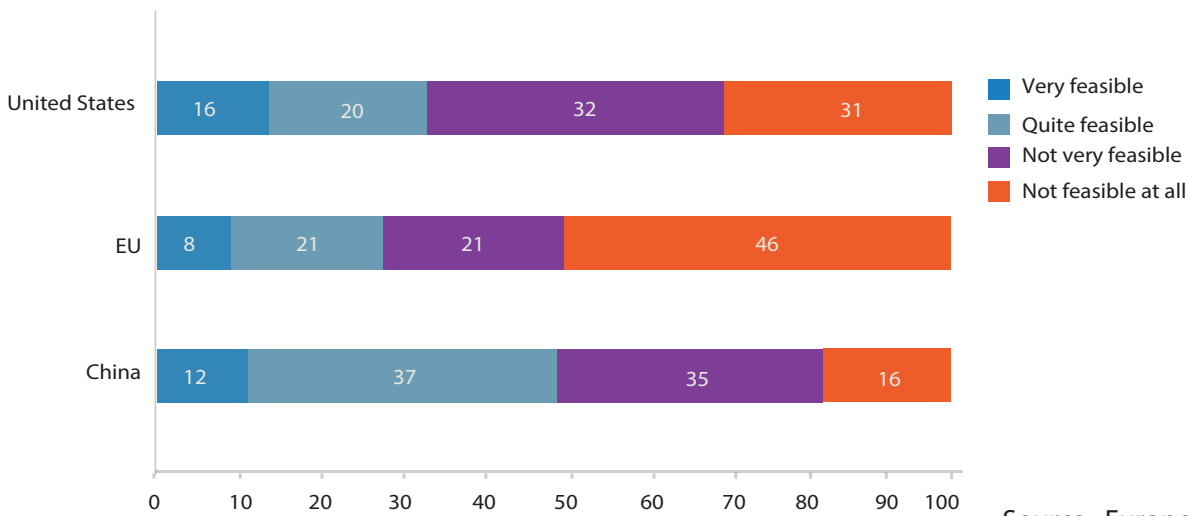
This gap in entrepreneurial culture is also shown in Figure 2. Although a more positive outlook on entrepreneurs was found within the EU at 49% compared to China's 43%, it falls short of the US' favorable prospects on entrepreneurship. EU citizens were also found to have had the most unfavorable outlook on entrepreneurship. Figure 3 displays a poor perception of the feasibility of becoming self-employed within Europe compared to both the US and China. In the EU, 46% believe it is 'not feasible at all' compared to 31% in the US and 16% in China, which paints a less than optimal picture on ambitions and enthusiasm for entrepreneurship within Europe.

**Figure 2: Preference of being self-employed or an employee (% of answers given)**



Source: European Commission

**Figure 3: Feasibility of becoming self-employed (% of answers given by non-self-employed)**



Source: European Commission

# EUROPEAN PROGRAMMES TO BOOST ENTREPRENEURSHIP

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The Investment Plan for Europe, known as the “Juncker Plan,” was the key measure initiated by the Commission to help the European Union (EU) break through an investment slump. The policies aiming at fostering innovation have largely sought to achieve two objectives. First, they have looked to facilitate access to finance for start-ups. The Plan established the European Fund for Strategic Investments (EFSI), aimed at a total investment of €315 billion over three years (2015-2017), set up the European Investment Advisory Hub (EIAH), and they established the European Investment Project Portal (EIPP). And the plan is working well- the EFSI, implemented and co-sponsored by the European Investment Bank, is firmly on track to deliver the objective of mobilising at least EUR 315 billion in additional investments in the real economy by mid-2018.

The market absorption has been particularly quick under the Small and Medium-sized Enterprises (SME) window where the EFSI is delivering well beyond expectations. In addition, the European Innovation Council – now in its pilot phase – aims at supplying funding for European start-ups at an early stage as well as providing coaching and mentoring for SMEs.

The second objective was to promote structural reforms within Member States, such as improving the investment environment in the EU and standardising cross-border business rules. Thus removing barriers for start-ups to scale-up across Europe. To that end, since 2015 the Commission has made a series of proposals in areas of fundamental importance to reducing the EU digital market’s fragmentation, such as copyright, VAT regimes and parcel delivery. The Commission has also engaged in a structured dialogue with Member States to help remove national obstacles to investment under the current framework, for the benefit of SMEs and mid-cap companies in all Member States. And further, the European Commission’s white paper on the future of Europe, published in 2017, suggested that the EU expand its competences on innovation.

More recently, in April 2018 the European Commission and the European Investment Fund (EIF) launched the ambitious Pan-European Venture Capital Funds-of-Funds programme (VentureEU) to boost investment in innovative start-up and scale-up companies across Europe.

## EUROPE’S STRENGTHS - SUCCESS STORIES

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Large disparities exist among EU member states regarding their ability to be innovative. The map on P.14 shows EU countries clustered according to an innovation index constructed by the European Commission. It shows that Member States in Northern and Western Europe appear to perform better than those in the South and East.

Nordic countries seem to fare particularly well in fostering innovation. Sweden, for instance, is a global leader in promoting the emergence of start-ups. Stockholm produces the second highest number of unicorns per capita in the world, coming second only to San Francisco. The Swedish government developed a social, educational and corporate infrastructure that has supported innovative SMEs from as early as the 1990s. This has a huge impact on what it can achieve today. Tax-breaks and subsidies were implemented for residents to purchase personal computers. Also, Sweden benefits from a low corporate tax rate, which is currently at 22%, providing an incentive for citizens to start their own business.

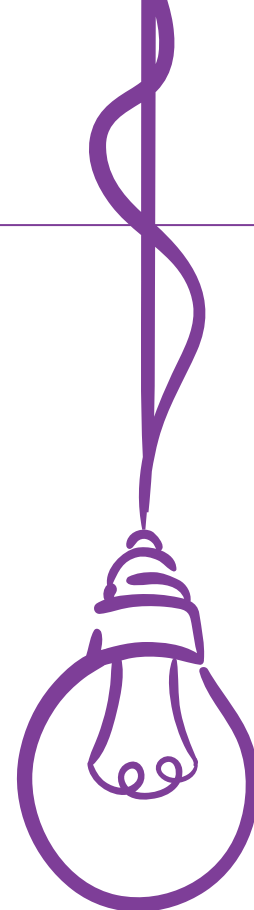
As another example, Finland’s gaming app start-up scene is flourishing and is among the most prominent worldwide. It has facilitated the creation of products such as Angry Birds and Clash of Clans. Its government has been highly successful in implementing many kinds of public funding and



support services, which are offered to innovative SMEs on local regional and national scales. Finland boasts a proactive role in incentivizing the development of high-speed fibre-based networks throughout the country. Start-ups are also supported by the country's low corporate tax rate of 20%.

As markets shift from exclusively digital innovations to the interaction between physical and digital technologies (e.g. the internet of things), Europe is in a relatively strong position. This is due in large part, to its global competitiveness in traditional manufacturing, particularly in sectors such as the production of cars.

Additionally, the emerging phenomenon of the Maker Movement worldwide is a fruitful opportunity for the EU to boost start-ups and economic growth. The Maker Movement is characterized by an ethos of tinkering, experimenting and creating along with a renewed interest in entrepreneurial activity. Along with a do-it-yourself attitude, communities of makers have formed worldwide in groups such as FabLabs, Hackerspaces and Makerspaces. Here, they come together with businesses, investors, and decision-makers to turn concepts and ideas into viable start-ups.



**Figure 4: Map showing the performance of EU Member States' innovation systems**

**Innovation Performance Groups**

- Modest Innovator
- Innovation Leader
- Strong Innovator
- Moderate Innovator



Source: European Commission

# BOOSTING EUROPEAN ENTREPRENEURSHIP - THE WAY FORWARD

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The experiences of Sweden and Finland show how innovation can flourish in the European economy. However, actions need to be undertaken in order to maximize Europe's potential in this regard. The EU needs to leverage the opportunities granted by the appearance of the Maker Movement and its potential to benefit from the emergence of new products in the interaction of physical and digital technologies.

There are several avenues in which the EU can best capitalize on this. First the Council of the European Union as well as the European Parliament should invest resources in ensuring all existing Commission legislative proposals look to reducing the fragmentation of the EU digital market, as well as those that want to improve access to finance for innovative SMEs, are adopted as promptly as possible and without major reductions to the Commission's original ambitions.

Furthermore, the upcoming Commission should consider having a special task-force within its ranks, leading policy-making and better coordination amongst Directorates-General in promoting innovation- and business-friendly policies that specifically support European start-ups and SME's in their journey to becoming global players. The new Commission should also ensure, reflecting the content of the white paper on the future of Europe, that innovation gains a more prominent place in the agenda, making more far-reaching proposals for harmonization with the aim of removing barriers with the EU's digital market, and removing barriers to 'going global'. In parallel it should ensure member states are fully aware that not prioritizing innovation may result in a significant loss of European competitiveness in the global economy. More member states should be encouraged to follow the lead of some members states who have successfully developed their own sector-based co-ordinated programme pushing their SME's on to the global arena.

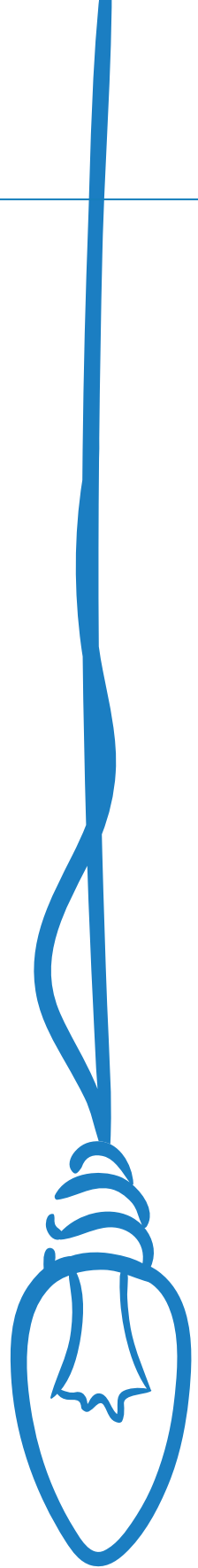
Moreover, there are several practices that actors in civil society can undertake in order to help scale start-ups. A boost in entrepreneurship culture and mindset can be facilitated by social and commercial entrepreneurship programs. This includes, schools, workshops, courses and mentorships which can come about by actors such as Non-governmental organizations and Universities. ThinkYoung, since 2011 has in fact been running an Entrepreneurship School with the aim in mind. Think-tanks and academic institutions should continue to research and explore Europe's lack of entrepreneurial mindset and innovation ecosystem. This is because this area is still one that is relatively overlooked and better data can be provided for policy makers to then act on. Media outlets and programs are also able to feature entrepreneurship in better a display. They can be more active in highlighting all the social and economic benefits that start-ups can provide. Corporate entities can also contribute by hosting greater entrepreneurship mentalities in the workplace as well as providing entrepreneurial schemes such as exchange programs and supporting employee side-projects ideas which can lead to start-ups being created.

In order to effectively foster the emergence of start-ups in the EU, the Commission's work should continue to have innovators' needs in mind. In the following section, the views of several European entrepreneurs are presented to provide an overview of their necessities and what types of policies they think will be most effective.

# VOICE OF YOUNG EUROPEAN ENTREPRENEURS

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**We interviewed a selected representative group of young entrepreneurs from across Europe to hear from them what they need for starting and growing innovative businesses in Europe. Here are their stories.**





## Summary of Results

We want to thank the start-ups involved for providing us with their insights into the innovation ecosystem within Europe. The start-ups fed back on a wide range of topics as well as providing first-hand practical insights that can be of use to build a better innovation ecosystem. The entrepreneurs were positive on a number of programmes and policies in place to support them, as well as providing valuable feedback on how they can be best helped to scale up into a global playing field.

The questions that were put forward explored what these start-ups believed were the key components of a successful innovation environment, what the European Union as well as regional and national agencies and civil society agencies do well to support this, what the gaps are, how the European environment compares to others internationally, and personal recommendations on how things can be improved. The findings were varied, yet there were common concerns as well as commonalities in the positive elements experienced by different start-ups throughout the survey.

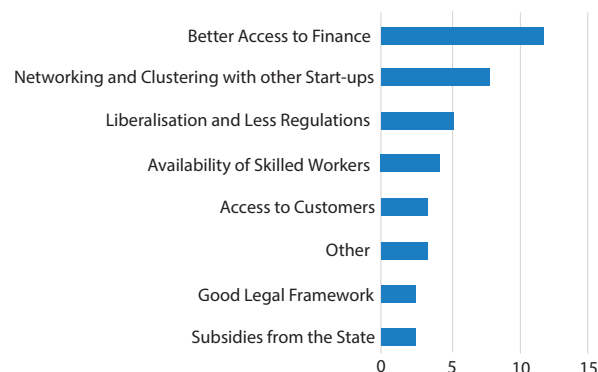
### A robust European Innovation Ecosystem

As illustrated in the graph to the right, start-ups want an ecosystem to provide them with better access to finance. Venture capitalist rounds and other forms of funding are key to helping start-ups scale up and become viable and successful on a global scale. The second need that was felt most keenly was the importance of the clustering and networking. The agglomerations of industry experts, academia, NGO's, as well as peer start-ups – the European Innovation Ecosystem, help share expertise, experience and assist with scaling up. Mentoring from industry experts on how to scale-up especially to a global scale- was a need that was mentioned several times. Mentors could be other start-ups who had made the journey successfully as well as large corporates who understand the ramifications of conducting business internationally. The entrepreneurs mentioned specifically the need to connect the multiple country level innovation ecosystems to each other- so that they all work to support each other at the European level. Another reality, a leading Italian VR firm said quite clearly, "It's extremely difficult to find the right opportunities and to dig through different legislation. There should be a free counselling service for start-ups to help entrepreneurs find the best solutions/legislation...". There was also the concern expressed that some private accelerators or incubators lacked the knowledge and experience needed to support start-ups. There is clearly a gap in quality and consistency on this front.

### Less bureaucracy, more incentives and special regulations for SMEs

When asked what was lacking for start-ups to scale internationally- the need for reducing high levels of bureaucracy at both state and inter-state level was referenced by most entrepreneurs. The entrepreneurs felt that they were treated in much the same way as established companies and could do with more 'leg-up' regulations- such as tax holidays and much more focus on boosting local manufacturing in Europe.

**3 key elements  
an ecosystem  
should provide  
to make start-ups  
successful?**



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Several entrepreneurs made a strong point on how the problems of start-ups were different from 'scale-ups' i.e. the more established start-ups on the threshold of making the jump out of the Continent and to the global arena. The entrepreneurs emphasised that the so-called scale-ups are 'vulnerable in different ways' compared to start-ups and need special assistance and programmes.

### **More access to funding**

Start-ups need much greater access to larger volumes of late-stage funding within Europe. This type of investment is pivotal to provide start-ups the measures and means to scale and compete internationally. A lack of investment vehicles and the long lead-times involved in applying for and securing capital were mentioned. Access to credit and grant funds at different levels: Seed funding, level A, level B should be the focus of any programme aimed at helping entrepreneurs to scale up.

Apart from funds, there is a keen need for capital advisory - how to invest the funds for maximum impact. This is a role for the European Innovation Ecosystem. In this context - large companies supporting or incubating start-ups and helping them on their journey to scale up was mentioned as a relatively safe way for companies to make the global 'leap'.

### **Standardisation and harmonisation to remove barriers**

A demand for standardisation for doing business across European borders, especially in recognising different legislation, was a very common theme. Removing regulatory barriers, creating a true (digital) single market across Europe is a prime need. This means allowing companies set up in one European jurisdiction to operate in others. Harmonising the existing regulations, work contracts would already go a long way in saving time, effort and costs for entrepreneurs when scaling up in Europe and beyond.

Similarly, regulatory barriers come into play when scaling up internationally as mentioned by one of the entrepreneurs interviewed. Guidance on how to navigate the international bilateral regulatory landscape is an important element for the so-called scale-ups. Lack of standardisation also came up in the context of education. This makes it difficult for labour to be truly mobile across Europe.

### **Entrepreneurship mind-set and investment in the future**

The entrepreneurs interviewed mentioned the 'licence to fail' as being a characteristic difference between American and European start-ups. Whereas in Europe, they were advised to opt for a judicious approach, avoiding risks and focusing on niches, they commented that their peers in the US were encouraged to think 'bigger and bolder' and not be afraid to fail.

The entrepreneurs felt that Europe should be much more aggressive while keeping to their European spirit - one entrepreneur pointed out that there is no reason for example that the US leads in autonomous vehicles technology while some of the biggest automotive players are actually European. This means investing in cutting edge technologies. Europe is investing only a fraction of what some other countries are in Artificial Intelligence, VR, AR etc. Entrepreneurs noted that the lack of industry-readiness among graduates meant that they have to invest time and money in new hires before they are fully productive. The European Innovation Ecosystem should ideally help academia train students to be ready for deployment in industry - especially in multiple skills / multi-tasking typically required by start-ups. Entrepreneurs suggested that programming, communication and entrepreneurship skills should be taught at schools.



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The entrepreneurs said there was a need for policy-makers to be open to the current changes and have an open and free exchange of information.

### Positive notes

There were several positive notes in the views of entrepreneurs on the existing European Innovation Ecosystem. When asked, "Do you think the European Innovation Ecosystem provides you with the necessary support to be successful?" six start-ups specifically referred to the successful implementation of policy in their domestic countries. This included state programs that provided funding, accelerator programs and even networking spaces.

European Union policy was also found to have helped these start-ups for instance via the EU subsidy funds like the European Regional Development Fund. The Horizon 2020 - an EU initiative supporting innovation was mentioned as an excellent programme to support innovation in Europe. The SME instruments were mentioned as being helpful especially in the start-up phase. The 'Seal of Excellence' which is part of this instantly boosted them into an ecosystem of business opportunities and contacts.

On the educational front it was felt that the Erasmus university exchange programmes and multiple internship programmes went a long way to help in exposing young entrepreneurs to a more international market. However, the paperwork involved in accessing such funding was one factor the entrepreneurs felt needed to be addressed.

In addition, entrepreneurs mentioned programmes aimed at allowing them to raise money as being very helpful. One start-up specifically mentioned the tax holiday provided to Research and Development costs as a major positive factor in promoting innovation. Whereas high labour costs are traditionally seen as a barrier to growth and a push-factor to move to 'low-cost' countries for cheap labour, one company mentioned the highly successful use of apprenticeship programmes (on-the-job learning) that provides start-ups with excellent human capital, builds skills and goes towards reducing the prohibitively high rates of youth unemployment in Europe.

France and Italy's programmes as well as Czechinvest (run by the Czech government) were singled out for praise. As was the Estonian entrepreneurs' ecosystem which allowed entrepreneurs to travel and gain exposure to peer companies.

One entrepreneur mentioned that the support from the EU is much higher than in the rest of the world and that they had surprised their American peers with the level of support they received. This is definitely a positive signal to policy makers and a need to boost similar programmes for greater impact.

Europe may have some ground to cover in terms of unicorns per capita but this analysis found Europe to be on the right track in terms of developing an environment to help start-ups scale, although it's clear that more can be done.

An overwhelmingly clear message that emerges is the need for the EU should continue to push for completion of the digital single market. There are still barriers for firms when wanting to access different European markets, which limit the opportunities to scale. An Innovation Commissioner leading an innovation project team within the European Commission could be considered. Establishing this role will allow better coordination among Directorates-General to facilitate innovation-focused policies. Furthermore, member states such as Sweden and Finland have been hugely successful in creating healthy start-up environments. The EU can play an important role to promote and lobby for policies modelled around these member states.



Freedrum is a virtual drum kit that fits in your pocket.

## Key elements an ecosystem should provide to make start-ups successful

1. Access to industry experts and other start-ups to share experiences
2. A well-designed digital infrastructure to read, contribute and discuss topics related to business operations within the EU and worldwide
3. Provide the necessary tools to build a strong company foundation that is scalable

## On how the European Innovation Ecosystem supported us

*“Our company began using some fantastic free office space that is funded by Region Skåne in Sweden. This is just one example of how the barriers of entry to start a company in the EU are reduced. Within this space there are many innovative start-ups, combined with a comradeship that allows for the sharing of experiences and networking. This attitude, which I believe is fueled by a long history of innovation, is pushing EU forward in the tech industry.”*

*“We would like to see campaigns that encourage companies to manufacture locally. We’re very proud to assemble our product in Sweden and we believe this has a positive impact on the Swedish and EU.”*

## Message to decision-makers

*“They export 97% of our product outside Sweden and over 50% outside the EU.”*

*“it would be wonderful to see a stronger focus on manufacturing within the EU. Too many local companies choose to go east. What role can the European innovation ecosystem play in evangelizing local manufacturing?”*

## About Freedrum

Freedrum is an instrument for the modern musician, assembled in Sweden and has a user base of over 9000 worldwide. We export 97% of our product outside Sweden and over 50% outside the EU. Freedrum uses wireless sensors attached to drumsticks and feet to create a virtual drum kit that surrounds the musician. The drum sounds are produced on your smartphone, tablet or computer. Freedrum is for people on the move or that live in small spaces where practicing behind a traditional acoustic kit is impossible. The ease-of-use and price-point also means that it can fit a wide variety of audiences.



# Freedrum

## AT A GLANCE:

Country of origin:	Sweden
Year Founded:	2007
No. of Employees:	7
Present in:	1 country
Revenue:	€500.000 – €1m



## Founders:

Ray Noori is an experienced entrepreneur and filmmaker from Waterloo, Canada.

Rasmus Hedin loves to develop business just as much as code.

Philip Robertson is an industrial and interaction designer from Cape Town, South Africa.

Sonja Rattay is a interaction designer and behavior nerd from Berlin, Germany.

Jonas Knustsson is an experienced project leader and people manager.

August Bering is the inventor of Freedrum and many other innovative products.



## Immersive Software Solutions, with a focus on Simulation, Training & Education



### Key elements an ecosystem should provide to make start-ups successful

1. Real investments and risk capital (risk capital and attitude)
2. Networking with big corporations and institutions
3. Infrastructures.

### How labor costs and taxation help the company

*"We had a couple of positive surprises."*

*About labor cost: "while everyone claims that hiring employees is prohibitively expensive, we found the apprentice contract an interesting and low-cost alternative to hire people and structure a team even if you are not an established big company."*

*Concerning taxation: "the 'credito d'imposta' opportunities offered are a super interesting way of deducting 50% of your R&D expenses (the biggest cost for a start-up) from your taxation, freeing up resources for further investments."*

*"Create institutional support to start-ups by providing free consulting (legal, taxation, business planning) and a real network between entrepreneurs and investors. We need to network with international partners to scale abroad"*

### However, the ecosystem is not always helpful

*"There should be a free counseling service for start-ups to help entrepreneurs find the best solutions/legislation. We are tired of private 'accelerators' or 'incubators' that are just stealing shares of the company in exchange of nothing and force you to buy their services. In Italy, the people creating companies can eventually ask for support from his or her own accountant, but 99% of them are absolutely not able to manage start-up problems."*

### Message to decision-makers

*"Help creating the right connections abroad with local partners.*

*Help reaching real scale-up investments.*

*Help us finding the right partners to take our solutions to a global level!*

*Enhance the connections with each European country innovation ecosystem."*

### AT A GLANCE:

Country of origin:	Italy
Year Founded:	2015
No. of Employees:	9
Present in:	1 country
Revenue:	€0 - €500.000



### Founders:

Lorenzo Cappanari is a former manager of a Fortune 500 multinational company with 15 years of experience in international environments.

Fabio Mosca is among the first Italian VR developers and is lead professor of game programming at digital bros academy.

Matteo Favarelli is a serial entrepreneur and is also twice world champion of arcade videogames in Japan and Korea.

### About Anothereality

Anothereality is a software development studio specializing in interactions in immersive environments, such as virtual reality, augmented and mixed reality. Since 2015 they have developed simulation and training solutions, immersive industrial and marketing solutions, as well as videogames.



Photoneo is a machine vision and robotics start-up focused on 3D. Our vision is to give robots human-like eyes and dexterity. We created a unique 3D camera, providing the highest detail in the world in real-time.



## Key elements an ecosystem should provide to make start-ups successful

1. A stable, transparent, and efficient regulatory environment. Efficient means in almost all cases “minimal”, or a very liberal set of rules
2. Availability of funding at all stages (seed, early growth, late growth, exit opportunities)
3. Availability of skilled employees

## Views on European financial support

*“The supposedly ‘easier’ COSME loans are often not possible to obtain. And it seems that banks use the EIB guarantees to have more or better-guaranteed profit, not to make credit more available to scale-ups to help them, for example, by financing their working capital (inventory). So they apply their standard credit rating system when allocating the funds, without any alteration. This means that effectively, no additional support goes to the targeted companies. We have asked local banks, but it seems we are not able to fulfil their criteria, which is nonsense when we talk about start-ups.”*

## There is still too much bureaucracy in Europe

*“There is a lot of bureaucracy related to running a company. The problem is that these rules apply to established companies as well as to start-ups, which demotivates start-up founders. Most of the rules come, I guess, from the state level (in our case, Slovakia), but the role of European innovative ecosystem would be to help to remove all the obstacles (by talking to individual states, etc.).”*

## Message to decision-makers

*“Talk to individual states, ask them to remove regulations. Remove (minimize) regulations also at the EU level (Sunset provision plus one-time 40% reduction). Make sure that start-ups can find what they need within the EU. Regulations should be unified and not vary excessively from one EU country to the other”*

## About Photoneo

Photoneo creates “eyes for robots”: high-quality, easy to use 3D area sensors. They also create a “visual cortex” for robots: they teach them to pick objects and navigate in space. Their stated mission is to: ‘- produce valuable 3D area sensors & to support their users with game-changing SDKs and APIs - and to change the traditional 2D machine vision approach in the industrial environment and bring to the market unique devices with new functionalities. With their new devices, manufacturers will be able to build more flexible production lines, and robot integrators will get a powerful tool for new applications.’

## AT A GLANCE:

Country of origin:	Slovakia
Year Founded:	2013
No. of Employees:	55
Present in:	2 countries
Revenue:	€500.000 – €1m



## Founders:

Jan Zizka was born with pliers and battery in hands. He has a PhD in Computer Vision and ended up at MIT playing with Cameras, Optics and Algorithms. When he co-invented a breakthrough patented 3D sensing technology and founded the 3D vision company Photoneo together with Tomas Kovacovsky and Michal Maly, with three priorities in mind: automate, automate, automate. And one more - have fun.

*“In the US and China, entrepreneurship is much more encouraged, and entrepreneurs are considered as role models”*

*“There is a lot of bureaucracy related to running a company. The problem is that these rules apply to established companies as well as to which demotivates start-up founders.”*

*On the European Innovation Ecosystem: “hardware start-ups get the cold shoulder many times.”*



The easiest way to help your elderly loved ones stay in touch with technology and you



**oscar**  
SENIOR

## Key elements an ecosystem should provide to make start-ups successful

1. Network
2. Experience sharing
3. Acceleration programs

## How do they see Europe in comparison with other regions of the world?

*“Actually, it is same thing. The point is that to get this (European funding) support means a lot of paperwork, which is not clear for young entrepreneurs who need to focus on business first.”*

*“There are many bureaucracy barriers to start and run a small company”*

*“Support young entrepreneurship. This is the place where innovation and disruption start.”*

## Message to decision-makers

*“Simplicity is the key. Make it simple to start the company and thus support young people to start their businesses. In long term you will see the results at least in innovation field.”*

*“Make it easier for companies set up in one jurisdiction to operate in other EU countries. Create a normalized type of work contracts to make it easier to hire across the EU.”*

## About Oscar Senior

Oscar Senior is fully customizable, device-agnostic and fully customizable platform for smartphones and tablets. Oscar Senior makes tablets and smartphones safe, easy-to-use and more accessible to older adults. Oscar Senior also makes it easy for seniors to get online and stay connected with friends, family, caregivers and useful services and thus helps seniors stay active and independent, supports aging in place. On the other hand Oscar Senior improves senior care and provides families with peace of mind.

## AT A GLANCE:

Country of origin:	Czech Republic
Year Founded:	2017
No. of Employees:	6
Present in:	3 countries
Revenue:	€0 - €500.000



## Founder:

Tomas Posker is an entrepreneur who established his first business at the age of 16. Tomas is driven by out-of-box thinking and he is still looking for new ways in human-machine interactions.

# THE INVENTORS



The Inventors creates educational kits and experiences that aim to inspire a new generation of creators.

## Key elements an ecosystem should provide to make start-ups successful

1. Access to customers
2. Pool of co-founders
3. Access to finance

## Their views on scaling up start-ups

*"H2020, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness, projects such as the SME instrument can be very positive for start-ups in the launching phase. In order to scale in the EU it helps when there is homogeneity among countries. Ironically, the fact that Google, Facebook and Instagram are commonly used EU-wide, makes it easier for start-ups to have a scalable marketing strategy."*

## The EU market is still too fragmented...

*"Operating businesses in other EU countries can still be a hassle in terms of setting up the business (even things like recognizing the legal structures of companies from other countries should be facilitated – i.e. Spanish authorities should be able to recognize the validity of a Portuguese company through its VAT number without multiple apostilled documents with certified translations and so on). US start-ups can be set up in Delaware and scale up quickly without too many legal or bureaucratic hurdles. The same isn't true in the EU."*

## ...but can be helpful when scaling up!

*"the fragmentation of the EU market in separate national markets creates some protection for start-ups to grow in a national environment before being ready to scale up. European schemes such as the Erasmus and multiple international internship programs are also helping EU start-ups have a more international scope."*

## Message to decision-makers

*"The best support to grow a business is to have access to mentors who have done it before. Europe has a great diversity in start-up ecosystems where each has their own strong points. More communication and mentor-networks across these could be very helpful to growing start-ups."*

*Please help make it easier for EU start-ups to operate in other EU countries, particularly when it offers services."*

## About The Inventors

The Inventors develops inspiring educational products and school products that spark creativity and interest in STEM subjects. Founded in 2016, over 6000 kids have attended activities with us in Portugal, Spain and The Netherlands.



## AT A GLANCE:

Country of origin:	Portugal
Year Founded:	2016
No. of Employees:	12
Present in:	3 countries
Revenue:	€500.000 – €1m



## Founders:

Manuel Câmara holds a MSc in Management from the U. of Bath. Prior to founding The Inventors, he was a New Product Manager at Ynvisible.

José Malaquias is a leading expert in business development with decades of experience in both multinationals and start-ups. He holds Masters in Management.

António Moreira has a post-graduate degree in Economics and Management from ISEG. Before The Inventors he was a business developer at Ynvisible.





Brain+ creates digital therapeutics for neurorehabilitation of cognitive functions using neurogames and gamified behavioral therapy, delivered on the RECOVER platform and app.

## Key elements an ecosystem should provide to make start-ups successful

1. Strong support in terms of resources (financial, legal, etc.)
2. Rules, regulations, and taxes optimized for start-ups
3. Access and touchpoints to key stakeholders and customers.

## How the ecosystem supported him

*"We have been successful with local innovation grant funding in Denmark, without which we could not have succeeded in our ambitions."*

## Europe is lacking in

*"speed and availability of investment vehicles and funding and in coherent market access : EU is scattered on national markets."*

## Message to decision-makers

*"Create rules and regulations that enables start-ups with minimal resources to succeed."*

*"EU has massive potential for health care innovation due our great diversity. Tailor regulatory and support mechanisms to enable start-ups."*

## About Brain +

Brain+ is a digital braincare platform and app that combines cutting edge neuroscience with proprietary Brain+™ training methodology, artificial intelligence, sensory-emotional emotion immersion of users, entertaining computer games and game psychology, social engagement and behavioral therapy.

The digital braincare platform is being used by healthcare professionals for cognitive assessments, treatment, remediation and rehabilitation. The solution features an advanced data-analysis module for health care practitioners, to analyze and monitor patients' cognitive and mental abilities and development.

The award-winning Brain+RECOVER platform is being clinically tested in Parkinson's disease, Major depressive disorder, Traumatic brain injury and Alzheimer's Disease patients and is also being used by the Danish National Badminton team to enhance cognitive abilities leading up the 2017 World Championships.



## AT A GLANCE:

Country of origin:	Denmark
Year Founded:	2012
No. of Employees:	25
Present in:	1 country
Revenue:	€500.000 – €1m



## Founder:

Kim Baden-Kristensen specialises in digital therapeutics that recover the injured brain, including the recovery of impaired cognitive functions due to brain injury, depression and neurodegeneration. He holds an MsC. in Innovation and Business Management from Copenhagen Business School, a degree in innovation management from Harvard Business School.

*"Digital therapeutics are 'new' and hence difficult to get adopted. The ecosystem could be better at fostering adoption and digital literacy."*



We help dogs to live up to two years longer and lower expenses for vet care thanks to three mutually connected devices and software based on machine learning.

## Key elements an ecosystem should provide to make start-ups successful

1. Less bureaucracy
2. Subsidies from state on start-up presentation abroad
3. Coordination of steps with local legislation.

## How the ecosystem supported them

*“Thanks to the support of Czechinvest (governmental agency) and the system of EU subsidies, we had the opportunity to exhibit to the world’s most renowned trade fairs and conferences such as Slush, TechCrunch Disrupt and CES.”*

## How they see EU support to start-ups

*“EU support is on the higher level than in the rest of the world. When we were exhibiting at TechCrunch NY, American start-ups were amazed by the support we get from our government.”*

## The good points of the European ecosystem...

*“In the start-up environment, it is common to raise capital in exchange for a share in the company. Therefore, the application of the minimum rule should be modified depending on the actual size of the start-up. Although the start-up has raised money from the investor, it does not benefit from the size of the investor and has no shares in investor’s companies and their capital.”*

## And what still has to improve

*“Europe lacks in the different policy in each individual state as we could see at various fairs and conferences. Usually, France and Italy are really on the top rows in providing start-ups the best environment to grow.”*

## Message to decision-makers

*“The start-up ecosystem is very dynamic and needs flexible governmental support. Hope the steps will be more coordinated across EU region.”*

## About Actijoy

Actijoy is a sophisticated IoT system that monitors activity, nutrition and changes in the dog’s behavior in one step using software based on machine learning and three mutually connected devices: Health & Activity Tracker, set of smart WiFi Food & Water Bowls and iOS & Android App.. The Actijoy purpose is preventing health issues at an early stage and prolonging dog lives by up to two years.



## AT A GLANCE:

Country of origin:	Czech Republic
Year Founded:	2016
No. of Employees:	4
Present in:	1 country
Revenue:	over €1 m



## Founders:

Jana Rosenfelderova is a problem solver, well-organized female founder with the vast experience in sales and managerial positions.

Robert Hasek is the beating heart of the project and has been a serial entrepreneur for 20+ years.

Martin Homolka co-founded Socialbakers that he has helped build from a team of 3 people to \$20M company and is responsible for the engineering and development team at Actijoy.

*“Talk more about building one ecosystem for all the European start-ups to give them the same chances to grow.”*

TOOTEKO is a smart wearable device that combines touch and hearing to help the visually impaired visualize objects that they would not be able to experience otherwise.

## Key elements an ecosystem should provide to make start-ups successful

1. Networking
2. Access to credit
3. Support

## How the ecosystem supported them

*"We applied to the SME Instrument and we obtained the Seal of Excellence. Since that day we were involved into a huge ecosystem made of business opportunities and useful contacts."*

## What still has to be improved

*"Many of the competitions and European contests are very complex and we need the support of experts to understand, plan and fill in a structured project. This is an entrance barrier for companies like start-ups with no expertise in this field and economic restrictions."*

## Message to decision-makers

*"More clarity and more support"*

## About TOOTEKO

TOOTEKO enables blind people to perceive the world through touch and hearing. It's simple: you touch the object, while you listen to the audio track. The solution contributes to the digitization of our global cultural heritage, making art collections and museums fully accessible for all. The objective is to introduce Tooteko into the market and provide the visually impaired with a realistic opportunity to benefit from equal condition in daily life, contributing to improve their quality of life. This represents a global success for culture, economic growth and individual fulfilment. TOOTEKO wants to make as many artworks as possible, accessible, worldwide.



## AT A GLANCE:

Country of origin:	Italy
Year Founded:	2015
No. of Employees:	3
Present in:	1 country
Revenue:	€0 - €500.000



## Founders:

Serena Ruffato holds a Post Graduate Master degree in Digital Architecture on "Architecture and the visually impaired: Rapid Prototyping for the integration".

Fabio D'gnano'A from the late Eighties began to use personal computers for electronic music and his passion for modelling brought him to rapid prototyping since 2000.

Gilda Lombardi addresses organizations for the blind worldwide and has dealt with European projects at the Italian Publishers Association.



Byteflies offers a plug and play wearable health platform for accurate remote patient monitoring.

## Key elements an ecosystem should provide to make start-ups successful

1. A network of top angels, VCs and experienced entrepreneurs
2. A pay-it-forward mindset where entrepreneurs get help when they need it and give back when they are successful
3. An ambitious vision to build companies that can change the world and that will define the future of all the aspects of our society: Healthcare, mobility, cities...

## The US culture is more encouraging than the European one

*"We are a start-up that is active in Belgium and Silicon Valley. When we were starting up and we were asking for advice, people in Europe focused on the risks and advised us to focus on a niche while everyone in Silicon Valley encouraged us to think/dream bigger and be bolder."*

## Incentives are missing in Europe

*"While there are good mechanisms for research and IP creation (in Europe), there are way too few mechanisms for market valorization and market access mechanisms for start-ups. There need to be incentives that allow start-ups to sell their products faster to bigger corporations and governments."*

## Start-ups should have a stronger voice

*"Policy is way too much pushed by corporations that have big lobbies and budgets. Disruption, however, almost always comes from start-ups and entrepreneurs that don't benefit from a status-quo. A lot of the companies that define our world today didn't exist 20 years ago so the start-ups of today should have a big voice in the policy for the next 20 years."*

*"For a digital health start-up, the difference in regulation and health systems between countries is a downside. Unifying that in Europe would be a huge step-up."*

*"Europe has very strong local and European funding mechanisms to boost innovation and science."*

## Message to decision-makers

*"While policy is important, it needs to fuel innovation and not block it. It is a shame, for example, that USA has become the center of autonomous cars."*



## AT A GLANCE:

Country of origin:	Belgium
Year Founded:	2015
No. of Employees:	12
Present in:	2 countries
Revenue:	€500.000 – €1m



## Founders:

Hans Danneels obtained his PhD at Micas and worked at Nokia in California as an IoT business developer.

Hans De Clercq obtained his PhD on medical wearables at Micas and has won several wearable health innovation awards.

## About Byteflies

Byteflies, a Belgian-American wearable health start-up, has developed a flexible platform-as-a-service (PaaS) with proprietary wearable devices, called Sensor Dots. Sensor Dots monitor different biosignals 24/7 to suit multiple end-user application (e.g. medical research, clinical trials, prototyping).

# ROBO WUNDERKIND



Robo Wunderkind is the next-generation intelligent product which makes robotics and programming accessible for kids.

## Key elements an ecosystem should provide to make start-ups successful

1. Legal Framework
2. Access to credit
3. Labor pool

## How the ecosystem supported them

*“Numerous programs that support graduates and allow us to hire young specialists, opportunities to raise money”*

*In comparison with the rest of the world, Europe is good at “Developing good and stable ecosystem, providing access for funds”*

## Message to decision-makers

*“Stay open minded to the current changes in the environment and provide easy access to information”*

## About Robo Wunderkind

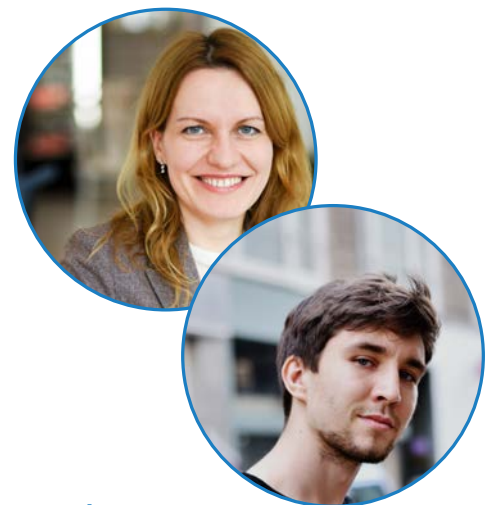
Robo Wunderkind is the next-generation intelligent product which makes robotics and programming accessible for kids. Designed, developed and marketed out of Austria and produced and assembled in China, Robo Wunderkind solves a problem with traditional schooling that is not enough to prepare the children of today for the jobs of tomorrow.

Robo Wunderkind is the first product on the market which enables kids aged 5+ to start building and programming robots in minutes. The robots will grow with the child: the level of complexity of the projects increases gradually with each age group.



## AT A GLANCE:

Country of origin:	Austria
Year Founded:	2015
No. of Employees:	13
Present in:	1 country
Revenue:	€0 - €500.000



## Founders:

Anna Iarotska has 10+ years of experience in consulting and investment management including Managing Director of project companies of Immofinanz Group.

Yuri Levin has worked on numerous art and design projects and has outstanding design and videography skills. He has been involved in several projects for the United Nations and exhibitions in Vienna. He also has a 50k+ social media following.

# THE MO'JOES



In The Mo'Joes we develop tools that turn events into parties.

## Key elements an ecosystem should provide to make start-ups successful

1. Less bureaucracy
2. Opportunities for networking, developed labor market
3. Access to credit

## How the ecosystem supported them

*"Our company was founded in Estonia, a country where luckily bureaucracy has been minimized and where all the relevant services can be accessed online. This allowed us to open our company in short time and with almost no initial costs. Furthermore, the start-up community is well organized and extremely active, allowing quality networking and possibilities to learn from successful entrepreneurs. Through our network we also earned the possibility to travel around Europe in various start-up conferences and meet other entrepreneurs with a similar focus on hardware."*

## However, the fragmented education in Europe is a barrier

*"Educational standards across Europe seem to be very different and it seems like educational institutions struggle to give students the instruments to deal with 'real life'. In this way it takes few years before recently graduated students can be up to date with the world"*

*"European funds for start-ups can be a great incentive in innovating within an organization. We have received a grant to help registering our intellectual property." However, there is still too much "bureaucracy and the amount of documents required in order to obtain grants."*

*"Probably the best way to create changes that can live up with how technology and society is changing is to make sure that politicians and policy-makers are constantly and deeply up to date with the current trends in technology and innovation."*

## Message to decision-makers

*"Keep on making Europe an open, interconnected place and make sure you constantly keep updated on how technology is evolving."*

*"Regarding bureaucracy and the tax system, I would recommend taking example from Estonia. Regarding education I would make sure that programming, communication and entrepreneurship enter schools and teach kids the fundamentals for understanding our society."*



## AT A GLANCE:

Country of origin:	Estonia
Year Founded:	2011
No. of Employees:	4
Present in:	1 country
Revenue:	€0 - €500.000



## Founders:

Ottavio Cambieri has worked in the design of event activities with new technologies.

Mathieu Hingant has managed 8+ pan-European projects as part of the Framework Program 7 (FP7). Andrius Ziuraitis has 5 years experience in planning and operations at Phillip Morris International working across Europe and specialises in marketing campaign design and management.

## About The Mo'Joes

The Mo'Joes designs and develops interactive devices for events and entertainment. Mash Machinean interactive table that allows anyone to play music as a DJ, is now used in 25 countries around the world and has entertained people in over 3,000 events.

SPHERIE is the combination of modern drone- and VR-technology to create full spherical VR-capturing of moving situations and static environments.

## Key elements an ecosystem should provide to make start-ups successful

1. Democracy
2. Equal opportunities for everybody
3. Easy access to cheap money and meaningful projects

## The ecosystem provided easy access to finance

*"Yes, just in our hometown Hamburg, we find direct access to the leaders of the industry with support from the government of Hamburg through programs and institutions like Kreativgesellschaft and Hamburg Invest. We are funded with €150,000 by the IFB (Innovation Bank Hamburg) with an innovation program called InnoRamp UP."*

## In order to keep its position of global actor, Europe has to invest more in new technologies

*"I think we have a lot of programs but the invested project money is often too small. If I see other countries investing billions into new technologies like AI, VR, AR, ... while Europe is investing just a fraction of this amount"*

*"I worry that Europe can hold its position as a global player."*

*"The laws are often not up to date, for examples how to operate a drone / drone company internationally."*

*"In Europe we have a lot of money parked unused. Government should partner with the industry and should motivate/demand the industry/banks to take action and invest big time into new technologies and start-ups."*

## Message to European decision-makers:

*"We have to take the responsibility for the things Europe did and is going to do. Our current condition is based on a brutal history and still-selfish behavior. We have to be the example for a better world. We need change to save this planet and thankfulness, responsibility and technology are the key to make this happen together."*

## About SPHERIE

SPHERIE is the first and only unobstructed 360° virtual reality drone. SPHERIE provides a professional drone service specialized in 360° Virtual Reality content. With their own copter systems, and a highly trained crew they capture unique content, while delivering the highest level of service tailored to clients'needs. SPHERIE is unique, in that it captures completely spherical 360° film without filming itself. Furthermore, the system is so compact that it generates outstanding pictures outdoors as well as indoor in close quarters.

## SPHERIE THE VR DRONE

### AT A GLANCE:

Country of origin:	Germany
Year Founded:	2017
No. of Employees:	7
Present in:	2 countries
Revenue:	€0 - €500.000



### Founder:

Nicolas Chibac's passion for digital media began at an early date, leading him to work as producer and cameraman in more than 40 countries. His work has appeared in numerous international media outlets. In 2015 he founded SpiceVR.

Jonathan Hesselbarth developed his first rocketstabilisation systems while still in school and is a master in machine engineering.



Cinter is an innovation company that transforms early-stage concepts into consumer products. Cinter also works with universities, schools, and start-ups to educate the next generation about making and technology.”

## Key elements an ecosystem should provide to make start-ups successful

1. Basic business support (legal, fiscal/financial, human resources)
2. Access to credit or grant funds
3. Access to space

*“Equity investment or friends-and-family loans are often looked at as the only reliable option for start-ups. Grant funding is seen as risky and overly complex.”*

*“Start-ups that are not able to access the Ecosystem grant funding support that is available to them will have to choose between bootstrapping and equity investment—both of which are difficult propositions with their own pitfalls.”*

## “Europe is succeeding in promoting export-import relationships between countries.”

*“My company has attended trade events at the BETT educational technology conference to help us to establish relationships with retailers for one of our products. We found the event to be very helpful. The support provided by UK Trade and Investment (UKTI) was very good at the early stages of launching our product.”*

## However, Europe could help by better connecting makers and start-ups to manufacturers in other European countries”

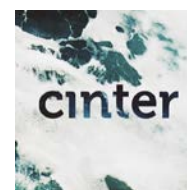
*“My company has had access through the British Council and ERDF-funded accelerators that connect makers and entrepreneurs to manufacturers in China. In these programs, travel and accommodation are paid. However, my company was far more interested in connecting with manufacturers in Poland, for example. We were not able to find any comparable programs that would have assisted us in connecting with manufacturers.”*

## Message to decision-makers

*“Support makers and entrepreneurs that are in their second stage of development! Start-ups that are prepared to pay rent and wages are vulnerable in different ways.”*

*“If the European Union could excel in creating a welcoming environment, it is possible that it could become much more attractive for innovators and entrepreneurs from all over the world.”*

*“Make it easier for start-ups to work across borders!”*



## AT A GLANCE:

Country of origin:	United Kingdom
Year Founded:	2013
No. of Employees:	4
Present in:	2 countries
Revenue:	€0 - €500.000



## Founder:

Chris Verbick is an entrepreneur and design thinker with a passion for human-centered technology. He has a professional background in branding, product design, materials science, and engineering.

## About Cinter

Cinter is an innovation company that transforms early-stage concepts into consumer products. Cinter harnesses industrial design, engineering, and design thinking to create new consumer products and brands, designed to be loved. Cinter applies engineering skill to products that require expert knowledge in 3D printing and smart electronics. Cinter applies design thinking to products that require exceptional user experience and brand presentation. As part of their long-term mission, they are dedicated to teaching their methods to the next generation of STEM professionals through workshops and educational curricula.





Transforming healthcare from the analog age to a digital, better future with better communication/ outcomes for patients, easier process for nurses & caregivers, better integration with the bureaucracy to cut costs there - more autonomy for patients for better health & care!"

## Key elements an ecosystem should provide to make start-ups successful

1. Good Education (language Skills)
2. Little Bureaucracy
3. Strong and risk-taking funding in Seed, Series A and Series B

## European programmes are not always understandable

*"SME Instrument 1: we were working very dedicated and hard with the very best people on the paper, it got a very high score (!) almost everywhere, but due to an lack of transparency, strange process it was not selected. Very bad! It's just stupid to have a high scoring project rejected - most projects should be founded. Even if just a few become a market success it would be worth it. It should be thousands and thousands of those projects, much more then today. If one aspect is very good of the proposal e.g. the team is very good, all the other aspects become less important, there should be the acceptance that perfect proposal doesn't mean it will work better than if a proposal is very good just in a few key aspects just for the sake of bureaucracy."*

*"The European Business Summit helps start-ups to be successful"*

## Message to decision-makers

*"Search for strong partners and don't get entangled in vast Bureaucracy.*

*Entrepreneurs need "Much more flexibility and freedom in projects."*

*"If we want to be free and happy (our values) in the future we need to act now! We need to act fast & we need to take risks! Invest WELL now!"*

## About Well IT

Well IT provides new technology & processes at the edge of new hardware devices for the most important processes along the customer journey for a better socio-economical outcome for the societies. Well IT uses the best and newest hardware available worldwide and blend it with safe technology (such as blockchain) to make documentation easy, fun and secure. Well IT is a dedicated family business with a intention to evolutionize the current system for a better outcome 'to transform the patient to a guest and the customer to the queen & king in their journey'.

# WellIT

## AT A GLANCE:

Country of origin:	Germany
Year Founded:	2013
No. of Employees:	12
Present in:	1 country
Revenue:	€500.000 – €1m



## Founders:

Moritz Matschke is part of a visionary founder family, that facilitates new technology & processes to the benefit of the people.

Dr. rer. med. Ansgar Kutscha has held positions as head of the IT-Department at the University Paediatric Hospital in Heidelberg and the Diakonie-Clinic in Schwäbisch Hall, Germany.

Prof. Dr. Leo Selavo is a mathematician with a PhD from the University of Pittsburgh (USA) and a current professorship in computer science at the University of Latvia in Riga.



# HYPELABS

Software Development Kit that connects everything, even without Internet.



# HYPELABS

## Key elements an ecosystem should provide to make start-ups successful

1. Network (cooperation with other innovators, access to investors, start-up to corporate partnerships and deals, legal, among many others)
2. Funding (both capital advisory and investor access can be derived from the same properties of the ecosystem)
3. Human Resources (HR is one of the things start-ups struggle with the most, empowering the mechanisms to provide start-ups with help on that regard would greatly benefit any ecosystem)

### “The European Ecosystem is still very closed”

*“In our scenario, although the founders and the team are European, the company is registered in the USA due to requirements imposed by American investors. This fact alone may hamper European funding, creating disjointed solutions for fundraising. Much progress has been made in many ways in terms of the European innovation ecosystem, but the system is still very closed in itself. There’s an apparent necessity to create synergies with other ecosystems, and even internally among each other.”*

*“The European network is quite disjointed and in need of facilitators that enable interactions cross-country and cross-culture.”*

*“Europe is still seen as many markets rather than just one.”*

### Message to European decision-makers

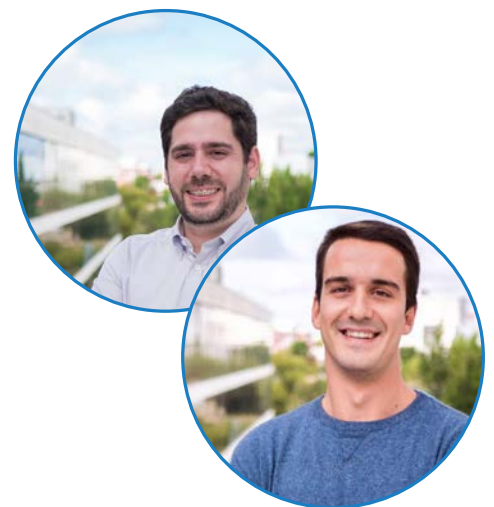
*“Facilitate funding and establish synergies between the several existing ecosystems. Europe is still seen as many markets rather than just one.”*

### About HypeLabs

*HypeLabs is the company that created the Hype SDK, an interoperable mesh networking software that improves connectivity on all kinds of devices, from mobile to desktop to IoT, allowing them to connect even when there is no internet. The software works by intelligently connecting devices in local mesh networks using existing connectivity technologies, such as Bluetooth, Wi-Fi, Lora and others. This network enables content to securely hop between devices, until it reaches a destination or an Internet exit point, improving range and deliverability.*

## AT A GLANCE:

Country of origin:	Portugal
Year Founded:	2017
No. of Employees:	13
Present in:	3 countries
Revenue:	€0 - €500.000



### Founders:

Carlos Lei is a former Computer Science student. He has 7 years of experience as an IT Manager working for companies such as IBM, BPI Bank, Santander, CTT and Glintt. He also helps and mentors other start-ups and entrepreneurs.

André Francisco is also a former Computer Science. He has been involved in projects with various entities, such as, CRACS, IJUP, DCC, PIC. Nowadays, he is focused on creating new strategies and technical innovation.

# BLUE OCEAN ROBOTICS



We create and commercialise robots. We are a specialised group developing new generations of robots for the global market through our RoBi-X partnership program.

## Key elements an ecosystem should provide to make start-ups successful

1. Access to Funding
2. Support from large players
3. Credibility

### **"It is difficult to get included in projects with a new start-up."**

*"In the early start-up phase, it was not possible to get approval / accredited for project calls in EU. It was therefore necessary to work as a linked party, where it is high risk, with examples of parties not paying for the work and support provided."*

### **"In Europe, as a start-up, we benefit of a greater support if we are connected to a larger company"**

*"In the case of Digital Therapeutics Partnership, the SMEs are fortunate to have MSD helping create a support framework and attracting in other large players. Such initiatives are extremely valuable."*

### **"The funding mechanisms for the H2020 is hard to capture for a start-up as they do not necessarily have the financial stability to write up or coordinate a project."**

*"It is highly risky for us and hard to survive financially speaking. It would be good involve start-ups in larger program partnership (not just SME instruments). This could lower the work required for the start-up, and enhance the support being offered by the larger industries."*

*"Creating a win-win situation for large industry players to nurture and support the start-up environment will create a dynamic, innovative and exciting ecosystem across the board."*

## His message to decision-makers

*"Enhance mechanisms which encourage large companies to support start-ups in a safe way, through creation of partnerships etc. Allow these partnerships to find out how, and where, to address the key issues. Provide them with the possibility to influence funding for such issues. Examples include means to address data security etc."*

*"To be ahead in AI, encourage collaborations between large industry players with the knowledge, and innovative start-ups with new tools"*



## AT A GLANCE:

Country of origin:	Norway
Year Founded:	2016
No. of Employees:	5
Present in:	1 country
Revenue:	€0 - €500.000



### Founder:

John Mulholland works with developing and introducing novel robotic solutions through Blue Ocean Robotics. He is a lecturer and researcher in Systems Engineering and Autonomy. John is a member of the Digital Therapeutics Partnership, supporting opportunities for digital technologies which can radically improve the quality of life for sufferers of neurological conditions, such as Alzheimer's.

### About Blue Ocean Robotics

Blue Ocean Robotics Norway AS is a Joint Venture owned by Blue Ocean Robotics Holding, John Mulholland AS and Knut Øxnevad. The company focuses on developments relevant to the region. These include Healthcare, Oil & Gas, Maritime, Systems Engineering, Inspection techniques and Autonomy.

# CONCLUSION

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The European Project has come a long way since its founding. As shown in the previous pages, Europe hosts a plethora of talent, ideas and opportunities – and the potential to springboard to the top of the global start-up ecosystem. It is thanks to our belief in this potential, and our support of the European Project overall, that we have written this report.

Start-ups at both the SME level and unicorn level are becoming more common as well as more influential within economy, politics and society. They facilitate innovation and create products that help us in our everyday life. Their importance in today's and tomorrow's Europe cannot be overstated.

Here at ThinkYoung, we aim to give a voice and empower young people. Our aim is to make a better Europe for young people and future generations. A key part of that mission is identifying what more the EU can do to help European start-ups in their quest to scale-up on the global stage. From the start-ups we interviewed – representing some of the best young entrepreneurs in Europe – we heard common concerns around inter-state bureaucracy and regulations, as well as access to funding and the need to capitalize on the emergence of the Maker's Movement. For instance, we clearly heard a need for greater ease of doing business between European states. In many cases, regulations have prevented some of these innovators from scaling and reaching their full potential. In order to scale-up, European start-ups need easier access to the over 500 million potential customers across the continent. If a start-up opens in San Francisco it is an American start-up with access to 350 million customers from day 1; by contrast, at the moment, if a start-up opens in Madrid it is a Spanish start-up, not a European start-up, and its initial potential customer-base is therefore much smaller. The benefits of European start-ups having access to a larger European Single Market that extends geographically to neighbor countries in Eastern Europe, Israel and to the North African countries bordering the Mediterranean Sea are clear. Completing the single market and reconciling the digital single market will help create scalable opportunities for prosperous start-ups.

The report also highlights the need for more institutional support for mentoring and consultancy to help start-ups access other European markets. Some of the entrepreneurs stated that they lacked knowledge of doing business in other European markets and found it difficult to navigate these different practices. We also found a desire for greater unity between entrepreneurs, investors and international partners within Europe. As noted in the report, Sweden's domestic policies have successfully supported the creation of some of these start-ups, and EU initiatives such as the European Venture Capital Fund-of-Funds have helped make great progress. But more needs to be done to ensure European talent is given the platform to succeed on the global stage.

Our analysis has found Europe to be behind other leading regions. China and India especially have appeared as successful newcomers to this scene. Although the situation is improving for Europe, more needs to be done. Education also plays a vital role in developing both the soft skills and the



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specific capabilities that create an entrepreneurial mind-set. For example, more training should be provided in core skills such as sales and negotiation, as well as coding and other related STEM skills. The EU needs to incentivise a greater entrepreneurial mind-set across the region, both across the private and public sphere, to encourage a more business-friendly culture.

Europe's strengths, competitive advantage and know-how are reflected in young European successful ventures: a focus on purpose, an enduring resilience, the importance of societal impact and the constant attention to sustainable business models matched with environmental awareness. This is why the support of companies like Tata Consultancy Services in empowering the ecosystem of young entrepreneurs is vital for their long-term success. It is our time, more than ever, to help Europe achieve its full potential.

We hope you have enjoyed this report and found it useful. Our thanks go to all who contributed to this work and the ongoing efforts to help European start-ups succeed on the global stage.



# ABOUT US

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## ThinkYoung

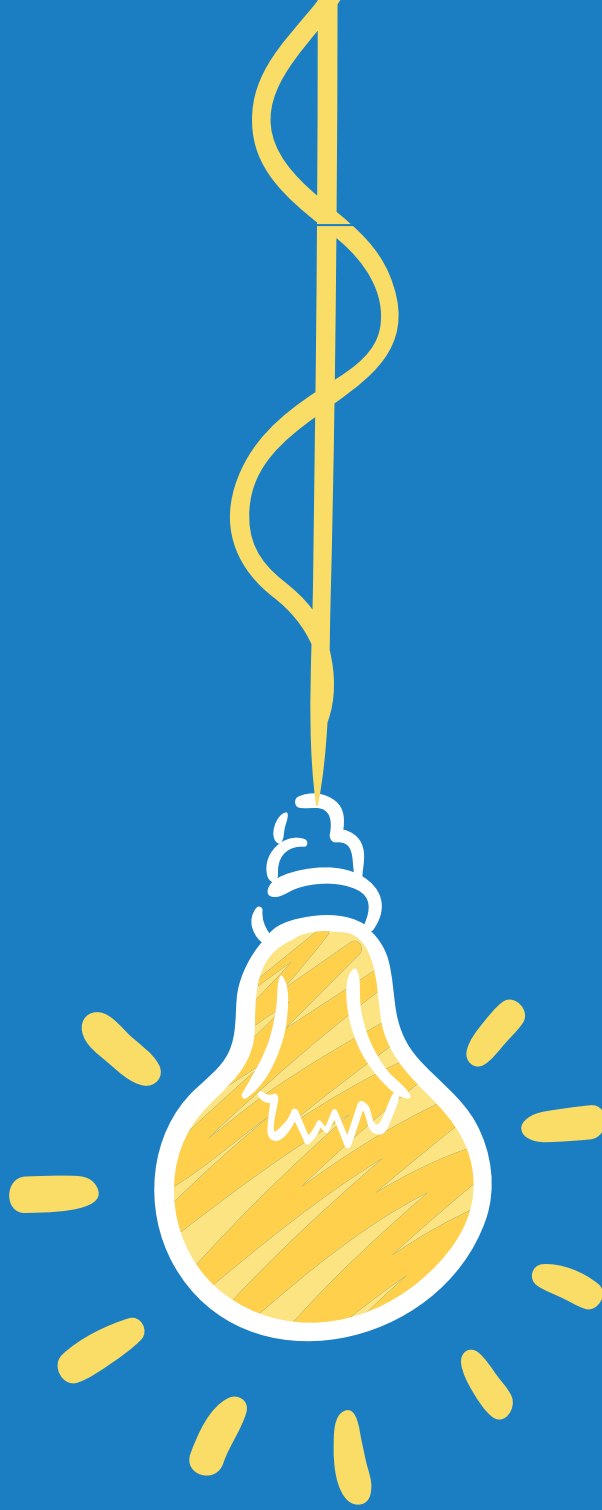
ThinkYoung is the first think tank that focuses on young people. It was founded in 2007 and has expanded to have offices in Brussels, Geneva, Madrid and Hong Kong.

It is a not-for-profit organisation, with the aim of making the world a better place for young people, by involving them in decision making processes and by providing decision-makers with high quality research on key issues affecting young people.

ThinkYoung conducts studies and surveys, makes documentary movies, writes policy proposals and develops education programmes: up to date, ThinkYoung projects have reached over 600'000 young people. Based on its research on young people's necessities, ThinkYoung creates trainings and workshops to empower youth with the tools to have a positive impact and make a change.

## Tata Consultancy Services

Tata Consultancy Services (TCS) is an IT services, consulting and business solutions organization that partners with many of the world's largest businesses in their transformation journeys. Rated as the fastest growing brand in the IT Services industry with a brand value in excess of US\$10 billion in 2018 according to BrandFinance™, TCS ranks in the topmost tier in terms of business performance and leads the industry in customer satisfaction. In 2018, TCS was ranked #1 in Europe for customer satisfaction for the fifth consecutive year by Whitelane Research, based on a survey of 1,600 CXOs across 13 countries. In the country rankings, TCS topped the list in Germany, Belgium, Netherlands, Switzerland, UK and the Nordics. Its European operations span 17 countries, working with 300+ clients, including 50% of Fortune 500 companies in Europe. For the third consecutive year, the company has been recognised as a Global Top Employer across 27 countries in North America, Europe, Asia Pacific, Latin America and the Middle East by the Top Employer Institute.



[tcs.com](http://tcs.com)

[thinkyoung.org](http://thinkyoung.org)

**TATA** CONSULTANCY SERVICES

*Think*Young  
What millennials think