""IMPROVING COMPETENCES FOR DOING INTERNATIONAL BUSINESS IS IN THE HEART OF FINLAND’S ECONOMIC POLICY"
MINISTER LINTILÄ INTERVIEW
PAGES 10-13

""THERE HAS TO BE A QUICKER AND EASIER WAY"
DISCOVER THIS ISSUE’S INNOVATION HERO
PAGES 28-29

FULL TABLE OF CONTENTS AND EDITORIAL
PAGES 4-5

"ACHTUNG, HERE COMES EUROPE"
PAGES 14-22

TV ON THE CREST OF A WAVE
PAGES 32-33

NEW WAYS FOR OLD WHEELS
PAGES 30-31

FINANCE
""Improving competences for doing international business is in the heart of Finland’s economic policy"
MINISTER LINTILÄ INTERVIEW
PAGES 10-13

"There has to be a quicker and easier way"
DISCOVER THIS ISSUE’S INNOVATION HERO
PAGES 28-29

FULL TABLE OF CONTENTS AND EDITORIAL
PAGES 4-5
EDITOR’S NOTE

Being the bearer of good news can only be a pleasure. And I’m very happy to say that this second issue of the Eureka Innovation Across Borders magazine has this pleasure:

it seems that more and more of the much-needed private money to scale up investment in innovative solutions in Europe is finally available, as Tech.eu’s Robin Wauters argues in his feature article (pages 14 to 22).

Sometimes, however, the money isn’t actually the problem: it is having a sound business proposal that can be applied (and executed) in a bigger market, as the Economic Affairs Minister of Finland, Mika Lintilä, rightly points out (read his interview on pages 10 to 13).

Eureka is the combined expertise of public innovation financing bodies in over 40 countries, brought together in a number of successful support instruments (see pages 24, 30, 33 or 35 for practical info). In many ways strongly linked to the private sector (see network developments on Clusters page 23), Eureka is about supporting innovative companies with a lot of potential (see for instance the Videntifier success story on page 34) and inspiring people (see this issue’s innovation hero on page 28). Many of these companies being startups (and many of those Dutch startups — see country feature on the Netherlands page 6), they need money and a convincing business plan in order to scale up. That’s exactly where Eureka Innovest comes in: companies can get training on how to best tell their story and meet investors at dedicated events (see page 34 and insert). Innovest will start again early 2018 — and just in case you can’t wait until then, we have included some valuable advice from investors in this issue’s feature (pages 15 to 22). Enjoy the read!

thomas.ehritz@eurekanetwork.org

TABLE OF CONTENTS

INNOVATION & TECHNOLOGIES

- CELTIC-PLUS TILAS
  PAGES 26-27

- TELESCOPIC TOWER TO SHRINK WIND FARM COSTS • EUROSTARS EE-ALE TWT
  PAGES 8-9

- DIGITAL TWINS MAKE BETTER FACTORIES • EUROSTARS FAMUS
  PAGES 12-13

- NEW WAYS FOR OLD WHEELS • EUREKA POWDER ROAD
  PAGES 30-31

- TV ON THE CREST OF A WAVE • EUROSTARS TOFU TV
  PAGES 32-33

- IDENTIFYING OPPORTUNITIES • VIDENTIFIER AND EINNOVEST
  PAGES 28-30

- COUNTRY FOCUS: THE NETHERLANDS
  PAGES 6-9

- NETWORK DEVELOPMENTS: CLUSTERS ON THE MOVE
  PAGES 23-25

- PROJECT TRENDS: PUBLIC AND PRIVATE FUNDING
  PAGES 36-37

POLICY & TRENDS

- FINANCE FEATURE & TOP TIPS FROM INVESTORS
  PAGES 14-22

- INTERVIEW MINISTER LINTILÄ
  PAGES 10-13

- COUNTRY FOCUS: THE NETHERLANDS
  PAGES 6-9

- NETWORK DEVELOPMENTS: CLUSTERS ON THE MOVE
  PAGES 23-25

- PROJECT TRENDS: PUBLIC AND PRIVATE FUNDING
  PAGES 36-37

PRACTICAL INFORMATION ON HOW TO GET EUREKA SUPPORT

- EUREKA NETWORK PROJECTS
  PAGE 30

- EUROSTARS
  PAGE 29

- EUREKA CLUSTERS
  PAGE 24-25

- EUREKA INNOVEST
  PAGE 33
EUREKA national project coordinator Mike Timmermans on innovative top sectors, Dutch start-ups and the best way to make them thrive.

Number four in the World Economic Forum’s ranking of most competitive and innovative countries, number five in exports worldwide and the seventh largest foreign direct investor – the Netherlands has inherited openness in its genes.

The Netherlands’ innovative top sectors are: ICT/tech, horticulture, agri-food, water, life sciences and health, chemicals, energy, logistics and creative industries. Dutch companies are among the world’s best in photonics, smart cities, smart agriculture, cyber security and others. The solutions these companies offer help to achieve sustainable development goals such as global food security, ageing populations or life-threatening diseases. Some of the largest Dutch companies like Unilever, Philips or Shell have endeavours all around the world, and products and applications used in everyone’s daily life. Most likely, the chips operating your cell phones are produced on a machine developed by ASML, world market leader in manufacturing high-tech machines to produce semiconductors. And NXP is a strong actor in autonomous driving innovations and IoT solutions both at work and in your home. You may be surprised to read that Wi-Fi and the CD player are Dutch innovations.

The Netherlands Enterprise Agency’s (rvo) ambition is to create a favourable position for trade, foreign direct investment and sustainable entrepreneurship, being the one-stop shop for supporting entrepreneurs, innovators and research institutions.

in close cooperation with chambers of commerce. The Netherlands’ innovative top sectors are: ICT/tech, horticulture, agri-food, water, life sciences and health, chemicals, energy, logistics and creative industries. Dutch companies are among the world’s best in photonics, smart cities, smart agriculture, cyber security and others. The solutions these companies offer help to achieve sustainable development goals such as global food security, ageing populations or life-threatening diseases. Some of the largest Dutch companies like Unilever, Philips or Shell have endeavours all around the world, and products and applications used in everyone’s daily life. Most likely, the chips operating your cell phones are produced on a machine developed by ASML, world market leader in manufacturing high-tech machines to produce semiconductors. And NXP is a strong actor in autonomous driving innovations and IoT solutions both at work and in your home. You may be surprised to read that Wi-Fi and the CD player are Dutch innovations.
TECH AREAS OF DUTCH STARTUPS IN EUROSTARS-2

TELESCOPIC TOWER TO SHRINK WIND FARM COSTS

**Number One Start-Up Hub**

Not only large multinationals, but also startups and SMEs are strong drivers for economic growth and disruptive innovations. In 2016, the Netherlands was listed as number one for its startup business climate*.

To continue this strong position, we need to make way for innovative financing models with as little hurdles as possible, allowing companies to scale up and expand to world markets, allowing support for seed and early-stage investments.

* Startup Nation Scoreboard 2016, European Digital Forum

**Number One Start-Up Hub**

Not only large multinationals, but also startups and SMEs are strong drivers for economic growth and disruptive innovations. In 2016, the Netherlands was listed as number one for its startup business climate*.

To continue this strong position, we need to make way for innovative financing models with as little hurdles as possible, allowing companies to scale up and expand to world markets, allowing support for seed and early-stage investments.

* Startup Nation Scoreboard 2016, European Digital Forum

by a Spanish-Dutch consortium. The innovative technology saves on materials and cuts installation costs.

Wind power is a growing part of Europe’s energy infrastructure. To further boost the sector by streamlining wind plant set-up costs, Spanish engineering company Esteyco S.a.p. and heavy-lifting specialists ALE B.V. have developed a telescopic wind turbine tower in the Eurostars E-ALE-TWT project, applicable to both offshore and onshore wind farms.

Designed to be transported in a compact collapsed state then expanded on-site, the tower is easier to install than traditional equivalents. It also uses concrete, a low-cost material that can be moulded by non-specialist companies, which takes pressure-off production costs.

Potential demand for the technology is huge. “There is a robust market for clean, affordable energy and wind is the next biggest renewable power source after hydro power,” says Esteyco’s Chief Technology Officer José Serna. He adds that the tower can save 35-40% of the substructure and installation costs of new offshore wind turbines, which are roughly 50% of the cost of an offshore wind plant project.

**Disruptive Technology**

The tower is made of pre-cast concrete segments that are placed inside each other. A nacelle and blades are added when the structure is ready to be installed, then the segments are lifted on top of each other using a system of standard heavy-lift strand jacks. Once each level is in place, it is supported by pre-structured bolted joints. The technology could make it easier to add wind generation capacity to an energy system.

**E-ALE-TWT’s towers need only readily-available equipment for transport and installation, even for the increased hub heights of the next generation of larger wind turbines. In contrast, standard wind towers — made of steel tubes — must be transported to sites on long vehicles, lifted into place by tall cranes and have greater limitations in terms of turbine size and height. Further costs savings are from the manufacturing process. “Concrete is cheaper than steel,” says Serna, “and with the right moulds, construction costs can be reduced.”

**Commercial Potential**

E-ALE-TWT allowed Esteyco to develop a tender to prove that it works and is cost effective, says Serna. “We invested in the technology ourselves but it took a lot of money and time to develop — a 100% investment would have been too risky for us.”

Esteyco has taken out international patents on the lifting process and other elements not already in the public domain. The company is achieving the 30% growth target and expects the towers to double their turnover by 2020.

**Eureka Eurostars Project E-0542 E-ALE-TWT**

**Countries & National Funding Bodies Involved**

**Spain**

CRTI (Center for the Development of Industrial Technology)

**The Netherlands**

RVO (Netherlands Enterprise Agency)

**Total Cost**

€2.0 Million

**Duration**

Tender 2013 to December 2015

**Main Partner**

Esteyco S.a.p., Spain

www.esteyco.es

email: José Serna - jserna@esteyco.com

**Other Partners**

ALE Heavy lift (R&I) B.V., The Netherlands

The Netherlands was listed as number one for its startup business climate to support future business. This is the right moment to embrace the cooperation with other countries and the European Commission, to ensure the position of countries as the most innovative block of markets in the world post 2020.
Mr Lintilä, your country is clearly one of Europe’s innovation leaders. In your opinion, what is the secret to this leadership position?

Finland has invested many decades in knowledge and expertise as a key success factor. There is a common understanding that education, research and innovation support the well-being of citizens through renewal of the economy and societal reforms. Alongside with a solid knowledge base, I wish to emphasise the close interaction between enterprises, research, public actors and other societal parties. This is key to need-based innovations and to relevance of research. We have always emphasised multi-stakeholder collaboration in our innovation policy measures.

One of the most widespread characteristics Finland is famous for is its excellent and innovative education system. How important is human capital for the economy?

Indeed, highly educated people and a high standard of expertise are enablers for innovation and thus keys to success. Take the example of Nokia: Restructuring of the mobile devices cluster in Finland has happened simultaneously with the growing need for digital skills in all corners of our economy and society. So, having had these highly-skilled and experienced people available to boost digital competences in other companies and branches has certainly had a positive impact to the renewal of the Finnish economy. The ex-Nokia employees have also established dozens of companies, of which many are born-global by nature.

Investment in high-quality education forms the basis for a long-term research and innovation policy. According to the Strategic Programme of Prime Minister Sipilä’s Government, knowledge and education continue to be key priorities. The objective is, among others, to encourage people into life-long learning, to modernize learning environments, to reform the higher education system as well as to improve the quality and effectiveness of research and innovation.

Public support for the internationalisation of Finnish companies is organised under the umbrella ‘Team Finland’ — can you explain what ‘Team Finland’ means?

Team Finland is first of all a governance exercise to increase synergy and coordination among the various public services relating to internationalisation of Finnish businesses. In practice this means focusing on companies targeting growth on international markets, rendering a seamless package of services to them. This has meant several improvements to the delivery of these services in Finland as well as abroad. For example, collaboration between Finland’s embassies and business development agencies in the various hubs of our global network goes very smoothly today.

Team Finland also means a common brand towards our clients: the client-companies do not need to understand how the machinery in the back-office works. Team Finland was created with this purpose, effectively a single entry point to innovation and internationalisation services for companies looking for a swift and quick international launch of their businesses and innovations. Meeting this promise is challenging but we will continue to develop our services to this end.

Why is internationalisation so important for Finland?

In the global economy, national borders do not define innovation collaboration. Even if some of the world’s leading science is conducted in Finland, only a fraction of all new knowledge is produced here. When developing new solutions, we need to be able to exploit the latest knowledge produced elsewhere and connect with relevant partners globally.

International cooperation is also a means for pooling resources and making strategic partnerships. This is especially important for small r&i intensive economies like Finland. Eureka is a good example of a pan-European r&d framework that promotes internationalisation of Finnish companies. Based on this cooperation, Finnish companies have been able to create close links and networks in Europe. We joined Eureka already ten years before Finland’s access to the EU and we believe that the experience with Eureka paved our way to join other European r&d frameworks later on.

Ex-Nokia employees have established dozens of companies, of which many are born-global by nature.

‘Team Finland’ — can you explain what ‘Team Finland’ means?

Team Finland is first of all a governance exercise to increase synergy and coordination among the various public services relating to internationalisation of Finnish businesses. In practice
European financing instruments like EFSI and other we have been actively seeking ways to exploit the company Finnvera are the most relevant. Also, of which loans by the State’s enterprise financing activities of the European Union, Eureka has a clear role based on its live linkage to industries and national policy administrations. Activities like the Eurostars programme and Eureka Clusters show that Eureka has been able to keep up with new challenges during the past 30 years.

In July 2017, Finland will be taking over the Eureka Chairmanship from Spain. What do you want to achieve in your Chairmanship?

Scaling up is a crucial issue for Finland’s enterprise policy, like elsewhere in Europe. How do you tackle this in Finland?

Improving competences for doing international business is a problem all over the world. Scaling up is indeed a crucial issue for Finnish enterprises to grow internationally. Thus, the key challenge is to create sound business proposals to the market and have the capacity to deliver them. Due to the small domestic market, scaling up challenges Finnish enterprises to grow internationally. Thus, improving competences for doing international business is at the heart of Finland’s economic policy.

Finland has been a Eureka member since its beginnings in 1985, and has always been one of the most active countries in terms of project participation and funding. What is the added value of Eureka for you?

Indeed Finland has been with Eureka ever since its beginning. As said before, it has been obvious for a long time that international cooperation and contacts are crucial for innovation. Eureka was the first important multilateral platform for intergovernmental innovation cooperation in Europe, with substantial value added for Finland right from the beginning. Even today, with the extensive ERA activities of the European Union, Eureka has a clear role based on its live linkage to industries and national policy administrations. Activities like the Eurostars programme and Eureka Clusters show that Eureka has been able to keep up with new challenges during the past 30 years.

To put it simply: we want to pave the road for the continuing success of Eureka. This means above all three things. Firstly, we need to see that Eureka always takes the needs and expectations of project participants as a starting point. Eureka must be efficient and concentrate on matters that are important for companies seeking growth and development through international cooperation in innovation: there’s no room for red tape or poor services for customers and stakeholders. Secondly, we want to establish Eureka on the map of the European Research and Innovation Area even more clearly in the future, clarifying its role and offering. And lastly, one of Eureka’s assets is its international dimension, stretching out almost everywhere in Europe, and also to some key countries outside. There’s a clear potential to develop this global dimension of Eureka even further.

### Priorities of the Finnish Chair 2017-2018

**SMART AND EFFICIENT EUREKA**

**EUREKA AND THE EUROPEAN RESEARCH AND INNOVATION AREA (ERA)**

**GLOBAL DIMENSION OF EUREKA**

**FIND OUT MORE AT**

eurekanetwork.org/FinnChair
INNOVATION FINANCE

ACHTUNG
HERE COMES EUROPE!

WHO SAYS EUROPEAN STARTUPS CAN’T FIND PRIVATE INVESTORS?

CERTAINLY NOT TECH.EU FOUNDING EDITOR ROBIN WAUTERS! HE TELLS US HOW THE EUROPEAN TECH INDUSTRY IS GROWING UP, AND HOW THE REST OF THE WORLD IS TAKING NOTICE.

By Robin Wauters. Illustrations by Pablo Diartinez

IT’s virtually impossible to talk about innovation or technology startups in Europe without tackling the subject of capital, and often the perceived lack thereof.

After all, whereas a lot of companies will never need external capital injections to develop or grow their business — and would in fact almost certainly be negatively impacted by them — technology startups tend to need funding from outside investors to boost growth, and accelerate the process of building a scalable, sustainable business often from thin air.

In Europe, there are plenty of ways to obtain financing during the early stages of a business, when the idea is still at the core, when prototypes get built, and when fledgling companies start hitting the market with new products — hungry for users, feedback, recognition and, often, that first revenue trickling in. Leaving aside country, region or European institution-provided grants and subsidies, funding can be raised from angel investors, incubators, accelerators, startup studios, venture capital firms big and small, and other private financiers such as growth equity firms and even sovereign state funds.

The data shows that, in fact, in most parts of Europe early-stage businesses really shouldn’t have any trouble finding investors to financially support their endeavors.

Paulo Andrez is an angel investor with an active portfolio of 16 companies. One of his investments reached 25 million euros in revenues within the first year of operations, for which he received an award “Best European Angel Investment” in 2012.

TOP TIPS FROM PAULO ANDREZ

1.
DON’T JUST FOCUS ON THE POTENTIAL

It is very common for the most part of European countries to hear from entrepreneurs that they have fantastic projects but there are no real startup investors in Europe. On the other hand investors say that there are not enough fundable projects. Why does this happen? Because entrepreneurs just focus on the potential of the idea or product.

Focus on reducing the risk of the execution of your project. The best idea of the best team in the world is worth zero if it has zero execution. In order to increase the odds of success, entrepreneurs should mitigate the risks of poor execution in the following areas: Market, Entrepreneur/Team, Legal, Financial, and Operational.

2.
MITIGATE THE RISKS IN KEY AREAS

Achtung IT’s virtually impossible to talk about innovation or technology startups in Europe without tackling the subject of capital, and often the perceived lack thereof.

After all, whereas a lot of companies will never need external capital injections to develop or grow their business — and would in fact almost certainly be negatively impacted by them — technology startups tend to need funding from outside investors to boost growth, and accelerate the process of building a scalable, sustainable business often from thin air.

In Europe, there are plenty of ways to obtain financing during the early stages of a business, when the idea is still at the core, when prototypes get built, and when fledgling companies start hitting the market with new products — hungry for users, feedback, recognition and, often, that first revenue trickling in. Leaving aside country, region or European institution-provided grants and subsidies, funding can be raised from angel investors, incubators, accelerators, startup studios, venture capital firms big and small, and other private financiers such as growth equity firms and even sovereign state funds.

The data shows that, in fact, in most parts of Europe early-stage businesses really shouldn’t have any trouble finding investors to financially support their endeavors.

Paulo Andrez is an angel investor with an active portfolio of 16 companies. One of his investments reached 25 million euros in revenues within the first year of operations, for which he received an award “Best European Angel Investment” in 2012.

TOP TIPS FROM PAULO ANDREZ

1.
DON’T JUST FOCUS ON THE POTENTIAL

It is very common for the most part of European countries to hear from entrepreneurs that they have fantastic projects but there are no real startup investors in Europe. On the other hand investors say that there are not enough fundable projects. Why does this happen? Because entrepreneurs just focus on the potential of the idea or product.

Focus on reducing the risk of the execution of your project. The best idea of the best team in the world is worth zero if it has zero execution. In order to increase the odds of success, entrepreneurs should mitigate the risks of poor execution in the following areas: Market, Entrepreneur/Team, Legal, Financial, and Operational.

2.
MITIGATE THE RISKS IN KEY AREAS

Achtung IT’s virtually impossible to talk about innovation or technology startups in Europe without tackling the subject of capital, and often the perceived lack thereof.

After all, whereas a lot of companies will never need external capital injections to develop or grow their business — and would in fact almost certainly be negatively impacted by them — technology startups tend to need funding from outside investors to boost growth, and accelerate the process of building a scalable, sustainable business often from thin air.

In Europe, there are plenty of ways to obtain financing during the early stages of a business, when the idea is still at the core, when prototypes get built, and when fledgling companies start hitting the market with new products — hungry for users, feedback, recognition and, often, that first revenue trickling in. Leaving aside country, region or European institution-provided grants and subsidies, funding can be raised from angel investors, incubators, accelerators, startup studios, venture capital firms big and small, and other private financiers such as growth equity firms and even sovereign state funds.

The data shows that, in fact, in most parts of Europe early-stage businesses really shouldn’t have any trouble finding investors to financially support their endeavors.

Paulo Andrez is an angel investor with an active portfolio of 16 companies. One of his investments reached 25 million euros in revenues within the first year of operations, for which he received an award “Best European Angel Investment” in 2012.

TOP TIPS FROM PAULO ANDREZ

1.
DON’T JUST FOCUS ON THE POTENTIAL

It is very common for the most part of European countries to hear from entrepreneurs that they have fantastic projects but there are no real startup investors in Europe. On the other hand investors say that there are not enough fundable projects. Why does this happen? Because entrepreneurs just focus on the potential of the idea or product.

Focus on reducing the risk of the execution of your project. The best idea of the best team in the world is worth zero if it has zero execution. In order to increase the odds of success, entrepreneurs should mitigate the risks of poor execution in the following areas: Market, Entrepreneur/Team, Legal, Financial, and Operational.

2.
MITIGATE THE RISKS IN KEY AREAS

Achtung IT’s virtually impossible to talk about innovation or technology startups in Europe without tackling the subject of capital, and often the perceived lack thereof.

After all, whereas a lot of companies will never need external capital injections to develop or grow their business — and would in fact almost certainly be negatively impacted by them — technology startups tend to need funding from outside investors to boost growth, and accelerate the process of building a scalable, sustainable business often from thin air.

In Europe, there are plenty of ways to obtain financing during the early stages of a business, when the idea is still at the core, when prototypes get built, and when fledgling companies start hitting the market with new products — hungry for users, feedback, recognition and, often, that first revenue trickling in. Leaving aside country, region or European institution-provided grants and subsidies, funding can be raised from angel investors, incubators, accelerators, startup studios, venture capital firms big and small, and other private financiers such as growth equity firms and even sovereign state funds.

The data shows that, in fact, in most parts of Europe early-stage businesses really shouldn’t have any trouble finding investors to financially support their endeavors.

Paulo Andrez is an angel investor with an active portfolio of 16 companies. One of his investments reached 25 million euros in revenues within the first year of operations, for which he received an award “Best European Angel Investment” in 2012.

TOP TIPS FROM PAULO ANDREZ

1.
DON’T JUST FOCUS ON THE POTENTIAL

It is very common for the most part of European countries to hear from entrepreneurs that they have fantastic projects but there are no real startup investors in Europe. On the other hand investors say that there are not enough fundable projects. Why does this happen? Because entrepreneurs just focus on the potential of the idea or product.

Focus on reducing the risk of the execution of your project. The best idea of the best team in the world is worth zero if it has zero execution. In order to increase the odds of success, entrepreneurs should mitigate the risks of poor execution in the following areas: Market, Entrepreneur/Team, Legal, Financial, and Operational.

2.
MITIGATE THE RISKS IN KEY AREAS
You can even argue that, if you really can’t find any investor in your early-stage startup, there might be something seriously wrong with it... or you just have no clue on how to sell your idea.

Directly or indirectly, European institutions are indeed increasingly ensuring that a lack of capital in those crucial early stages doesn’t kill startups before they even have a chance to get their businesses on rails. The ‘indirect’ part is actually quite important: a very large percentage of private capital firms, ranging from accelerators to so-called micro-VCs and established venture capital and private equity firms, have received cash from the European Investment Fund (EIF).

The EIF is the part of the European Investment Bank (EIB) that has as its mission to provide “risk finance to benefit small and medium-sized enterprises (SMEs) across Europe”. Although it can make direct investments into startups, or deploy capital through loans, the actual way it works most of the time is that EU taxpayers’ money gets funneled into specialist investment firms. Those then make investments in risky businesses hoping for a return (or multiple returns) that will enable them to pay back—and hopefully then some— to their own investors, or limited partners (LPS) as those organisations are often called.

In Europe, there are plenty of ways to obtain financing during the early stages of a business.

In the first quarter of 2017, they raised more than €4.5 billion in funding across some 870 rounds—which is a promising start that will likely propel European technology companies to another record-breaking year.

Europe is particularly strong in a number of verticals that are poised to become increasingly important over the next year, including financial technology (“fintech”), health/medtech, automotive tech, semiconductor tech and the Internet of Things (“IoT”). Even though the most valuable private European technology companies are business-to-consumer oriented (take for example music streaming companies like Spotify, SoundCloud and Deezer, and gaming companies like Candy Crush Saga maker King).

When you speak to an investor, it’s your past experience and the people you surround yourself with that make a difference. There is a lot of buzz on the importance of the team lately, but it’s crucial to actually understand what this means and what is your probability of success with your current co-founders.

With the odds working against you, the context you’re operating in has an important bearing over your future. From the mountain, it’s your body that makes the difference. With a startup, however, it’s not only the internal factors such as your team, but also the external ones: the country you’re in, the investment & support ecosystem, etc.

You need a minimum amount of funding to survive. When you raise too little capital, it’s the same as trying to get to basecamp without enough food or oxygen. 29% of startups fail because they run out of cash. Shoot for 12 to 18 months of cash runway on your first round to make sure this does not happen.

Fundraising is an iterative process, and this is how you should regard it, from start to finish. It’s important to set milestones in terms of product development, hiring, how many people you’d like to talk with, or any other stuff that you consider relevant. You’ll then have to put them together and start working on the story that you’re going to pitch to investors.

Tell a story that creates FOMO. You want your potential investors to think that they’ll miss an opportunity if they don’t support you. Tell a story about the people who are going to be using your product. The power of a startup that hasn’t sold anything yet is to convince the investors that they are going to miss the next big thing.
AI, machine learning, AR/VR, driverless cars and automation are the mots du jour

That Europe is on the right path, however, is also quite apparent when you analyse the data for global mergers and acquisitions (M&As) and IPO activity. On that level, there were 160 billion euros worth of transactions in 2016 alone, according to Tech.eu data. And that’s only the M&A deals where the size was disclosed, so it’s in fact a lot more. In Europe, there were roughly 660 M&A transactions and IPOs in 2016, and only a fourth of those involved companies that have raised financing from venture capital and/or private equity firms. That’s right: the vast majority of companies successfully going public or getting acquired were bootstrapped or government-funded only.

Also worth noting: American — and increasingly Asian — technology giants are particularly acquisitive in the European tech space. Some names of buyers of European and Israeli tech startups in 2016 alone: Facebook, Airbnb, Google, Tesla, Amazon, eBay, IBM, GoPro, Qualcomm, Microsoft, Cisco, Twitter, Ocuulus, Intel — and the list goes on and on.

Indeed, the data doesn’t lie. Though Europe as a whole is still far behind countries like US — or regions like Silicon Valley if you will — and China if you look at the funding and exits data, the fact is that there has been consistent growth and maturation across the board. The best thing to do is not fixate on numbers from elsewhere and look at growth opportunities in Europe, and how to best exploit those (Digital Single Market, anyone!).

EXCITING TIMES

Indeed, a recent report from Atomico and Slush, compiled in conjunction with Dealroom.co, Invest Europe, LinkedIn, and several others, came to the conclusion that the environment for tech startups to thrive in Europe has been steadily improving since 2011.

Despite ups and downs along the way, overall it’s easier than ever for young tech companies to attract funding, find talent, and scale their businesses to the next level, the report shows. Compared to 2015, 88% of respondents are either more or equally optimistic about the state of European tech. This growing confidence in the ecosystem is further maturation across the tech landscape. The most optimistic about the state of European tech was 88%.

The best thing to do is not fixate on numbers from elsewhere and look at growth opportunities in Europe

Until October 2016, he was responsible for further growing Mendeley to 5m+ users and 200 staff, and for executing on the company’s vision of building a global research collaboration platform. Since 2013, Jan has been serving as non-executive director of Emerj Education, “the most influential and active investor in UK edtech” (Outsider 2016), where over the last four years he has helped leading investments in 40 edtech startup companies.

JAN REICHELT

TOP TIPS FROM

1 ADD VALUE

Don’t just maximise for valuation, maximise for value-added in combination with money. Building a solid foundation for the company is so important for the future, and good investors will understand you better and be much more helpful when building your company.

2 SHOW YOU CAN DELIVER

Focus on shipping and demonstrating that you can actually build and deliver a product. Actually primarily for your own sake (you want to know that you can do it!), but also to attract investment. The more you can “demonstrate”, the easier it will be to raise money.

3 GET YOUR MESSAGE ACROSS—SIMPLY

Build and understand your network as you grow — fund raising is a continuous process, and you will never “be done” with it for as long as you are building, so try to get to know people and understand investor sweet spots. Get through your entrepreneur friends to reach investors.

4 GET TO KNOW YOUR INVESTORS

In the early days, it might be helpful to explain what you are doing by using a simple and pragmatic “We are like YouTube for the birdwatching industry” — you need to be able to get your message across easily and quickly.

5 PRACTISE, PRACTISE, PRACTISE

Continuously practise your pitching and presentations by having a good company/ investor deck, incorporating feedback, and iterating. But never forget, in the end the only one who knows how to do it best will be you as the founder, despite all opinions you will get.
evidenced by the 56% of respondents who are repeat entrepreneurs. Much is made of the funding gap between the US and Europe, with European companies having a harder time raising later-stage rounds due to an apparent lack of sizable funds. The Atomico and Slush report shows that this gap is now narrowing, as much larger funds emerge in Europe. More scale-ups means more firms willing to back them, which means more ambitious entrepreneurs will be rewarded over time—and that can only be a good thing for Europe (and, by extension, the world).

In 2015, the total funds closed by European VCs stood at €4.3 billion, representing year-on-year growth of 35%. Since late 2015, there are have been several new funds closed by new firms. These include Cherry Ventures ($167 million), Daphni Ventures ($167 million), Blue Yard Capital ($120 million), and Keen Venture Partners ($100 million), as well as a number of smaller funds under $30 million. At the same time, there has been increased activity in US VCs investing in Europe with big names like Andreessen Horowitz, Sequoia Capital, Kleiner Perkins, and Bessemer Venture Partners. In summary: don’t just take my word (or our data) for it.

Those big American and Asian buyers and investors are not placing their bets on European technology startups because of a lack of available companies in their own markets; they do it because the quality of the entrepreneurs and the businesses they are building is rising fast, talent can unquestionably be found (and hired or acquired) here, the markets are growing in size, and the rest of the world is taking notice.

There’s never been a more exciting time in Europe to be an entrepreneur, the latest Atomico/Slush report concluded. I’d argue that’s true, but it’s only going to get better in the coming years.

Clearly communicate
The single most important factor when it comes to raising capital is knowing what you are aiming to raise it for—i.e. clearly communicate the bold bets you want to take with the investment at hand and what those are worth if things go as you expect them to.

Build investor relationships over time. Keeping an active and genuine dialogue with investors who you find a common language with is a great way to build that trusted relationship. That way you’re both continuously and never fundraising.

Top Tips From Marta Sjögren
Marta is an early stage investor with Northzone, based in Stockholm and covering gaming, SaaS, healthcare, talent-tech, and moonshot world-improving visions (whenever they come).

Build Long-term Relationships
At Northzone we have tested this strategy over 20 years and 8 funds, only to continuously see a pattern in that our most successful investments come from relationships fostered over months, sometimes years.

Robin Wauters is a seasoned European technology journalist and founding editor of Tech.eu, the premier source of European technology news, data analysis and market intelligence. Founded in 2013, the company keeps track of innovative technologies and interesting startups emerging from Europe, with a particular focus on monitoring deal activity (funding, M&A transactions, IPOs) and collecting insightful data on the broader European technology industry.

Prior to founding Tech.eu, Robin Wauters was the European Editor of The Next Web, and before that a senior editor at TechCrunch.
Oriol Juncosa is Managing Partner and Co-Founder of Encomenda Smart Capital, a technology super angel fund, based in Spain. He also advises high growth technology companies in Spain and in the UK on strategy and finance.

TOP TIPS FROM ORIOL JUNCOSA

1. START INFORMALLY

Start to speak with investors as soon as you can on an informal basis, so that you can receive input on your vision and your progress.

2. DISCRIMINATE

Select the right investors for your company’s stage of development, so that you are “important” to them. Selecting a large investor for a small investment ticket usually is backfires, as you will not be “relevant” to the fund.

3. DO YOUR RESEARCH

Do due diligence on investors so that you know almost as much about them as they know about you, and you can be confident that they will be good additions to your board. Speak with their portfolio companies, both successful and failures.

4. DON’T UNDER-ESTIMATE YOUR NEEDS

Raise as much financing as you need to cover your next 18 months of operations.

5. FACTOR IN SUFFICIENT TIME

A funding round usually takes 5 - 6 months from start to finish (round over €1m) so you need to manage your funding round and financial resources in accordance with this long cycle, so that you do not run out of cash in the middle of the round process.
Clusters then support the development of industry-driven ground-breaking projects that enable those technology needs to be satisfied and exploited. But technology moves ever faster, and new and better ways must be found to ensure that European industry remains competitive and can lead the market segments that it serves. We must search for new disruptive technologies, new applications and ensure that they can be brought to market quickly through the value chains that support them. Public support must

**NETWORK DEVELOPMENTS**

**EUREKA CLUSTERS ON THE MOVE**

4G & 5G COMMUNICATIONS, DIGITAL TELEVISION, MEDICAL DIAGNOSIS & HEALTH MONITORING, ENVIRONMENTAL ENERGY MANAGEMENT, AUTOMATED DRIVING AND MANY MORE HAVE ROOTS IN EUREKA CLUSTER PROJECTS

**BUT AS TECHNOLOGY AND MARKETS MOVE FASTER THAN EVER, CLUSTERS, TOO, NEED TO ADAPT**

INTERCLUSTER SPOKESPERSON PETER CONNOCK ON INDUSTRY NEEDS AND THE PROCESS OF CHANGE

Uniquely, Clusters work by forming deep links with experts in the industrial communities we serve, in partnership with national public authorities from across the EUREKA network. Clusters stimulate the industrial community to discuss and create a technology development roadmap for the focus areas that have been jointly identified as critical to European development.
new ideas while providing the best of them with appropriate funding support. Between national, Eurostars, Clusters and other funding we can, working together, help enable the applications of the future. We must also encourage SMEs, and provide them with the necessary support to help them through their first international collaborative activity, building the potential market leaders of the future.

To do this better, we all need to change. Bureaucracy must be reduced and project approval cycle times minimised. Increased cooperation is required between all elements of the funding landscape and organisations with good ideas helped rather than delayed. We must bring together working supply chains that enable a value chain and allow rapid exploitation of ideas as they turn into products. Clusters, with their unique relationships with industry and national governments, working in the EUREKA structure, are working hard to ensure that this happens through a range of actions. These include: introducing initiatives to quickly support new application/technology focus areas through existing Cluster infrastructure, increasing collaboration with other funding instruments and organisations to improve clarity in the funding landscape, increasing Cluster efficiency and ensuring that the social and economic impact of Cluster activity is well understood. As part of this process, the Spanish Chair has also initiated programmes in two new areas, Smart Manufacturing and Graphene. Clusters already provide a flexible, industry-oriented and supportive environment for innovation. But this process of change must be an ongoing activity to ensure that Clusters continue to adapt in the future to our rapidly developing world.

Clusters in 2016

- € 470 M of industrial innovation catalysed
- 49 projects
- 424 participants
- 54 % SMEs
- 1563 collaborations of large companies with SMEs

For SMEs, a Cluster project is ideal for a collaboration with a major player.

Cluster Projects

- Strategic initiatives launched by major European multinationals.
- Focus on particular industrial sectors in different countries: hardware, software, telecommunications, renewable energy, new materials and more.

Current clusters

- CELTIC-PLUS Telecommunications
- EURIPIDES² Smart electronic systems
- EUROGIA2020 Low carbon energy technologies
- ITEA 3 Software intensive systems and services
- METALLURGY EUROPE Breakthrough metal products
- PENTA Micro and Nano electronic technologies and applications

New clusters in the making

- SMART A new industry initiative in advanced manufacturing
  contact: www.smartam.eu
- GRAPHENE A new industry initiative in Graphene and 2D Materials
  contact: Dr. Antonio Correia - antonio@phantomsnet.net

Find out more at eurekanetwork.org/clusters
ENABLING CITIES TO BE SMARTER

SMART CITY EVOLUTION REQUIRES THE DEPLOYMENT OF A LARGE NUMBER OF IOT (INTERNET OF THINGS) SYSTEMS AND DEVICES, BRINGING NEW ISSUES RELATED TO NETWORK AND DEVICE MANAGEMENT, SECURITY, AND EXPLOITATION OF LARGE AMOUNTS OF DATA.

THE EUREKA CELTIC-PLUS CLUSTER PROJECT TILAS ADDRESSED THESE CHALLENGES AND OPENED THE WAY FOR NEW INTEROPERABLE, SUSTAINABLE AND ENERGY EFFICIENT IOT APPLICATIONS IN URBAN ENVIRONMENTS.

The use of the Internet of Things (IoT) and Smart City concepts have grown across Europe and globally recently.

From a technical standpoint Smart Cities rely on the evolution of wireless sensor networks, but the scale of the deployment required means that new ways of managing and protecting these networks are required. In particular differences in system performance have been noted between experimental deployments and large-scale real world situations.

The Technology Improvements for Large Scale Smart Cities Deployments (TILAS) project used real city environments (Santander in Spain and Seoul in South Korea) as IoT test-beds in combination with laboratory trials in Paris and Grenoble, France.

“Initial IoT experimental deployments revealed significant missing components which are critical when facing massive IoT deployments,” says Aránzazu Sanz, Chief Operating Officer of project co-ordinator TST. “The TILAS consortium designed innovative solutions to address these challenges.”

SMART APPLICATION

All the solutions designed in TILAS have been deployed on top of large scale testbeds already running in several cities and laboratories. A vehicle traffic pattern monitoring platform based on nitrogen dioxide (NO2) and ozone (O3) sensors was deployed in Santander. This platform was tested on top of several devices integrated with the large scale IoT platform running in the city.

In Seoul real-time data monitoring for a water management system was implemented, which included TILAS components on cloud-based services. The laboratory trials ranged from image/video surveillance systems with advanced security features demonstrated in Paris to a security framework assessed in the city of Grenoble linked to an environmental monitoring application.

“The cities that participated in TILAS, and several others, have already shown additional interest in exploiting further urban services that will optimise current performance,” says Aránzazu. “Some of the results from the project can be directly implemented in the market, while others will require further adjustments to be ready for commercialisation.”

VIRTUALISATION PLATFORM

Pursuing an optimum, energy and cost-efficient network operation for large scale IoT deployments, TILAS partners developed robust multi-hop over the air programming (MOTAP) techniques that solved previous power consumption issues.
Smart City evolution requires the deployment of a large number of IoT (Internet of Things) systems and devices, bringing new issues related to network and device management, security, and exploitation of large amounts of data.

Customised housing embedding antennas were developed to overcome visual impact problems making network deployment more acceptable to citizens.

A security framework was defined and the project also proposed novel hardware and software architecture for IoT devices able to cope with interoperability and modularity issues.

TiLAS also proposed the design of a middleware solution able to feed collected information to applications running in the cloud, providing access from devices based on different technologies. These cloud-based services (IaaS and SaaS) enabled the project to efficiently exploit large amount of data.

“The Internet of Things is becoming a mature technology that is playing a key role in the urban context,” Aránzazu concludes. “By 2050 more than 70% of the world population will be concentrated in urban areas, so city authorities are analysing how to address the new demands this will bring, while guaranteeing a high quality of life. The IoT must play a core role in enabling this and TiLAS has provided a range of practical tools that will enable sustainable and efficient Smart Cities IoT deployments.”

**Practical tools that will enable sustainable and efficient Smart Cities IoT deployments**

---

**CELTIC-PLUS CLUSTER**

**PROJECT ID**

C2012/1-9 TiLAS

**COUNTRIES & NATIONAL FUNDING BODIES INVOLVED**

<table>
<thead>
<tr>
<th>SPAIN</th>
<th>FRANCE</th>
<th>TURKEY</th>
<th>SOUTH KOREA</th>
</tr>
</thead>
<tbody>
<tr>
<td>TTI Norte, S.L.</td>
<td>Soporte Bankoi S.L.</td>
<td>Argela</td>
<td>Pangaea</td>
</tr>
<tr>
<td><strong>TOTAL COST</strong></td>
<td>€6.8 MILLION</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DURATION</strong></td>
<td>MARCH /2013 TO DECEMBER /2015</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**MAIN PARTNER**

TST, Spain

http://www.tst-sistemas.es

azanz@tst-sistemas.es

**OTHER PARTNERS**

SPAIN

TTI Norte, S.L.

Soporte Bankoi S.L.

TURKEY

Argela

SOUTH KOREA

Pangaea

FRANCE

Gemalto SA

University Paris-Est Creteil Webdyn

CEA-LETI (Commissariat à l’Energie Atomique et aux énergies alternatives)
"THERE HAS TO BE a QUICKER & EASIER WAY OF DOING THIS"

IDA-MARIA SINTORN

A LECTURER AT UPPSALA UNIVERSITY AND CHIEF TECHNOLOGY OFFICER AT VIRONOVA. SINTORN TELLS US ABOUT THE IMPORTANT ROLE THAT FAILURE HAS PLAYED IN HER SUCCESS AS AN INNOVATOR.

With the emergence of camera phones and face recognition technology, image analysis is experiencing a boom and the industry is demanding more detailed analysis, at a faster rate.

Ida-Maria Sintorn is convinced that the product she helped to develop through the Eurostars project Minitem meets that need. “When I did my PhD in Image Processing 12 years ago, I spent many hours, manually analysing nanoparticles. As I worked, I would often think, ‘There has to be a quicker and easier way of doing this,’” says Ida-Maria. Flash forward 12 years and Ida-Maria has achieved what she calls her proudest moment; the creation of an electron microscope, capable of capturing high resolution images of nanoparticles and producing a range of data about them. And best of all? It does this at a speed Ida-Maria could only have dreamed of as she painstakingly analysed nanoparticle after nanoparticle all those years ago.

But as the old adage goes, ‘It’s the journey, not the destination, that matters.’ And she can trace her trail-blazing spirit back to her childhood. “I’ve always been fairly single minded. Even when I was a child, I never asked for permission from my parents before doing something. If I thought it was a good idea, I just did it. And I think this sort of mentality is important for people who like to solve problems.”

CONNECTING PEOPLE

It is this attraction to problem-solving that motivates Ida-Maria, in both her role at Vironova and as a lecturer at Uppsala. For many of us, coming up against problems cause stress. But they excite Ida-Maria! “Because image analysis is such a new field, there are many unknowns in terms of the technology around it. New problems are constantly arising and I find it almost comforting to discover that many other people in my field have been having exactly the same problems as me. And then it’s quite exciting to learn that nobody has figured out how to solve it yet,” she says.

It’s at this point that Ida-Maria’s mind usually goes into overdrive. Describing herself as a “facilitator”, she believes the idea of connecting people in different (but related) areas of expertise is paramount to the problem-solving process. She credits her educational background for her ability to do this. “My qualifications have given me a decent grasp of a broad range of areas from physics to maths to computer science. Knowing a bit about all of these areas allows me to see possibilities that somebody with a more narrow focus, but who may be a total expert in their particular field, might not,” she says.

FAILURE AS INSPIRATION

Like many innovators, Ida-Maria is not someone who always knew what she wanted to do. And if it wasn’t for her keen sense of smell, she might never have ended up in image analysis.

“During my primary degree in Engineering, we had to do a lot of lab work and these are messy and unpredictable places. We mostly worked with bacteria which would produce the most horrific smells. I decided right then that I wanted to work with computers. They are clean, reliable and don’t smell!”

However, Ida-Maria’s nose was not the only thing that has guided her throughout her career. She has consistently found inspiration in another unlikely source. Failure! The Minitem project grew from a basic idea, into a groundbreaking product which is now commercially available and is catching on fast. But the journey has been far from seamless.

“Around one year into the project, we realised that we were focusing on the wrong issue. To make a long story short, we put a year’s work into a product which was more or less useless to potential customers.”

But rather than becoming despondent, she and her team dusted themselves off and started over, mindful of the valuable lessons they had learned from their errors.

Today, Minitem is nicely prided to make a huge impact in the industry. “The older generation in the industry tend to be more reluctant to embrace our technology. They like the old way of doing things and can be quite resistant to change. But given how quickly the industry is growing, we believe Minitem will become the go-to instrument for newcomers,” she says.

IDAMARIA’S ADVICE TO OTHER INNOVATORS

Don’t let your disappointment with failure cloud the positives and the lessons to be learned from it.

Achievement comes with struggle. If you’re not motivated by the work, look for something that stimulates you.

You don’t always need to see the end goal. If you feel you can learn something from a project, get involved.
NEW WAYS FOR OLD WHEELS

SPANISH REFINERY CEPSA HEADED UP THE TEAM THAT DEVISED A CUTTING-EDGE RECYCLING METHOD TO USE OLD TYRES TO REPAIR THE COUNTRY’S ROADS.

Some 9,000 residents were evacuated from their homes while hundreds of firefighters spent days trying to put out the blaze. A year on, Spaniards still remember what the fire at Seseña, 45 kilometres from the Spanish capital Madrid, looked like. Environmentalists had long warned of the risks at Europe’s largest tyre dump, where 5 million tyres were accumulated over nine years. The authorities don’t know how the fire was started but the environmental catastrophe reminded everyone why old tyres from lorries and cars need to be responsibly treated. Since they’re big and don’t biodegrade, one good way found to deal with old tyres is to shred them to mix with asphalt to pave roads—a form of recycling that Spain’s energy company Cepsa decided to make more efficient during Eureka network project Powder Road. “Existing techniques are often very good with lorry tyres because they contain more natural rubber and so are more elastic, but the methods aren’t as effective for car tyres,” explained Vicente Pérez, technical director at the company’s asphalt unit. With about 46 million cars on Germany’s roads alone, there is a clear financial and environmental incentive to find a method that works better for car tyres.

DREAM TEAM
To research the whole process, Cepsa, which already manufactures other bitumen products from tyre dust, worked with existing contacts: Spanish company Gestión Medioambiental de Neumáticos (Gmn), which shreds tyres, Germany’s Pallmann Maschinenfabrik, which makes the shredders, and Spanish builder Comsa, which spreads asphalts on the roads. The group was an ideal combination to test the shredding of the tyres, the possible bitumen mixtures and their performances on roads. “There are higher and higher standards being demanded from roads today—they need to be durable because there’s more traffic on them and they also have to meet environmental targets, such as reducing noise levels,” explained Pérez. Through careful testing the partners came up with bitumen that met those standards—and was also cheaper and better than others on the market. The rubber particles in it didn’t have to be ground as finely as those in other products and the final bitumen didn’t have to be heated to as high a temperature —factors which reduced the cost of the process. The product is also more stable and the need for additives in it is lower.

The partners presented their results at one of the sector’s most respected trade fairs, Asefma, in Spain, and are now exploring commercialisation. The research and development has already boosted the reputation of the three in a demanding market, said Pérez. With European economies like Spain’s beginning to recover after a long crisis, roads are being repaired again and infrastructure projects are restarting. Powder Road has put the partners in a position to tap into the upturn. The partners also used their research to develop another new product, a hard bitumen with rubber, to be used in high resistance asphalt mixes, such as those needed in port areas. They successfully tested Flexodur Am, as they named it, at the port of Tarragona, in North East Spain, with very good results. “It’s much more flexible than ordinary bitumen so resists better,” said Pérez.
Marc Leny is Head of r&d at French sme Ektacom who coordinated the TOFU TV project. “The fundamental basis of the project was to get ready for the TV of the future,” he says. “With the new standard we are moving from Hdtv to ultra HD and the ability to offer additional services such as second screens and automatic indexation. For us the heart of the technology was to ensure that video transcoding software was able to cope with the new video standards efficiently.”

HEVC adoption started in 2015 with a massive transition to the format anticipated from around 2018 across broadcast TV and digital cinema, and also potentially in areas such as surveillance.

TOFU TV produced demonstrators that featured all the technology breakthroughs, illustrating the transcoding capabilities and potential service enhancements.

BOAT BONUS
The project also opened up a brand new market for Ektacom. “During the project we were approached by a small sailing association based in Brest in Brittany. They asked if we could help with televising a junior race involving some 60 small laser class boats,” says Marc. “The race was offshore, but the audience was in the harbour so they needed to see the action. We used the transcoders developed in the project to transmit video to a large screen in the harbour and also broadcast the content over the internet.”

The event went really well and six months later the company got a call from the Spindrift racing team based in Brittany. Spindrift own some of the largest sailing boats in the world and compete in global yacht races such as the Jules Verne around the world challenge. “Spindrift were looking for a solution to transmit live videos from their racing yachts from anywhere in the world in the best TV quality. In fact this was a requirement from their sponsors,” explains Marc.

Thanks to the technology developed through the Eurostars project, Ektacom were able to equip the boat with a system before the start of their next challenge. Using the equipment the racing team were able to deliver some 20 live TV interviews during the voyage including an exclusive live interview on French tv as the yacht passed Cape Horn featuring live video from the boat’s drone. “This was a big success for the team and their sponsors,” says Marc. “And could not have done without the technology developed in the project.”

Since then Ektacom have equipped more racing yachts for other teams. “These are some of the biggest racing boats with big budgets and need cutting edge technology,” Marc says. “It is a real return on our investment efforts,” continues Marc. “This new market has yielded some very good results for us. There are around a dozen maxi racing trimarans in the world. Eight of them are in France and we have supplied systems for three already, with ongoing discussions for new ones.”

Overall TOFU TV has been a real winner for Ektacom. “Since the end of the project the company has grown rapidly. We hired three new people and I estimate that we have gained around € 300 000 in new business due to TOFU TV outcomes,” concludes Marc.
IDENTIFYING OPPORTUNITIES

VIDENTIFIER TECHNOLOGIES

IS AN ICELANDIC COMPANY WHOSE TECHNOLOGY HELPS POLICE FORCES AROUND THE WORLD INVESTIGATING CHILD ABUSE AND TERRORIST CASES.

HERE’S THE STORY OF THE COMPANY’S GROWTH — AND HOW PARTICIPATING IN EUROSTARS AND E!NNOVEST HELPED.

“In 2011 Videntifier started its first Eurostars project (E!6697 fiia) together with UK company Forensic Pathways and the French research institute irisa. At roughly the same time they managed to raise £300,000 of seed investment and a year later — via an E!nnovest investment forum — another investment by Dutch angel investor Jan Dunnink. “The real breakthrough was though when Videntifier was selected as the technology provider for Interpol’s Child Sexual Exploitation (ICSE) database at Interpol in June 2012,” says Lejsek. Since then Videntifier’s business has been constantly growing and finally reached profitability in early 2016. As of today Videntifier has been deployed to many major law enforcement organisations throughout the world, e.g. the US National Center of Missing and Exploited Children, the US Department of Homeland Security, the Swedish National Police, the Swiss National Police, the Korean National Police and the Indian Home Office.

THE TECHNOLOGY

Videntifier’s technology combines high-end computer vision techniques with blazingly fast database search. It allows digital investigators in law enforcement to automatically compare a large amount of visual content in a fraction of the time it would take a human, and thus quickly identifies visual evidence relevant for the investigation. Videntifier focuses on two use cases in particular: (i) the identification of victims, perpetrators and the location of a crime and (ii) supporting the triage process when scanning seized storage devices for illegal content.

At the core of the Videntifier video and image identification system is a very large database of visual fingerprints extracted from the content of interest. What content is of interest depends on the individual use case and the application domain, but typically the numbers range somewhere between 10 and 100 million images, plus a few million video files. For law enforcement purposes the content of interest usually contains collections of known and verified illegal material, the so-called black-list database, but also collections for criminal investigation of irrelevant material — the so-called white-list database — typically consisting of commercially-produced movies and TV show content.

A visual fingerprint is a representation of a single point within an image or video frame capturing mathematical characteristics related to contrast and shape. A set of these fingerprints capture the coarse shapes of the structures inside an image. The fingerprints are organized in a database index which can provide very fast visual comparison, even if the scanned video has been distorted or compressed or if the colours and contrasts have been changed. The system is also very good in identifying similar backgrounds and identical locations and can also find malicious content which a suspect has tried to hide within another video.

NEW APPLICATIONS, NEW MARKETS

Following a $2m Series A investment in 2013/14 Videntifier has been expanding its business focus even beyond the law enforcement domain. The new spin-off idea is focusing on copyright protection and content monetisation in particular.

Yet again, Videntifier found SME partners and got funding through the Eurostars programme. It currently leads a new project (E!26379 BVALA) together with two Bulgarian companies, Semantic Interactive and Ontotext, with the goal of developing a platform for automatic monitoring valuable content assets (videos, images, but also textual works) on the internet. The platform will provide intelligence on the distribution, the access, the public opinion and the market success of such assets. Just recently the consortium on-boarded SkyUnion Media Technology Co Ltd., a Chinese SME, focusing on copyright protection and monetisation of digital assets within the People’s Republic of China. With inviting SkyUnion into the Eurostars consortium the project not only benefits from a committed testing and evaluation partner, but also provides access to additional funding for the European partners and an entry to the huge but inherently complex Chinese market.

“A video on Videntifier and the FIIA project can be found on EUREKA's YouTube channel: youtube.com/user/EurekaEurope

When we founded our company in 2008 Iceland’s economy was on the brink of collapse and it was very tough to survive the first four crisis years,” says Videntifier CEO Herwig Lejsek. “However with the help of family and friends, Reykjavík University and our first customer, the Reykjavík Metropolitan Police, we brought the company to the next stage.”
Project trends

Eureka data analyst Peter Lalvani on the complementarity of public and private funding

Venture capital and business angels gain importance, while public grants can provide a vital lever to reach them.

Where does the money come from?

Data from the ECB’s Survey on the access to finance of enterprises (SAFE) shows that grants or subsidised bank loans are particularly relevant to innovative SMEs. Moreover, over 40% of young companies and more than a third of exporting and high-growth SMEs mention grants as being relevant i.e. that they have used them in the past or would consider using them in the future (see Fig. 1).

For innovative SMEs participating in Eureka, public financing can provide a vital lever to access the private funding needed to commercialise new or improved products and services. In addition, post-project surveys confirm that participating SMEs tap a number of different sources for crucial follow-on funding. Data from the Eurostars programme shows that 26% of participating SMEs need venture capital for commercialising their project result in the post-project marketing phase. Only retained earnings/internal funds (41%) and loans (30%) feature more often, with business angels the next most popular source for this phase (see infographic).

Venture capital and business angels have become central players in the risk finance landscape for innovative SMEs, and Eurostars data shows that this is particularly true for the smallest SMEs. Participating micro SMEs in particular (with 0-9 employees) have a higher dependency on funding from these ‘non-traditional’ sources. This finding parallels wider evidence of venture capital investments being concentrated on smaller SMEs. Using a database developed by Dealroom, Eureka has verified the success of a number of SMEs participating in Eurostars in raising venture capital funding, either preceding or subsequent to participation in the programme. Figure 3 shows the top five SMEs identified as having received venture capital funding over one or more funding rounds, by amount.

SMEs reporting venture capital or business angel financing requirements in commercialisation phase.

Companies reporting that they have used grants or subsidised bank loans or would consider using them in the future, by type of company.

2 Definition of innovative company according to ECB survey
3 Less than two years old
4 This represents 26% of the total amount of commercialisation funding needed. The commercialisation financing needs of SMEs participating in Eurostars projects are reported via reports submitted after project completion.
5 See European Private Equity Activity, Invest Europe 2015
6 https://app.dealroom.co/

---

Public support to dynamic SMEs is highly relevant

- 41% young (2y+)
- 36% innovative
- 35% exporting
- 34% high growth

SMEs reporting venture capital or business angel financing requirements in commercialisation phase.

---

Top five venture capital funding to Eurostars-1 SMEs

<table>
<thead>
<tr>
<th>Organization</th>
<th>Funding</th>
<th>Sector</th>
<th>Country</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heptagon</td>
<td>€9M</td>
<td>Semi-conductors, B2B</td>
<td>Switzerland</td>
<td>Zurich</td>
</tr>
<tr>
<td>GomSpace</td>
<td>€22M</td>
<td>Telecom, B2B</td>
<td>Denmark</td>
<td>Aalborg</td>
</tr>
<tr>
<td>MindMaze</td>
<td>€10M</td>
<td>Education, Manufacturing, B2C</td>
<td>Switzerland</td>
<td>Eubsigen</td>
</tr>
<tr>
<td>poLigt</td>
<td>€5M</td>
<td>Semi-conductors, Manufacturing, B2C</td>
<td>Norway</td>
<td>Horten</td>
</tr>
<tr>
<td>TT Tech</td>
<td>€50M</td>
<td>Security, B2C</td>
<td>Australia</td>
<td>Vienna</td>
</tr>
</tbody>
</table>

Source: Eureka, 2017

---

Infographic Commercialisation funding needs of Eurostars SMEs

Infographic by Peter Lalvani & Pablo Martinez
peter.lalvani@eurekanetwork.org

---

Venture capital and business angels have become central players to the smallest Eurostars SMEs

---

Public support to dynamic SMEs has become central players.

---

Where does the money come from?

Eureka data analyst Peter Lalvani on the complementarity of public and private funding

---

FIG. 1

FIG. 2

FIG. 3
WHAT IS EUREKA?

www.eurekanetwork.org

EUREKA is a publicly-funded, intergovernmental network, involving over 40 countries.

EUREKA’s aim is to
enhance European competitiveness
by fostering innovation-driven entrepreneurship in Europe,
between small and large industry,
research institutes and universities.

Today, in this network, there is more than ever a strong belief that cross-border collaboration is crucial for European industry to compete effectively on world markets in advanced technologies.

While innovation is increasingly becoming an international activity, 90% of the public funding available to researchers and innovators in Europe is to be found in national programmes and most of it is dedicated to national activities. This is why the EUREKA network ensures that a steady flow of national public funds is directed towards transnational collaboration in research, also leveraging a high level of private investment.

To innovative companies, institutes and universities wishing to expand their activities internationally, EUREKA is a catalyst for the finance and support they need to launch and run their transnational R&D&I projects. Those projects are based on two criteria: cooperation between at least two different EUREKA countries, and the final result being a commercially viable new product, process or service.
EUREKA strength lies in its well-established network of national project coordinators (NPCs) representing more than 40 countries and the European Commission.

NPCs act at operational level, running the National EUREKA Offices. They are the direct contact for project participants. NPCs facilitate the setting-up and running of a project and are responsible for project generation, national and international support and follow-up.