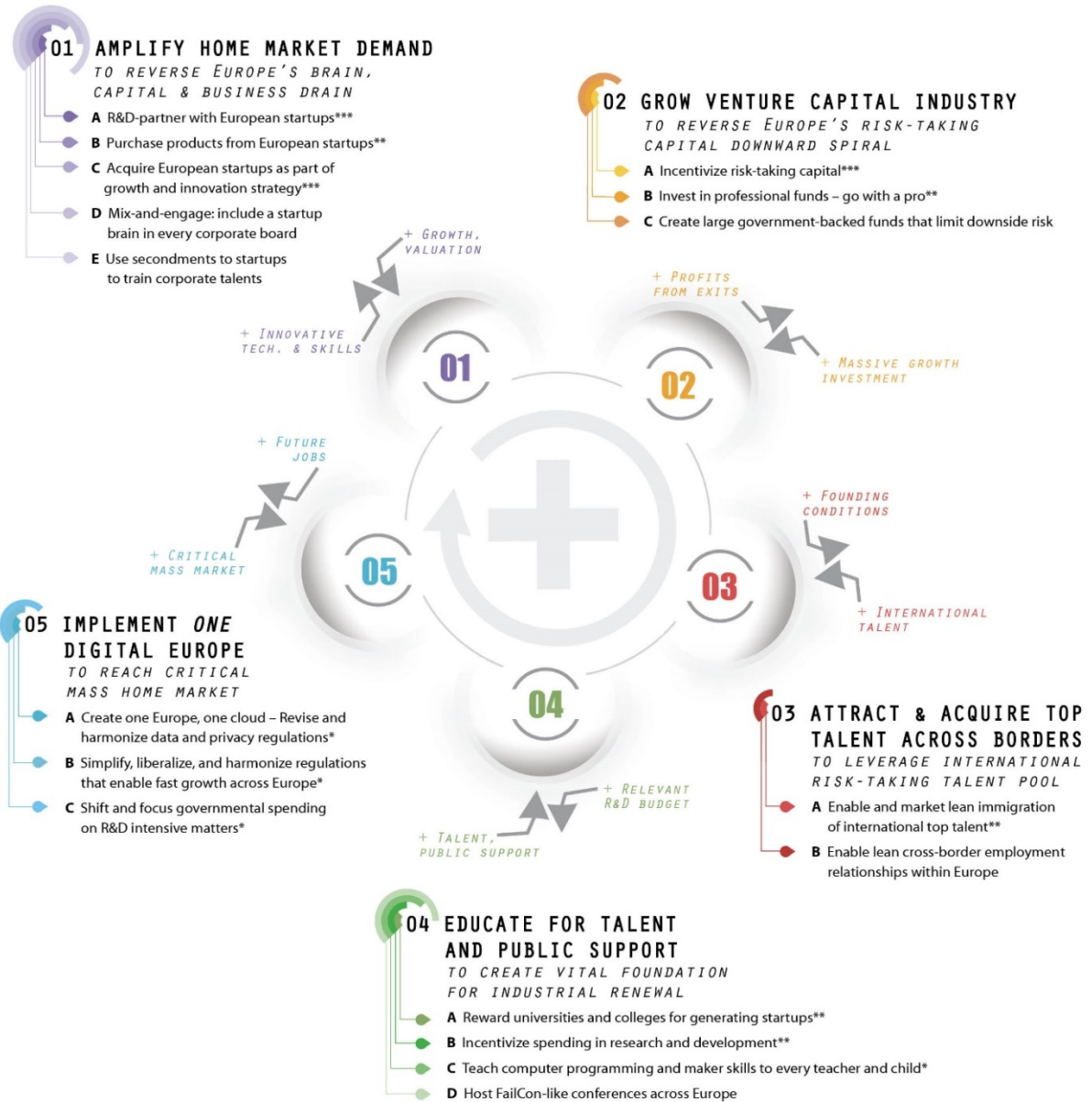




THE REVALUATION OF RISK-TAKING

EUROPEAN STARTUPS AND HIGH-TECH COMPANIES:
A 5-POINT PLAN TO INCREASE GLOBAL COMPETITIVENESS



* ** *** WHEREAS ALL SUGGESTED MEASURES MADE THE THRESHOLD TO THE STATUS RELEVANT AND VITAL, THE NUMBER OF STARS (*) INDICATES THE EXPERTS' OVERALL PRIORITIZATION BY IMPACT

The Revaluation of Risk-Taking

European Startups and High-Tech Companies:
A 5-Point Plan to Nurture Global Euro-Champions

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Goal

Approach and Methodology

In January of 2015, we sent a request for input on this topic to a list of 25 experts from different backgrounds, all of whom we have reason to trust their judgment and expertise. Specifically, we asked these experts to provide us with their top 3-5 measures, including a brief rationale for each, which would increase the global competitiveness of European Internet/High-tech enterprises and startups.

By end of March, all experts provided us with their written thoughts. Some of the statements were elaborate while others focused on a few important findings. In addition, we received the results of two similar studies conducted in 2013 and 2014, and finally assembled summary you find below. We then sent the summary back to all experts for editing a final round. 23 of the experts agreed to be named as co-authors after reading and commenting on the summary.

Overarching Findings

The following points reflect the overarching statements that could be found in many of the experts' responses.

First, essentially all of the experts recognize the relevance of the question, "How to Increase Competitiveness," and value the focus on measures. To date, a substantial amount of time has been invested in collecting and understanding the reasons for the gap between digital economies in the U.S. West Coast, Israel, and Europe. Little effort has been made to formulate a concrete and achievable action plan to answer the question. In addition, the experts unanimously state that small high-tech companies are the most important source of industrial renewal in Europe, and thus are of major strategic economic value.

Second, essentially all the experts state that the advent of Silicon Valley cannot be traced back to one or a two isolated root causes, but rather is an outcome of multiple mutually interdependent events and characteristics that led to reaching a critical mass around 1990, after a start in the late 1940s, and a constantly growing nucleus. This mature ecosystem was able to generate a fairly high number of outstanding start-ups that turned into successful global corporations – a phenomenon that is completely missing in Europe.

Third, coming up with a simple recipe is likely impossible. However, Israel, and in some aspects, Singapore as well, show that examples for remarkable shortcuts do exist. Regardless, the experts make it clear that Europe, as any other nation or region, will not succeed by trying to copy the Silicon Valley development path into the present, but only by formulating its own clear path that leverages Europe's inherent strengths and characteristics. These include Europe's strong stake in the B2B sector and in industries that require top skills in the physical world, its broad mass of highly successful small-to-medium sized companies in export-oriented trades and its deeply rooted

cultural belief that profits should be shared among those who contribute to success rather than pursuing winner-takes-it all models.

Some claim that Europe's position has improved in the recent years. More than a dozen recent tech startups currently valued beyond 1 billion USD support this argument - as well as a few large Internet IPOs or transactions in 2014, the rise of Berlin to international visibility in the Internet scene with its particular know-how to internationalize and even globalize out of that city, and the surge of incubators, corporate VC funds, education offerings in entrepreneurship and business plan competitions. However, all agree that Europe is still stuck in several chicken-and-egg situations that might require top down regulatory actions and a change of mindset especially in large corporations.

One overall clarification seems to be essential: this paper is written in the interest of a healthy economic renewal in Europe for the benefit of the greater society. When it refers to venture capital, it refers to risk-taking capital that is used to launch, cultivate and grow innovative and risk-taking companies. The capital is largely spent in salaries and the procurement of services and products. This concept of venture capital is separate from capital that is used to change ownership of shares. In such private equity deals the capital flows primarily from the buying shareholder to the selling shareholder, and not into the company.

01 European Startups: Amplify Home Market Demand

The most cited root causes for Europe's challenge can best be framed as its relative lack of risk-takers across many dimensions, including people and capital. This lack eventually results in - or is a result of - its risk-averse culture in which each failure turns into a stigma and learning by trial and error is a clear sign of something being out of control.

This first chapter proposes measures for fighting one highly ranked root cause: the lack of European *demand* for risk-taking organizations: startups. Risk-taking talents such as startup entrepreneurs maximize their chances by teaming up with risk-taking capital that accumulates in regional defined environments where it can consistently generate profits by selling portfolio companies to large established firms or to the public. In other words, the more large companies acquire young companies in a region, the more vital and professional the venture scene in that region will eventually become.

However, large European companies rarely acquire start-ups. They rarely consider the acquisition and integration of startups as part of their growth strategy. And if they do, they often have difficulties with translating a startups' vision into an evaluation that is attractive for the startup and the backing VC firm.

Given this background, the findings below must not be considered protectionist attempts to foster the demand for European startups. They rather show measures that large European industry players can implement on their own without turning to government.

A R&D-partner with European startups

Especially in the B2B world, the design of successful products often depends on a close and trusting relationship between the startup and its big lead customers. However, large organizational and cultural differences between the well-structured, risk-averse and often slow corporate world on the one side, and the patchwork-speedboat mentality of startups on the other side makes “dancing with the elephant” everything but simple for both sides. Yet we are certain the intense and trusting collaboration between a big lead customer and an agile vendor is the best arrangement for great success. In the context of open innovation, large enterprises may consistently exchange some of their key technological challenges with a number of trusted startups and integrate the resulting ecosystem into a collaborative R&D roadmap with mutual benefits.

B Purchase products and services from European startups

The valuation of startup companies largely depends on the company’s track record with customers, users, shipped products or delivered services, sales, margins, or profit. As a young company with no product history or financial reliability, it is difficult to sell to the risk-averse European industry and government. Doing business with a large customer in the U.S. is easier by an order of magnitude. European governments and large enterprises should relax their procurement conditions when dealing with startups (e.g. presentation of sales figures of the last 3 years, numerous references) and in some cases even consider to shift part of the procurement volume to startups.

C Acquire European startups as part of growth and innovation strategy

Most large companies in Europe do not recognize the value of buying startups as part of their growth and innovation strategy. They only rarely buy startups for talents and teams - so called acqui-hires - and if they do so, they often only see the short term value of startups, i.e. the company’s technology and customer base. For this reason, the most successful European startups are typically acquired by U.S. companies and thus nurture the U.S.-based venture industry and corporate world. Companies may add and evaluate the option of acquiring and integrating a startup in every growth and innovation strategy initiative. The required skills for successful selection and integration must be trained by company-internal and open business school programs.

D Mix-and-engage: include a startup brain in every corporate board of directors

As every idea, also the idea of using the adolescent energy of startups in corporate environments only exists in the brains of people. The mix-and-engage measure helps this idea to be present at the point of action. In well-functioning startup clusters, this mix-and-engage-concept has been developed and implemented over decades in both directions. Venture capitalists, business angels, startup CEOs and involved academics take over key responsibilities in the corporate world, and seasoned corporate managers do the same in the startup world. In Europe, these hemispheres are still kept separate, mutual understanding is scarce, and the not-invented-here-syndrome is still distinct.

E Use secondments to startups to train corporate talents

Another lightweight and simple approach to increase the mutual understanding and learning between startups and large enterprises is the secondment of corporate talent to internships in

startup companies on a project basis. At any given time, corporate talents would work for a few months in different startups around the globe. The startups would profit from the cost-efficient skills while the corporation benefits from close contact to innovation dynamics, methods, and technologies in small risk-taking cultures.

02 Grow venture capital industry

A healthy risk-taking capital market covers all stages in the funding value chain. It resembles a funding pyramid that consists of a very large number of small funds that nurture startups with seed and early stage money (in so-called seed and A-rounds), topped by a large number of medium sized funds that finance the growth of companies that have proven their business model in the lower level (B- and C-rounds) - and finally the large funds that finance global scale projects. All fund types serve a critical role and cannot be substituted by others.

When compared to the U.S. venture capital market, Europe is generally underdeveloped and under-financed, due to the lack of an attractive exit market. In addition, whereas Europe still has many small funds that allow ideas to be translated to projects and incorporated startups, it has fewer medium sized B- and C-round funds that can finance growth.

Because the small funds know this gap, they cautiously finance their portfolio companies in small steps - some call this drip feeding - to be prepared to finance some of the capital intensive growth out of their limited pockets until they find the next stage capital partner – although this is out of their financial and managerial scope. In addition, small funds feel a greater pressure towards capital-efficient investments which excludes many sectors from being funded, especially those with a strong link to industry – one of the core competencies of Europe.

In order to grow its great inventions into global companies with numerous jobs, Europe needs many more medium-to-large sized funds. They usually start as small funds (run by entrepreneurs, not by investment bankers) and, if successful, gain trust and budget from investors over time. The proposed measures below show ways to accelerate the growth of economy-nurturing, risk-taking capital, as this serves a critical function in the ecosystem.

A Incentivize risk-taking capital

To accelerate and sustain a massive flow of risk-taking capital, government needs to implement game changing incentives via special taxation of risk-taking capital (not just credit capital), returns on risk-taking capital, and governmental co-investment. The proposed measures include the use of loss carry forward, the offsetting of wealth tax against investments in European startups, no value added tax on management fees, and the treatment of tax share options as capital gains, not income. UK's Enterprise Investment Scheme and Seed Enterprise Investment Scheme as well as the Israeli angel scheme have implemented some of these tax reliefs and thus may serve as a template.

B Invest in professional funds – go with a pro

The weak performance of unprofessionally managed funds – in Europe about every second venture capital fund is not able to pay back its initial investment – effect the overall performance of the venture capital industry. As large scale investors, such as pension funds, determine their investment in venture capital funds based on profitability track records, they hardly invest at all – or fight for being allowed to invest. Therefore, in the future, public and private investors should feel bound to invest in professionally managed venture capital funds only. Numerous governments, companies and other organizations today create their own special purpose and relatively small venture funds. In the future, these organizations may consider opting for co-creating professional managed funds. In addition, investors may consistently foster ecosystems and platforms that show cooperating players across the funding value chain, bring smaller funds together, and promote crowdfunding.

C Create large government-backed funds that limit downside risk

A few decades ago Israel was known as a venture capital diaspora. Today Israel's venture capital investments per capita are 2.5 times higher than the U.S. and 30 times higher than Europe's. Together with the "Technological Incubators Program" and the "Office of the Chief Scientist", the "Binational Industrial Research and Development (BIRD) Funds" is often reported as the key measure in that change. Among many other intriguing features, the BIRD Fund massively supports the R&D activities in early phases and only has to be repaid in the case of success. It thus limits the downside risks of startups – which plays well into the hands of the risk-adverse European culture. The European Investment Fund, or similar funds on a country level, must learn from the successful examples and implement its best features, including the evaluation of cross-nation investment agreement with the U.S.

03 Attract & acquire top talent across borders

Large and professional funds attract great talent across all borders. Most of the great founders in Silicon Valley and Israel have a migration background. In other words, they are not born in the land of their success but they moved to the place that maximized their chances to succeed. This also holds true for the many European talents that move to the U.S. West Coast to try their luck. They go where the large and reputable venture capital funds are, i.e. where the money is, where they can meet with multiple leading business angels, VC-firms, and potential value chain partners all in a few days and without boarding a plane or applying for multiple visas.

A Enable and market lean immigration of international top talent

Talents who are prepared to live, work and create their own company abroad are likely ambitious and above-average risk-takers. Europe must become known for welcoming such talent on the basis of lean administrative processes and legislation that delivers a fast track for top talent, by issuing a pan- European Startup Visa for example.

B Enable lean cross-border employment relationships within Europe

Europe did an excellent job in keeping the job market liquid. Today, any European can work in any other European country. However, for small companies it is virtually impossible to maintain cross-border employment relationships within Europe. In that dimension, Europe is everything but a single job market and thus cannot profit from its arguably single most important potential: its human resources.

04 Educate for talent and public support

Educational measures have been on the list of almost every expert. They are the most important actions to engage the masses, to breed broad public and governmental understanding, and finally, following the law of large numbers, to generate homegrown top talent. And, most importantly, they are critical in developing the necessary tolerance of failure and – as some call it – a more risk-taking gene.

A Reward universities and colleges for generating startups

Until recently, even at the best universities in Europe, professors hid their startup activities from the academic world and from government. Although overall legal, fruitful for research and healthy for the economy, collaboration with industry and generation of spin-off companies was largely seen as a sellout of academic research, loss of academic freedom to research or misuse of governmental spending. Many prominent places and thought-leaders still remain like this. However, to foster the high-tech startup culture, involved people and organizations should be enabled and incentivized to participate in startup activities on all levels of academic studies, especially undergraduate studies and the largely untapped power of alumni organizations. Government needs to demand and reward the commercialization of research results. E.g. the number and economic impact of startups generated per year or other indicators that help to measure the output of entrepreneurial activities must become a prominent part of a university's ranking.

B Incentivize spending in research and development

In addition to the measure "Incentivize risk-taking capital," risk-taking research and development (R&D) investments should be encouraged by enabling companies to deduct parts of their R&D investments from taxes. Also, R&D-related donations, e.g. to universities, should be subject to deductions.

C Teach computer programming and maker skills to every teacher and every child

Today, it is indisputable that computer literacy belongs to the mandatory skill set every teacher, pupil and student has to master. When dealing with digital technology, it is not sufficient to only consume applications, but every student needs to be able to actually create programs, just as it is not sufficient to learn only how to read when mastering a language - students must also learn to write. In addition, with the advance of the maker movement that translates to maker education

initiatives around the globe, the joy and excitement of creating something with a high-tech touch is not limited to software anymore but open to a wide physical sphere that is close to the center of the Europe's skills and tradition.

Starting now, every European pupil should use computers and other maker tools to create something useful or joyful that would change how he/she sees the world in many dimensions. The creation would not only improve his/her chances in economy and society, but also improve the economy and society as a whole. The limiting factor is not the missing curiosity of pupil, it is the teachers that have to contend with a rich burden of heritage. Nevertheless, every European teacher and child must experience some form of programming and making.

D Host FailCon-like conferences across Europe

A culture that does not accept failure breeds risk-aversion, creating strong repercussions in Europe's entrepreneurial culture and companies' success. FailCon is a conference for startup founders to study their own failures and the failures of others in order to learn and prepare for success. Given Europe's risk-averse attitude, the broad support of a conference like this could help the acceptance of nature's trial-and-error process as a standard startup process. FailCon first started events in Europe in 2014.

05 Implement one digital Europe

Since size matters, the European government must do everything possible to reverse the ongoing fragmentation in numerous dimensions.

A One Europe, one cloud - Revise and harmonize data and privacy regulations

Data and privacy related laws must become harmonized across Europe. In addition, any European company, be it a startup or established firm, must be able to run its European operations on a single cloud infrastructure that sits anywhere in Europe and not in each individual country, as often required today. This measure would not only reduce operations cost and spur innovation but would also lead to an energetic European market in cloud services. Moreover, the European regulations must be harmonized with the U.S. regulations to reduce today's distortion of competition.

B Simplify, liberalize, and harmonize regulations that enable fast growth across Europe

Second, the regulations must allow small companies to quickly register somewhere in Europe, and even more important, grow across its regions. This includes the simplification and harmonization of company registration, reporting, hiring, and laying off for small companies across borders. To facilitate large parts of this measure, Startupmanifesto proposes to create a new class of cross-European companies, the E-corp, which "has unified requirements across the EU and can be done by anyone in less than 24 hours."

C Shift and focus governmental spending

The roots of many of today's entrepreneurial high-tech clusters lie in enormous R&D spending in the military and space sector. These governmental investments were, and still are, usually focused in region and matter. This measure promotes the partial shift of massive current spending from backwards oriented subjects, such as some broadly distributed subsidies in agriculture, to focused R&D-intensive matters, such as space technology.

Supporting action plans provided by the experts

Zaryn Dentzel, Daniel Ek, Kaj Hed, Lars Hinrichs, Martin Lorentzon, Joanna Shields, Reshma Sohoni, Boris Veldhuijzen van Zanten, Niklas Zennström (2013): Help internet-driven economic growth transform the lives of millions. A manifesto for entrepreneurship & innovation to power growth in the EU. <http://startupmanifesto.eu/files/manifesto.pdf> - very helpful work that pursued a cognate method and reached largely overlapping results

Helmut Schönenberger/UnternehmerTUM (2014): Zwölf Massnahmen für eine führende Startup Nation Deutschland.– one poster result of a work that UnternehmerTUM did put together for its chairman, Ms. Susanne Klatten, and the Bundeswissenschaftsministerium of Germany.

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