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**Micro-multinationals as drivers for a new trend of Science
and Technology Parks: Hubs of Areas of Innovation.**

Parallel session

Micro-multinationals: born to be global

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Micro-multinationals as drivers for a new trend of Science and Technology Parks: Hubs of Areas of Innovation.

Executive Summary

Although self-employed status is not a new set of entrepreneurs or freelancers (as self-employed that work for or in one-person companies) however, the latter is taking a new perspective thanks to the Internet, the emergence of new business platforms and the increased openness of the global economy. They are performing a new way to become the engine of jobs, growth, innovation and future prosperity. They are the micro-multinationals, where the speed, agility and responsiveness thanks to their small size become their major asset. Micro-multinationals work under a "Hollywood Business Model", that is to say they create an international network of freelancers that work together for specific project as "one company" and with a unique goal, and once the project is finished they "break" the structure in order to come back to original status and to connect with others for other different project.

This paper aims to introduce how the flowing of micro-multinationals in the market will help to reconsider the future of the Science-Technology Parks and their role into the Areas of Innovation, in order to consider micro-multinationals as innovation engines in the ecosystem of SME competitiveness and providing to STP/AI new models of innovation, new business relationship where "talent-as-a-service" model becomes attractive to conform a constellation of valuable skills on-demand and to define new innovative profiles.

Keywords: micro-multinationals, start-ups, hub, freelancers, competitiveness, science parks, technology parks, areas of innovation, Hollywood Model, TaaS

Micro-multinational: something new?

What are micro-multinationals enterprises (μ MNE)? Typologies.

Micro-multinational enterprises (μ MNEs) represent a new breed of smaller firms in the field of international entrepreneurship. The definition of μ MNEs can be quite diverse, ranging from a network of freelancers (Model 1) with different profiles and spread around the globe that work in a collaborative approach for a specific project (tractor) to a new worldwide approach for SMEs (Model 2) by which the team is split in different countries and this scenario facilitates to land in new markets, working in both models under the insight of Convoy Model projects¹.

Although μ MNEs can be understood as a new way for SMEs to be international using internet and web tools, it is completely wrong and radically different. Nor is a Micro-Multinational is NOT a Smaller version of a large company.

A Micro-Multinational is an Organisation that implements a Scalable, Repeatable and Profitable Business Model on a Global scale,² and this approach can be achieved as an SME or merely as a myriad of formidable expertise freelancers connected by working on a project-per-project basis and with the highest productivity, which is more powerful than within a large corporation. Nevertheless, the existence of the Internet has enabled this to happen and has facilitated the emergence of new business platforms that fostered the openness of the global economy and hitherto the possibility for the companies to enter markets with a minimum of bureaucracy and overhead³.

Although the self-employed status is not a new set of entrepreneurs or freelancers (self-understood as working for or in one-person companies), the latter is taking a new perspective thanks to the Internet, emergence of new business platforms and increased global economy openness. They are performing a new way of becoming the engine of jobs, growth, innovation and future prosperity. They are micro-multinationals, where speed, agility and responsiveness thanks to their small size become their major asset⁴.

According to *Lisbon Council Policy Brief: Rise of the Micro-multinational* (2011),⁵ 65% of all the jobs created in the US between 1997 and 2008 were jobs where freelancing is an important source of employment. In Europe, numbers are similar to the USA, of 32.6 million of self-employees (2015 data 35.8 million or 16,43% of total employment), 23 million are freelancers who have demonstrated being more resilient to the economic downturn compared than regular dependent workers and employees. Nowadays, based on 2015 data, those figures has increased in Europe to 35.8 million of self-employees

Other sources of information pointed out that as of May 2015, 15.5 million people in the U.S. were self-employed, according to the Bureau of Labor Statistics—an increase of roughly 1 million since May 2014. That number is expected to keep growing at a steady clip. By 2020, a separate study estimates that more than 40% of the American workforce, or 60 million people, will be independent workers—freelancers, contractors, and temporary employees. On the other hand, in Europe ten years ago, in 2004, there were 6.2 million of them. Now there are some 9 million, according to *Future Working: The Rise of Europe's Independent Professionals (iPro's)*^{6 7}, a report written by Patricia Leighton, professor of European law at the IPAG Business School, France. This 42 percent rise in iPro numbers across the European Union (EU) makes them the fastest growing group of active professionals in the European labor market. In some countries, the UK for instance, growth is even higher at 63 percent through the last 10 years.

1 BERTOLIN, J.A.; NEGRE P.; MENSCH G., BARBA A. (2011): «The Convoy Model as a new “glocal” growth accelerator metaphor for the economy in the next decade» .IASP XXVIII Worldconference, Copenhagen, 2011

2 LE COZ, Nicolas, “Micro-Multinationals of the Future”, 28/02/2014, <https://medium.com/micro-multinationals/micro-multinationals-of-the-future-abcdbcfe7a10#.s5yxocw5>

3 METTLER A., WILLIAMS A., Lisbon Council Policy Brief: Rise of the Micro-multinational (2011)

4 GERBACIA, W.E, GERBACIA B.E., The Micro-multinational - A model for Small International Business, 2006, Communications of the IIMA, Volume 6, Issue 1

5 METTLER A., WILLIAMS A., Lisbon Council Policy Brief: Rise of the Micro-multinational (2011)

6 BARON, M., The Rise of the iPro: Entrepreneurs on the Go , March 11th, 2015, <https://www.entrepreneur.com/article/242791>

7 LEIGHTON, P., Future Working: The Rise of Europe's Independent Professionals (iPro's) 2013, http://www.um.es/prinum/uploaded/files/Future_Working_Full_Report-2%20final%20subir%20web.pdf

Several samples that now are stronger companies can be identified, but actually started as micro-multinationals, Skype, Adyen, Xapo, Vitalil or Ethereum, which follow the slogan “Think big and global” from day one.

This sort of new companies has changed the strategies of several innovation ecosystem agents, such as investors, where their approaches for these companies have to be redesigned. Venture Capital (VC) requires an understand of how to globalise their activities, so big funds may not be available when micro-multinationals entrepreneurs are looking for investors with the same dynamics.

Analysing the data, it is clearly stated that entrepreneurs, freelancers and self-employed and becoming the engine of jobs, growth, innovation and future prosperity generation.

According to the Council on Competitiveness' definition: “A multinational small business operates across geographic borders in their operations, marketing, sales and/or distribution—and they don't wait to grow up.” This definition provides us with an idea about how powerful this new way of working could be.

Coz (2014) points out the six key pillars that most Micro-Multinationals actually have in common are:

- Creation of strong and powerful online presence
- Implementation of a customer centric approach
- Development of stable globally-scalable services
- Staff deployed globally and/or is very mobile
- Investment in useful technologies
- Management of the legal, tax and business environment

Chris Anderson, in his book “Makers, The new Industrial Revolution”⁸, points out that the founding principles of micro-multinationals are the realisation of “Knowledge Economy” and creating synergies with the fast-growing “Makers” movements, and that this process reinforces the huge opportunity of this new Maker Movement given the fact that μ MNEs are small and global at the same time.

Anderson explains three main facts that are relevant to obtain a larger view of these companies:

- Makers utilise digital tools to create new products and 3D Printers to make prototypes
- Thanks to open source and creative commons, they share their ideas and know-how, and acquire vast collective knowledge
- They have the ability to go beyond the concept of creating their companies with fast go to market

In terms of operating in a single market, another important difference between SME and Micro-multinationals is the ability to exploit global variations in knowledge, skills and labour costs. μ MNEs can operate their businesses around the world and around the clock across multiple time zones⁹.

Impact of μ MNEs on Global Economy

Hal Varian¹⁰, the Chief Economist at Google, points out that 21st-century firms are self-starting, self-driven and carry minimum bureaucracy and overhead, ride on the wave of globalisation, and the explosion of Internet growth is their main asset.

Creating jobs takes another perspective and another dynamics that require a new approach in terms of skills and attitudes. The traditional economics agents responsible for employment are no longer valid and tomorrow's emerging agents are handing it over. Thus policymakers should redefine their

8 ANDERSON, C., Makers: the new industrial Revolution, 2012, Crown Business, USA, Library of congress Cataloging-in-Publication Data, ISBN 978-0-307-72097-9

9 SUBRAMANIAM, R., Micro-multinationals, how they will define our era, Sep 29th 2015, FedEx Services, <http://www.philstar.com/business-usual/2015/12/14/1532269/micro-multinationals-how-they-will-define-our-era>

10 VARIAN, H., Micromultinationals Will Run the World, 15th Aug 2011, Foreign Policy, <https://foreignpolicy.com/2011/08/15/micromultinationals-will-run-the-world/>

policies worldwide to accept this streamflow¹¹.

µMNE, thanks to improved connectivity due to Internet growth (in terms of capability, speed and added value services) and continuous global economy openness, are able to centre their business on coping with global consumer needs and not those of just the local ones.

These 21st-century enterprises have the ability to reduce staffing costs, increase their productivity, access high talent and expertise profiles, and have a wider choice of markets where professional relationships are a mainstay and, despite not being easy, they develop trusted partnerships¹². For instance, online platforms such as Elance, oDesk or Freelance are good examples of business relationship platforms. They have a great tagline, that of creating an online workplace for the world: "the Earth-sized talent pool". Are Science and Technology Parks providing this sort of dynamic environments?

Universities are an important node for creating micro-multinational companies, particularly now they are focussing on creating international training programmes to facilitate worldwide talent interactions so contacts networks can grow quickly and in all possible dimensions.

Hal Varian (2011)⁴, the Chief Economist at Google and a professor of Information Economics at the University of California-Berkeley, points out that "there's no longer a brain drain, but brain circulation. People now doing start-ups understand what opportunities are available to them to recruit talent from around the world, and to harness it from a distance using the Web—rather than having to move people from one place to another."

"Micro-multinational leaders are entrepreneurs who are hungry to get their businesses to succeed and have extensive social networks thanks to the Web. Finding people to work for their companies—top global talent—has become a skill-set now in its own right. Social capital is increasingly a reflection of one's ability to work the Web for maximum scale." Varian also adds that crowd-sourcing for best global talent to fit specific needs "is a lot easier [and cheaper] than hiring an international recruiting firm."

McKinsey recently issued a report¹³ which stated that the online talent marketplaces themselves could boost global GDP by \$2.7 trillion by 2025.

If these sites even come close to creating \$2.7 trillion in additional economic activity, the result would be a huge increase in the global number of micromultinationals.

By 2025, online talent platforms could boost global GDP by \$2.7 trillion.

Share of GDP increase by source, \$ trillion		
\$2.7 trillion ¹		
Improved productivity	0.34	Better matches
	0.29	Reduced informality
Greater employment, 25 million additional FTEs ²	0.70	Faster matches
	0.11	New matches
Higher labor-force participation, 47 million additional FTEs	1.27	Work for currently inactive people and increased hours for current part-timers

¹Figures do not sum to total, because of rounding.

²Full-time equivalent.

McKinsey&Company

11 METTLER, A., WILLIAMS, A.D., Rise of the Micro-multinational: How Freelancers and Technology-Savvy Start-Ups are Driving Growth, Jobs and Innovation, 2011, Lisbon Council Policy Brief

12 DIMITRATOS, P., AMOROS, J.E, ETCHEBARNE, M.S., FELZENSZTEIN, C, Micro-multinational or not? International entrepreneurship, networking and learning effectes, 2013, Journal of Business Research 67 (2014), 908-915, Elsevier

13 MANYIKA, J., LUND, S., ROBINSON, K., VALENTINO, J., DOBBS, R., Connecting talent with opportunity in the digital age, June 2015 <http://www.mckinsey.com/global-themes/employment-and-growth/connecting-talent-with-opportunity-in-the-digital-age>

Anna Darmanin (Vice-president of the European Economic and Social Committee) pointed out in an article entitled "Europe must embrace micro-multinational enterprises"(2013)¹⁴ that, "despite the economic malaise that has gripped both Europe¹⁵ (HOFHEINZ , 2009) and the world in recent years, it could be argued that there has never been a better time in history to be an entrepreneur and start a company. The web makes it possible, with virtually no infrastructure, for products or services to gain immediate access to international markets. The tools that large corporations used to pay large sums to develop, such as internal communications, supply chain management and relationship management software, can now be obtained from web-based providers from as little as €15 per month."

One example that Darmanin raised was the case of Israel that has embedded in its way of life a national culture for growth, where education and university systems are geared towards technical innovation. This it does by encouraging its university students to mix subjects and disciplines so that technical people learn about business and business people learn about technology becomes a fact; involving angel investors and venture capitalists on a campus weekly, fuelled by Universities to provide the opportunity for ideas and funding that can easily be followed up, is a regular mindset. In fact, Israeli universities are becoming one of the best resources for business incubation process for ambitious young students with an idea.

If any nation is able to create a culture where start-ups, explosive growth and increasing employment are the norm, it is difficult to imagine how this could not be of great benefit to everyone - Darmanin.

FedEx Express research has found that worldwide, 31 per cent of micro-multinationals are growing at a rate of 11 per cent or more, compared to just 21 per cent of SMEs in the same position.

Ann Mettler is the Executive Director of the Lisbon Council, a knowledge economy think tank based in Brussels. She says caution of European investors has led some local start-ups to seek opportunities elsewhere.

"There's a start-up in San Francisco that was started by a Belgian entrepreneur called Xavier Damman," Mettler says. "It's called Storify. And [Damman] tried for many years to get it off the ground here in Belgium. It never worked. He went to San Francisco. He teamed up with some other people. They got a one or two million dollar investment."

"I remember asking Xavier: what did you do? Did you write a business plan? And he said: 'forget about a business plan. The investors said: show me user adoption.' So it's very much about getting people to use your product, even if you can't immediately commercialize that. This is a new kind of making money, a new kind of business model. [...] Here in Europe we were very slow to understand that giving something away for free does not mean that you can't make money off it eventually."

"A micro-multinational is a start-up that is essentially a multinational from day one, thanks to digital technologies, and particularly the internet," Mettler says.

Therefore, an interesting trend of a new way of generating jobs and innovation is gaining power and becoming a non-neglectable resource for Global Economy, hitherto a little bit hidden by macro-multinationals.

Hollywood Model, the driver in the μ MNE Business Model

But, how do μ MNE work? What is their philosophy? How do they achieve such performance and growth when tackling societal and technological challenges?

14 DARMANIN, A., Europe must embrace micro-multinational enterprise, 4th Jan 2013, EURACTIV, <http://www.euractiv.com/section/uk-europe/opinion/europe-must-embrace-micro-multinational-enterprise/>
15 HOFHEINZ P., Why Skills are Key to Europe's Future (Brussels: Lisbon Council, 2009)

The μ MNE approach in their business model is based on the “Hollywood Model” (HM); that is to say, they create a temporary international network of freelancers that work together for a specific project during a determined time as “one company” and with a unique goal and to produce a single outcome. Once the project is finished, they “break” the structure in order to come back to original status and to connect with others for another different project.

HM is following Cinema films’ way of working (indeed, they are managed as convoy projects¹⁶ where tractor process is pulling and connecting different actors); that is, there is a project (film), the producer and a scriptwriter who define the team, which is assembled for the specific project that will work together as long as is needed to complete the task. Each new team can be assembled based on the specific needs of that time, and with limited financial commitment. Once the project is finished, the team is dissolved and all its members will start to work on another project. Usually, HM is not conceived for long-term projects, but for short-term ones, as the dynamism concept is one of the HM keystones.

HM allows to carry out large and complex projects that require many different people with complementary skills assembled in highly specialized teams of professionals; that is to say, it works according to the motto “Talent-as-a-service” (TaaS) because talent is the most powerful resource for such projects. HM comes closer to current working lives, concepts such as productivity, time-to-market, cost reductions, efficiency and effectiveness, which are the keys of HM, and they are all linked to the TaaS approach. This approach is much more attractive for them than hiring stall full-time and year-round.

While writing for the New York Times Magazine, Adam Davidson¹⁷ highlights some of the major boons of this method. He also notes that the Hollywood model is being successfully replicated across different sectors; for instance, in designing apps, starting restaurants, building bridges, and much more.

So what are the main features of HM according to Zoel Henry, staff reporter at Inc.?¹⁸

1. The Hollywood model is easily adaptable

One of the most attractive aspects of HM is its adaptability. It follows the Lean Management approach, so every action is analysed, tested and changed as to whether it does not work or if it requires a different orientation to the product. Teams are constantly updated and adapted to new requirements.

2. You can constantly reassess where to invest your money

The fact that HM focuses on short-term projects permits the re-evaluation of the financial resources invested in them when initial objectives are achieved.

3. It keeps workers happy--which can translate into profit

According to Davison, production teams are nothing if not motivated as they often work according to an intense time crunch. Davidson also argues that the Hollywood model is relatively good to its employees: they make reasonable wages (often more than their counterparts in related industries) and their skills are high in demand. This confers employees the upper hand when it comes to negotiating their terms. If your product is going to be economically viable, you need the right team to put all of its energy behind it: “Profits need to come from that extra something that only your company can give, something for which customers are willing to pay a premium,” writes Davidson.

Gratham (2000)¹⁹ describes the comparison of the two most significant organisational trends to

16 BERTOLIN, J.A; NEGRE P.; MENSCH G., BARBA A. (2011): «The Convoy Model as a new “glocal” growth accelerator metaphor for the economy in the next decade» .IASP XXVIII Worldconference, Copenhagen, 2011

17 DAVIDSON, A., What Hollywood Can Teach Us About the Future of Work, 5th May 2015, New York Times <http://www.nytimes.com/2015/05/10/magazine/what-hollywood-can-teach-us-about-the-future-of-work.html>

18 HENRY, Z., 3 Reasons You Should Adopt the 'Hollywood Model' of Doing Business, 15th May 2015, <http://www.inc.com/zoe-henry/3-reasons-you-should-adopt-the-hollywood-model-of-doing-business.html>

19 GRATHAM, C.E., Hollywood: A business model for the Future?, 2000, Proceedings of the ACM SIGCPR Conference on

have emerged in the last decade versus the Hollywood model to point out the evolution of the work organisation forced, perhaps by the continuous growth of digital economy:

Age of:	Teleworkers	Virtuality	“Hollywood”
Time	1989-92	1993-97	1998-04
Emphasis placed on	People Individual Contributor	Technology “Project Team”	Organisation “Teams of the Teams”
Sports metaphor	Baseball	Football	Olympic Basketball
Social metaphor	Coordination	Cooperation	Collaboration
Commerce Model	Manufacturing	Centralised computing	Internet

The transformation of Project Management into Team Management is emerging due to the fact that collaboration is the keystone of the process, and collaboration requires a shared understanding of the entire interplay of all the roles/positions, as well as a common agreement on the overall systemic strategy, according to Gratham (2000).

Although HM has proven successful in the New Media Industry, it becomes an alternative strong organizational resource for other industries, where efficiency and productivity are the added value to be achieved.

One of the examples included in the Lisbon Council Policy Brief: Rise of the Micro-multinational written by Mettler and Williams, is the case of Quirky.com and show very clearly how do they work under HM approach that can be extended to other similar cases. In the case of Quirky.com, a new kind of consumer product production company, the ideas for new products are sourced from a community of contributors, a community of designers, technologists and financiers that are engaged to the design phase and once, the product is in the market, they are rewarded with a share of the revenue. Currently, Quirky.com has grown to more than 100 full-time employees and a community of 1.170.000 members, 292.000 inventions and more than \$10.1M in community Payments.

This is the new reality for millions of companies and people.

Main difficulties encountered by μ MNE

After a dozen of interviews performed to several freelancers (model 1) in the ecosystem of innovation os espatec, Science and Technology Park, and analysing a set of startups that spread their activities around the world (model 2), and in order to understand the main problems that μ MNE face the following conclusions are shared.

On the one hand, under model 1 described, freelancers are encountering the following difficulties:

- **Equilibrium between productive activities and commercial ones.** In this case, freelancers need to balance both activities in order to be sustainable and being able to grow extending their business possibilities.
- **Generate trustiness in big companies.** Although this issue is linked to cultural aspects and μ MNE are capable to providing more efficiency in efficacy developing specific processes, big companies are not confident that freelancers will be able to survive in the market, have some worries about their very large scale projects managements
- **Full availability and flexibility.** Due to the fact that freelancers are working under HM for different projects, their capacity to handle several projects is not clear so big companies use to request support from Temporary Work Agencies as they have enough resources (freelancers) to cope with the projects.
- **Dependencies with others freelancers when working under HM.** As the different freelancers network nodes are only connected for specific project, there are some issues among the nodes when interdependencies exist and strong Project Management skills are required.

On the other hand, under model 2, μ MNE, use to tackle with other sort of difficulties, such as:

- **Hiring process.** Due to the fact that their team mates are spread around the world they need strong Human Resources management processes to be sure that the recruitment is effective.
- **WTD management.** Work-to-be-done (WTD) control and management becomes a challenge when team members are located in different areas and even so, with different time zones.
- **Communication Skills.** μ MNE teams require strong communication processes among all the team members to coordinate on-a-daily basis activities, monitoring deviations and ensuring the accomplishment of client objectives.

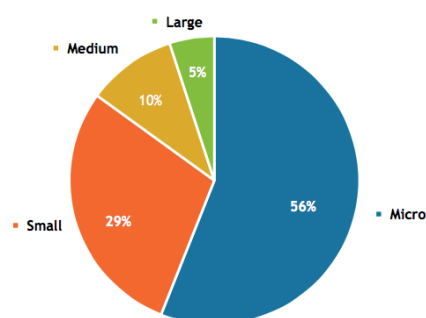
How Science and Technology Parks cope with μ MN

Current targets for Science and Technology Parks. Some statistics from IASP

What about Science and Technology Parks? Are they a new type of companies that force to modify their vision and missions statements?

According to the 2015 IASP General Survey²⁰, 56% of the companies located in STP/AI are microcompanies (less than 10 employees). However, no specific survey has been done to find out how many of these microcompanies are actually micro-multinationals (just one employee or a few spread around the world).

Size of resident companies in STPs/AIs



Source: IASP 2015

Usually STP/AI focus more on companies with a growth potential in terms of size and turn-over (start-ups with a minimum of three employees in order to extend team size). So micro-multinationals²¹ fall in another category that is difficult to be placed in these sorts of innovation ecosystem. Due to this sort of displacement, the new agglomeration of such entrepreneurs with different profiles and locations requires innovative resources that will facilitate their international growth process. Accelerators, Co-working spaces and other similar innovative infrastructures are resources valued by micro-multinationals. The latter has increased their market position, for instance, WeWork Companies Inc., a provider of shared office spaces, believes it can be as transformational to its industry as start-ups like Airbnb Inc. and Uber Technologies Inc. are in travel and transportation. This 4-year-old company, which divides up rented office space and sublets largely to start-ups had a value of about \$5 billion by the end of 2014. Another sample is WAYCO (Valencia), which specialises in connecting international talent for building innovative networks of freelancers.

STP as hubs of networks (HoSTI+E) and Areas of Innovation

²⁰ IASP, IASP General Survey 2015, Science and Technology parks and areas of Innovation throughout the world

²¹ EBAY PUBLIC POLICY LABS, 2015 US Small Businesses Global Growth Report, European Commission, Self-Employment in Europe 2010. European Employment Observatory Review.

Several questions that arise when reflecting about the micro-multinationals phenomenon and how it can be linked to STP/AI include, for instance, why are freelancers not considered as innovation valuable agents by Science and Technology parks if they are the highest job generators and their international networks sparks innovation generation? Why are only SMEs considered to be business success when job creation rates are lower compared with micro-multinationals where all workers have high technology profiles and skills? Are we realising that STP/AI could have an obsolete mindset when facing a strong fast trend that only finds real support in Business Centres, Accelerators and co-working spaces, and not in STP?

Coming back to the definition of a Science and Technology Park by IASP (definition approved during the International Meeting on 6 February 2001), let's remember it:

A Science-Technology Park (STP) is an organisation managed by specialised professionals to mainly increase the wealth in its region and to promote the innovation culture. Likewise, its purpose is to promote the competitiveness of the firms and institutions that generate knowledge and are set up in or associated with the Park. Given this objective, an STP stimulates and manages the flow of knowledge and technology among universities, research institutions, companies and markets; it endorses the creation and growth of innovative companies by means of incubation and spin-off mechanisms, and provides other services with added value, as well as top quality areas and facilities.

Now with the incorporation of Areas of Innovation tag into the typology of Science and Technology Parks, the vision of the concept becomes much wider, and allows to change the term “organisation” to “entity” to extend the scope of the innovation ecosystem and the scale of its agents.

According to this view, an STP's role focuses on the process of connecting other agents of the innovation milieu to facilitate knowledge and technology transfer, but also talent generated along the way. For the sake of efficiency and effectiveness, STP relies on people's expertise in different fields (commercial, financial, business management, marketing, communication, project management) and in its diverse spheres of influence that belong to the Triple Helix (Universities, Industries and Governments).

Therefore, we can consider that the real role of an STP is to act as a Hub, an Innovation Hub, an element that facilitates a set of smooth connections among several entities by means of a great deal of intangible and tangible resources: access to financial resources, internationalisation, innovation infrastructures, territorial integration, etc. This role of STPs will help move aside from the obsolete conception of an STP as a mere real-state entity to a truly innovation broker among the different innovation ecosystem agents that it is connected to. And this extended definition will foster the role of STPs as the rotor of Areas of Innovation (AoI) schemes through the creation of ethic spaces of connections inside them; that is to say, dynamic spaces created according to the plasticity of global networking infrastructures, the main driver of micro-multinationals.

So a new evolution for STPs should be considered: from STPs to **Hubs of Science, Technology, Innovation and Entrepreneurship (HoSTI+e)**... not clusters, not parks, but hubs in knowledge economy, where talent is becoming the cornerstone of the economy growth of countries.

The “TaaSTM” (talent-as-a-service)²² concept

Following the well-known SaaS (Software-as-a-service) model, as a service based on the distribution of some services or software products hosted on the Internet, that is, in the cloud, Talent as a Service facilitates companies access to professionals they need for certain projects or campaigns. So far, large companies require the services of freelance professionals to do jobs; TaaSTM implementation also offers the possibility to SMEs of properly managing their Human Resources taskforce.

The Human Resources Department must, therefore, take into account the presence of other professionals, besides workers of the workforce. Currently, most external employees work in other companies (outsourcing) or are self-employed (freelancers).

²² Talent-as-a-service (TaaSTM) is a trademark registered by Sage Human Capital, <https://trademarks.justia.com/867/98/talent-as-a-86798351.html>

What are the main benefits of TaaS™ for companies (µMNE and also SMEs)?:

- **Greater flexibility and productivity.** If good organisation is carried out, the team becomes more flexible and can, therefore, work together no matter where each employee is. In addition to working by objectives, the professional has more incentive to reach our goals
- **Talent experts.** Talent as a Service allows you to incorporate your professional team experts into specific areas. It is preferable to hire their services than load more work to your employees and have more quality work as the whole process will be speeded up
- **New Visions.** The arrival of new employees brings knowledge and experience that can be incorporated into your company and that has so far not been taken into account. They also tend to detect faults that may routinely go unnoticed
- **Employee benefits.** Those who work according to open models include the ability to combine work and working life, as well as self-organisation options to meet objectives
- **Cost reductions.** By working from the cloud, the company only has to hire certain services, while the employee must only access the Internet. In the current crisis, this technique will reduce costs for businesses

In Spain, most organisations maintain a classic corporate culture with fixed templates with internal employees, but begins to emphasise the freelance figure. According to a study of 'Freelancer.com.es'²³, Spanish companies increased their spending on hiring these professionals by 73% in 2013.

During this growing need from the market, µMNEs have found an extraordinary space for developing their business. TaaS™ is the best resource for µMNEs in shaping collaborative projects to cope with specific societal and market challenges, and accessing this complex and rich knowledge matrix is one of the best added values for the STP industry as talent providers.

For example, the espaitec Science and Technology Park of the Universitat Jaume I has included in its added value service portfolio (e'Services) a TaaS™²⁴ implementation:

e'job - Talent Focus, espaitec identifies talent and connects it with those firms (SMEs) that seek specialised profiles .



<http://youtu.be/nOSHrikYXJU>

Relevance of µMNEs in the STP industry

During the interviews carried out for the discussion of this paper, µMNE members (either under model 1 or model 2) expressed their concern about how current STP are providing support to their communities.

23 <http://www.slideshare.net/upwork/2015-us-freelancer-survey-53166722>

24 BERTOLIN, J.A.; NEGRE P.; RAMO, E.; PAVIA, F. (2014): e'Services, the value of intangible assets non-location oriented .IASP XXX Worldconference, Doha, 2014

STPs, as Hubs of Science, Technology, Innovation and Entrepreneurship, are strong ecosystems where TaaS™ is becoming an added value and this is one of the main priorities of μMNE, however μMNE are quite exigent in order to be linked to a STP.

μMNE look for locations where social life is a fact because networking is their main driver in order to be success. μMNE are also lovers of their time (spare time to enjoy and share). They do not like close offices so they are not interested in renting offices but shared spaces to develop their activities such as co-working spaces, fablabs, livinglabs, citylabs, specialized hubs, etc... Indeed, the new fashion of co-working spaces are they cornerstone to develop their activities, co-working understood as:



Nevertheless, they do not find such realities in STP environments, where everything seems to be less flexible, too much bureaucratic, where the focus is in promoting SME growing but not individual growth.

Most likely, new conception of Areas of Innovation as an evolution of STP concept to an ethic space approach, territorial conception and integration of different elements of innovation ecosystem could become more attractive to μMNE.

μMNE are much focused in looking for added-value services that ease their growth as individuals such as internationalisation, hybridization, territorial integration, collaborativeness (mutual enrichment) and joint ventures support.

Case Study: Presence of micro-multinationals (μMNE) in espaitec's innovation ecosystem

Being located as Science-Technology Park in the Campus of the Universitat Jaume I of Castellon, facilitates the introduction of different students and graduate associations that act as freelancer network (model 1). These groups creates an interesting atmosphere of creativity, collaborative or co-creation mindset and innovation where new ideas only can be consolidated with the participation of different people with high specialized skills. On the other hand, the university community is international due to the students, postgraduate mobility so new connections among all of them are created.

One example in **Plantilla Disseny**, a youth non-profit association founded for design students, graduates and young designers in Castellon to achieve greater impact and better opportunities of collaboration.



Some of the initiatives launched by Plantilla Disseny have been assessed by espaitec Science and Technology Park but not from the pre-incubation perspective but under specialised business management training (BootCamp Launchpad Startup UJI).

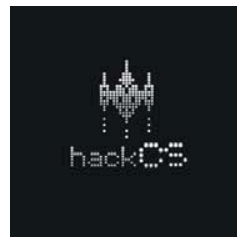


<https://www.facebook.com/LaPlan>

[tillaDisseny](http://laplantilla.uji.es/)
<http://laplantilla.uji.es/>

Founded in 16th April of 2012, currently are followed by more than 800 people related to design sector. They base their business model also on **Hollywood Model**, managing the project requests among all the followers and in different sectors (ICT, cleantech,...)

Another sample, also settle in espaitec, is HackCS. **Hackerspace Castellón (HackCS)** is the association for lovers of informatics, electronics, videogames and libre knowledge. They do projects related with electronics, robotics, printers 3D and drones, between others (<http://hackcs.org>)



They use to develop their activity by means of collaborative projects to cope with specific challenges such as smart-hives for beekeepers to increase the effectiveness of the honey collection controlling all the parameters.

Both examples suffer from some of the already aforementioned difficulties of μ MNE. In that sense, espaitec Science and Technology Park has developed an initiative called:

e·talent
Co-Incubator

Challenging your ideas

that aims to create an environment for pre-incubation activities based on Hollywood Model and fostering the generation of μ MNE. However, new business and mindset approach redefinition is required from Science and Technology Park management to cope with this trendy initiatives.

Conclusions

This paper intends to set the first steps for reflection around this new business approach: **micro-multinational enterprises** that are becoming a strong new trend and that can change completely the business management landscape from global position in the worldwide economy.

Micro-multinational enterprises are evolving and their requirements are completely different to regular SMEs and Science-Technology Parks are still far away from the ideal position to provide and adequate support to help them to grow from the individual perspective. STP should assess those requirements and redefine their business strategies focusing part of their effort in fostering these new innovative connections.

Without leaving aside current support to SMEs ... **micro-multinational enterprises** is a new source of innovation and collaborative economy that should be taken into account by STP/AI industry.

STPs need to redesigned themselves (in terms of added value services and pre-incubation strategy) to cope with the future of this new entrepreneurs: the drivers of **micro-multinational enterprises** ,and Areas of Innovation could take that active role to create a proper environment to promote this movement. Their growth will help STPs to also grow in a more aggressive and competitive market of innovation and technology.