



An analysis of entrepreneurial competencies in sustainable energy start-ups in Europe



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* The findings of this study are based on an analysis of 800 entrepreneurial profiles and a non-exhaustive literature review. The quantitative data were gathered through InnoEnergy E2Talent® and were complemented with interviews with representative profiles from European start-up ecosystems.

TABLE OF CONTENTS

FOREWORD	5
PEOPLE MATTER	6
IDENTIFYING ENTREPRENEURIAL COMPETENCIES	8
A WORD ABOUT ENTREPRENEURS	12
THE SUSTAINABLE ENERGY ENTREPRENEUR	20
ENTREPRENEURSHIP, DOES IT HAVE A GENDER?	30
ENTREPRENEURSHIP, DOES IT HAVE A CULTURE?	40
ENTREPRENEURSHIP, CAN IT BE DEVELOPED?	54
CONCLUSIONS	62
BIBLIOGRAPHY	64
TABLE OF FIGURES	66
ANNEX I – LEARNING ABOUT E2TALENT	68
ANNEX II– CONTRIBUTORS	69



FOREWORD

When InnoEnergy was founded in 2010, we spent some months visiting the most relevant entrepreneurial ecosystems in Europe, learning from their experience with the aim to create a global acceleration programme that would connect the dots among the existing ecosystems.

>> In those visits to different entrepreneurial actors, one of our main concerns was enquiring how to identify “a good entrepreneur”. That was a repetitive question, but we only found few answers. Indeed, people and teams were not evaluated, or we found questionnaires measuring the traditional management skills, but not entrepreneurial competencies. I still remember a senior entrepreneurial expert in Sweden looking at me and saying, “You know, Elena, my guts tell me! My guts tell me!”. Needless to say, tacit knowledge and intuition play a key role in the task of identifying competencies and being able to “read people”, but when you have to implement a Europe-wide structure to accelerate start-ups across the continent, with different offices in different countries, you cannot simply rely on “guts”. You need to use a systemic, consistent and homogeneous methodology to know to what extent the entrepreneur and their team are an “A Team”.

That is why InnoEnergy, together with ESADE Business School, started a project to identify the entrepreneurial competencies that are critical in the sustainable energy field and developed a tool that allow us to screen the different teams and, as a result, give them the support to create a complementary team. This is the E2Talent® Tool. Over the years, we have managed to collect extensive data on the entrepreneurs joining our programmes, and this study was our first attempt to share all that we have learned about the entrepreneurial profiles in the sustainable energy field.

This study made use of quantitative data, collected through InnoEnergy E2Talent® team assessment methodology, and qualitative data from investors, talent experts and entrepreneurs, to put together a profile of the entrepreneur in the field of sustainable energy. Capitalizing on data from more than 800 start-up members in our portfolio, we were also able to analyse

the profiles of women entrepreneurs and entrepreneurs from five different regions, and also dive into how entrepreneurial competencies can be developed.

Overall, the results of our entrepreneurial profiling point towards five key competencies for entrepreneurial success: team work, achievement orientation, impact and influence, risk-taking propensity and internal locus of control. By comparing and analysing entrepreneurs from different regions in Europe, and male and female entrepreneurs, we came to realize that only very minor differences appear, and the entrepreneurial profile seems to be shared across locations and genders. Moreover, for this study, InnoEnergy mobilized entrepreneurial ecosystem experts and entrepreneurs, and their remarks make it clear that entrepreneurial competencies can be developed and learned.

With more than 200 assets, InnoEnergy is pushing the envelope, has become the largest accelerator in sustainable energy worldwide and is creating the conditions for developing these entrepreneurial competencies. We are convinced that each member of the society can play an important role and contribute to the energy transition and, for this objective, all actors need to be aligned and work together to create the right conditions. These connected ecosystems are the fertile ground where the entrepreneurial mindset can be unleashed and where entrepreneurial competencies can be fully developed.

I am proud to share with the sustainable energy ecosystem the results of this study, which are the outcome of several years of data collection and analysis.

Elena Bou – EIT InnoEnergy Innovation Director

PEOPLE MATTER

Being an entrepreneur is not an easy path and changes many aspects of one's life. An entrepreneur must translate knowledge into a commercializable product and build a start-up around it. The entrepreneur must base decisions on the technology, the market and financial aspects. He or she should keep in mind the actual and future needs of current and potential customers and all stakeholders. These are all challenging tasks requiring not only technical skills but soft skills and execution capacity. Also critical on this journey is realizing that a team – a group of people sharing a common goal and vision – is crucial for achieving success.

'A small company depends on great people much more than a big company does'

– Steve Jobs

>> Assessing the entrepreneurial competencies of start-up teams by capitalizing on their identification and measurement is a key step towards understanding start-up success. Applying the results of such assessment in a coherent manner can help to predict not only the growth of a working team but also the problems that may appear in the future.

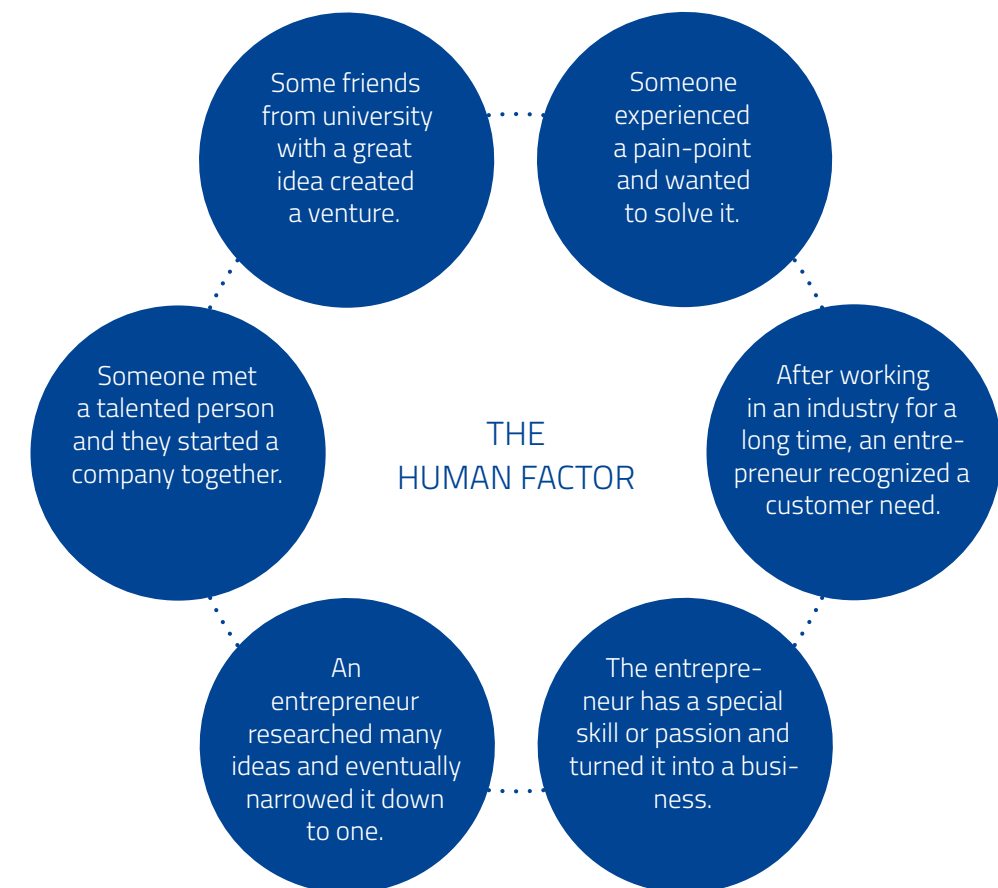
The value added to innovation by teamwork and leadership has been acknowledged for decades, and examples of success are easily seen through several iconic sports and business teams. There is consensus today among academia and practitioners regarding the importance of a team for the success of early-stage start-ups. It is common to read about the need for balanced teams and about the successful results of start-ups that invest their time and resources in finding, knowing and motivating their people. A team can take a start-up to success or turn the whole enterprise into ruins.

Well-established companies have been investing money, time and effort into knowing and understanding their teams' dynamics for decades with well-known examples, such as Apple and Google. The great philosopher Aristotle said once that 'the whole is greater than the sum of its parts' and, through its Project Aristotle,

Google endeavoured to answer the question, 'What makes a team effective at Google?' The results of this project have been applied and imitated by numerous companies.

In a similar effort, Eisenmann, Howe and Altringer (2017) surveyed enterprise founders with the objective of learning what it takes to be a successful entrepreneur. The study participants were 141 Harvard Business School alumni founders and 20 non-MBAs who were asked to rank the most crucial skills for their role. The survey results placed the skill of knowing how to build a balanced team first, followed by leadership skills, and then sales abilities, finance and engineering management. Similarly, many entrepreneurs, like Drew Houston, CEO of Dropbox, or Russell Simmons, a prolific serial entrepreneur, have prioritized and emphasized the importance of surrounding oneself with the best team. Simmons, in an interview, affirmed that 'you have to really spend time understanding what the people's skillsets are and where they are useful'.

However, altogether, the human factor has remained elusive in start-ups, and there are no rules for starting an enterprise. We hear different stories:



In any case, the human factor behind these stories is a key aspect that they have in common, and it seems essential to find a way to measure individuals' entrepreneurial skills and team dynamics within a start-up. In the end, for start-ups as well as for large organizations, strategy is about people.

ENTREPRENEURIAL COMPETENCIES

'Competencies exist within people and usually consist of a combination of characteristics, such as knowledge, skills, traits, motives and personal qualities. A person may have many competencies. What is important, however, is that these competencies are well matched to the specific role – in this case, entrepreneurship. Competencies are what superior performers in a role are most likely to do more often, more completely or in a more sophisticated manner to achieve better results. Specific skills and knowledge are important, but it is likely more critical that the entrepreneur has the specific traits and motives which will allow them to turn their knowledge and skills into a successful venture.'

Dr Robert Emmerling – Leading expert in the assessment and development of competencies and emotional intelligence and E2Talent® Trainer

>> The Iceberg model, developed by Spencer and Spencer (1993), focuses on personal qualities. In this model, an iceberg analogy (Figure 1) is used to explain how behaviour comes to be. An iceberg has only one-ninth of its volume above water and the rest remains beneath the surface of the sea. In a similar fashion, competencies present a structure in which some components are visible while others are hidden. Skills and knowledge are more easily observable in action and are easier to develop over time, while real motives and traits lie at the core of the individual and are more difficult to develop.

HIRE FOR MOTIVES AND TRAITS

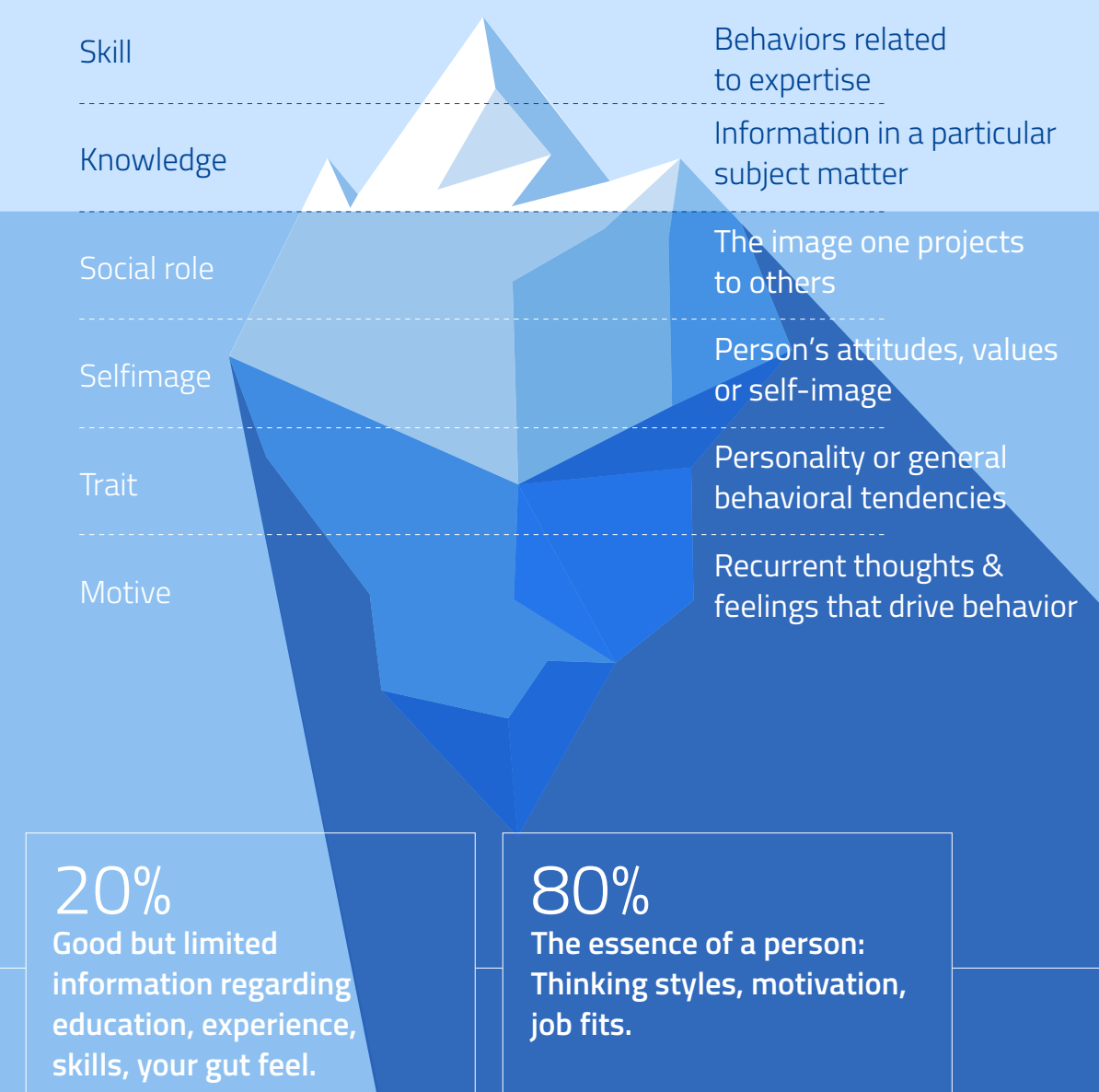


Figure 1. Iceberg model of personal qualities (Spencer and Spencer, 1993)

>> InnoEnergy recognizes the importance of the human component in start-up success and, through its E2Talent® team assessment methodology, identifies and measures entrepreneurial competencies that are essential to business growth. Interest in entrepreneurial competence derives from the reported link between competencies and the birth, survival and growth of a venture (Bird, 1995; Baum, 1994). According to emotional intelligence expert and distinguished university professor Dr Boyatzis (1982), a competency can be defined as follows:

‘An underlying characteristic of a person that leads to or causes effective or superior performance’

Moreover, Boyatzis (1982) sees competencies as the result of behaviours plus intent:

Competencies = Behaviour + Intent

In a research project conducted by InnoEnergy and ESADE Business School in 2012, key competencies present in successful entrepreneurs and start-up teams were recognized and explored to create the E2Talent® methodology. This methodology is now used to assess the entrepreneurial competencies of start-up team members to inform investment decisions, assign different roles in the start-ups (CEO, CTO, etc.), create balanced teams and/or inform recruitment and also as a starting point for creating development plans. In this study, we used a subset of the competencies identified in the original study. >>

LIST OF COMPETENCIES AND DEFINITIONS

Achievement motivation:

>> Achievement motivation is the desire or tendency to do things rapidly, efficiently and/or as well as possible. It also includes the desire to accomplish something challenging or difficult.

Achievement orientation:

>> Implies a desire to act to meet or surpass a standard of excellence; measure outcomes against goals; innovate to improve; take calculated risks to do something new or better.

Adaptability:

>> The ability to change behaviour to better fit the situation; demonstrates a willingness to reprioritize goals in the face of change and can recover quickly from unexpected changes or setbacks; and works to define alternative ways to reach goals or targets.

Entrepreneurial alertness:

>> Entrepreneurial alertness refers to an individual's ability to identify and choose opportunities which are overlooked by others.

Entrepreneurial self-efficacy:

>> Self-efficacy is an individual's own estimate of his or her capability to be effective in a specific domain. The following domains are analysed: management, marketing, innovation, risk-taking and finance.

Impact and influence:

>> Implies an intent to persuade, convince, influence or impress others, for personal or organizational purposes.

Internal/External locus of control:

>> Internal locus of control refers to the extent to which individuals believe that they exercise control over their lives. In contrast, individuals who are high in external locus of control feel their destiny is beyond their own control and is determined by fate, chance or powerful others.

Leadership - Transactional leadership:

>> A leadership approach where leaders promote followers' compliance through both rewards and punishments.

Leadership - Transformational leadership:

>> A leadership approach that causes change in individuals and social systems. In its ideal form, it creates valuable and positive change in the followers with the end goal of developing followers into leaders.

Leadership - Empowering leadership:

>> A leadership approach where the leader allocates more responsibilities and autonomy to his or her followers by enhancing the meaningfulness of work, fostering participation in decision-making, expressing confidence in high performance and providing autonomy from bureaucratic constraints.

Planning & organization:

>> The ability to set priorities, organize and schedule work, and determine resource requirements in a way that maximizes the efficient use of time, money and people.

Proactivity:

>> Proactivity is a personal disposition that refers to the extent to which an individual takes action to influence his or her environment.

Project engagement:

>> Refers to the level of commitment one makes to a project in terms of time and focus of attention.

Relevant experience:

>> Considers all past work experience that can be seen as relevant to develop the current activity. Typically, relevant experience means having previous experience in the same industry or market.

Risk-taking propensity:

>> Risk-taking propensity refers to an individual's willingness to take moderate risks.

Social capital:

>> Refers to the size and depth of an individual's social ties and professional network.

Specific knowledge:

>> The degree of specialization and detailed knowledge one possesses in his or her area of activity.

Tolerance for ambiguity:

>> Tolerance for ambiguity is a person's tendency to view situations without clear outcomes as attractive rather than threatening.

*Not all competencies measured by E2Talent® were used in this study.

A WORD ABOUT ENTREPRENEURS

Based on existing studies, in-depth interviews with sustainable energy entrepreneurs and InnoEnergy specific cases, it was possible to study successful entrepreneurs' characteristics, behaviours, attitudes and skills to define the most common traits of an entrepreneur in the field of sustainable energy.

>> As these competencies and common traits are related to the birth of a venture and contribute to its survival and/or growth (Bird, 1995; Baum et al., 2001; Colombo and Grilli, 2005), the analysis concentrated on those individuals who had demonstrated superior performance and exceeded the baseline standard.

The results of more than 800 InnoEnergy E2Talent® assessments of start-up members, based on the key competencies aforementioned, were utilized in this study and allowed for the creation of the **sustainable energy entrepreneurial profile**.

DEFINING THE TERM ENTREPRENEUR

Firstly, it is necessary to define what we mean by the term 'entrepreneur' because entrepreneurship, like many other commonly used terms, has multiple definitions written from varying perspectives.

>> Merriam-Webster's dictionary defines an entrepreneur as 'one who organizes, manages and assumes the risks of a business or enterprise'. From the sociology perspective, a nascent entrepreneur is defined as one who 'initiates new activities intended to culminate in a viable business start-up' (Aldrich, 1999, p. 77). Yet another perspective defines an entrepreneur as an individual 'who discovers, evaluates, and exploits opportunities to introduce new goods and services, ways of organizing, markets, processes, and raw materials through organizing efforts that previously did not exist' (Shane, 2003, p. 4). In some studies, such as that of de Bruin, Brush and Welter (2006), an implicit assumption is that an individual entrepreneur is 'generic' and does not differ except when contrasted with non-entrepreneurs.

Altogether, the definitions have common aspects, for example, relating to managing and organizing resources and activities to ensure a viable business. While some definitions focus on this aspect, others emphasize the novel implications of doing so or specifically point out opportunity recognition and exploitation.

ENTREPRENEURIAL CHARACTERISTICS

There have been several initiatives over the years aimed at defining entrepreneurs' most common characteristics. In this section, we briefly review some of these initiatives in a non-exhaustive manner.

>> **Kauffman, The Entrepreneurship Foundation**, conducted a study in 2009 for which 548 companies' founders in various industries were interviewed. The study was titled 'Anatomy of an Entrepreneur – Making of a Successful Entrepreneur' and its main contributions were as follows:

- > Most of the entrepreneurs ranked prior work experience, learning from previous success and failures and their team management skills as being important to their success.
- > Their professional, and to a lesser extent their personal, networks were also considered important. Alumni or university networks were only considered relevant for 19% of the sample, although the founders identified university as important.
- > The most significant source of funding for all businesses was personal savings, as 70% said that they used personal savings as the main source of funding for their first business. This accounts for more than four times the number financed by any other type of funding.
- > Entrepreneurship was identified as being stressful with unanticipated challenges.
- > Entrepreneurs see entrepreneurship as very risky and hard work.



THE GLOBAL STARTUP ECOSYSTEM REPORT (START-UP GENOME, 2018) EVALUATED HELPFUL BEHAVIOURS, ATTITUDES AND PREFERENCES OF TECH ENTREPRENEURS. AS THE MAIN FINDINGS, FIVE MENTAL ATTRIBUTES, NAMED THE FOUNDER MINDSET, WERE DEFINED AS FOLLOWS:

- > **Initiation** – Indication of a proclivity and energy level to start new things, to turn ideas into action. A high score on Initiation is positively correlated with start-up venture success.
- > **Reflection + Patience** – Preference for pauses and reflection before taking action. A high score relates to a preference for waiting and pausing.
- > **Breadth** – Preference for abstraction, general overview and looking at the ‘big picture’. A high score on Breadth is positively correlated with start-up success.
- > **Depth** – A factor that suggests a preference for details, specification and concrete thinking. A high score on Depth is positively correlated with start-up venture failure.
- > **Structure** – Preference for planning and organizing before starting a task. A high score on Structure is correlated with early start-up venture failure, although it is a positive factor for later-stage ‘business builders’.

THE STUDIED ENTREPRENEURS FOR THE GLOBAL STARTUP ECOSYSTEM REPORT (START-UP GENOME, 2018) DISPLAYED THE FOLLOWING ATTRIBUTES:

- 1) Serial entrepreneurs qualify highly on the five attributes of the Founder Mindset.
- 2) Repeated accelerator participation does not foster the Founder Mindset.
- 3) The Founder Mindset attributes associated with start-up success and scale-up success are correlated with ambition, funding outcomes and, in some cases, revenues.

>> Indeed, we can find some similarities between the Founder Mindset attributes and our E2Talent® set of competencies. For instance, we can relate **initiation** with initiative, proactivity and achievement motivation; **breadth** and **depth** with entrepreneurial alertness, which covers scanning research, association and connections and evaluation and judgment; **reflection + patience** with entrepreneurial alertness, as the process of associating and evaluating requires pause and reflection; and in the case of **structure**, it matches with planning and organization.

Another relevant aspect mentioned in this study is the high importance of networks, labelled as **local connectedness**, which

are strongly associated with greater start-up performance and relationships with other founders. E2Talent® also identified the critical role of networks, and their importance is measured by the Social Capital competency.

In addition, the Global Startup Ecosystem report (Start-Up Genome, 2018) study found the optimal founding team size to be **three** members and that a team that ‘complements each other in strengths and gaps’ is, as expected, a must for start-up success. These findings are very closely aligned with InnoEnergy’s E2Talent® approach (2–6 team members) and its emphasis on the complementarity of competencies.

WHAT DO REPRESENTATIVE PROFILES FROM THE START-UP ECOSYSTEM THINK?

Eleven professionals working in the entrepreneurial field were interviewed for this study, and they shared their viewpoints regarding the key competencies that make an entrepreneur successful.

WHICH COMPETENCIES MAKE AN ENTREPRENEUR SUCCESSFUL?



Marisa Hernández
Entrepreneur,
Co-founder
and CEO at Ingelia

'You need to know your own power to get what you want (self-confidence) but you can't success in a project alone. A founder needs to have the ability to coordinate people in their specific field'



André Moura
Entrepreneur,
Co-Founder and
CEO of ProDrone

'You need to be comfortable with risks and have the ability to take the punches, get up quickly and maintain a high level of energy. You also need to be able to transmit confidence to investors, clients and your team'



Patrik Möller
Entrepreneur,
CEO of CorPower
Ocean

'To be an entrepreneur you might be talented but 90% is about effort and dedication. You need to stay motivated through the process and have the ability to convince people and make them feel the same drive that you feel'



Cindi Choi
Managing Director
at Total ventures

'It has to do with having a lot of passion around what they do, being authentic while also able to take input from others, coachability. They should also be able to adapt and be flexible to respond to changes in the market'



Olivier Bordelanne
DEMETER partner
and start-ups
board member

'Successful entrepreneurs are very agile in the way they adapt to changes and are honest with themselves, the team, the market and customers. They are globally open, good listeners and have a good sense of humility'



Emilio Martinez
ENAGAS Corporate
Entrepreneurship
Manager

'Resilience. The capacity to overcome failures and setbacks. Being an entrepreneur is not easy at all so they must have the ability to be positive and try hard not to lose the motivation. They are creative and know how to lead a project and a team'



Yvonne Van Erp
InnoEnergy Business
Creation Team and
E2Talent Expert

'They should have a goal and a clear motivation to make continuous improvements and it is essential not to lose the momentum for a perfect product. Are they willing to make agile decisions? Be open-minded, flexible and solicit input from a large social capital is also important'



Mercè Alsamora
Systemic Coach
and E2Talent Expert

'An entrepreneur is a person that knows how to read the world, what is happening, what is missing, what is needed. Not only now, they can see beyond and anticipate. They connect the dots and are willing to take risks'



Julien Dillon
Corporate Finance
Specialist at Emerald
Technology Ventures

'Tenacity, adaptability and acceptance of failure; I've never seen somebody being really successful without having to change his path a couple of times and not having to face failure quite often. They are highly motivated and are able to keep the big picture in mind'



Theresa Steininger,
Entrepreneur, Co-
Founder and Managing
Dir. at Wohnwagon

'A good gut feeling to make decisions about risks and also trust. I really believe that is very important to have trust that the things will find its place if you are dedicated to your idea. If you have a clear image of where you want to go, is easier for luck to come in place'



Sara Gonçalves,
Entrepreneur, Co-
Founder and COO at
Triggers System

'Some of the key things are motivation, persistence and ambition. Defining your goals, the persistence to get them, the ambition to put the barriers high and never stop fighting for those goals'

>> In addition to the quantitative analysis of the competencies that are part InnoEnergy's E2Talent® framework, we saw that these key start-up ecosystem members tended to emphasize different aspects of the entrepreneurial profile. Although the answers are all aligned, each of the interviewees had a personal touch based on their own experience and profile.

On one hand, entrepreneurs talked extensively about achievement motivation, having a clear goal and a step-by-step plan to reach it and celebrating small daily victories. They accept risk as a part of their lives and giving up is never an option. They know themselves – they know that they cannot do this alone and are able to communicate their vision in a reliable way to attract others. Talking to entrepreneurs is always an inspiring experience that makes you believe everything is possible.

On the other hand, E2Talent® competency experts and investors emphasized the passion, perseverance and commitment in entrepreneurs. The aforementioned achievement motivation, together with an inspiring way of sharing their vision, is recognized as a key aspect of entrepreneurs. Moreover, investors and experts recognize communication skills as critical to sharing the vision, making others believe it and pitching to investors and potential clients. In addition, the critical role of coachability – that is, the willingness to be coached – is a key aspect mentioned by investors and E2Talent® experts.

All in all, what we see is that there is a certain level of synergy that entrepreneurs have with investors and experts. When entrepreneurs emphasize achievement orientation, investors and experts value their passion. When investors emphasize the need for coachability, entrepreneurs talk about adaptability and knowing that you cannot do everything by yourself. Moreover, entrepreneurs talk about being able to effectively communicate the vision, while investors talk about communication skills. They both recognize that the entrepreneurial path is full of obstacles and that perseverance and being willing to take calculated risks are crucial.



THE SUSTAINABLE ENERGY ENTREPRENEUR

InnoEnergy recognized the critical role of the team from the beginning of its operations and has put special emphasis on collecting extensive data on the entrepreneurs joining its programmes. For this study, data were collected from five different European regions – namely, Iberia (Spain and Portugal), Benelux (The Netherlands, Belgium and Luxemburg), France, Germany and Scandinavia (Sweden and Finland) – for a total of more than 800 entrepreneurial profiles. Through analysing these data from InnoEnergy E2Talent®, we were able to identify an entrepreneur role model in terms of key demographics and competencies.

MR PURPLE

THE SUSTAINABLE ENERGY ENTREPRENEURIAL PROFILE

Mr. Purple is a real founder of a successful start-up who represents common characteristics seen in InnoEnergy's supported entrepreneurs

920k€

Raised €920,000 from various early-stage investors in one year

15M€

€15,000,000 investment when getting closer to operations

2

Filed for two patents



Closed a large partnership with customers and major players in the sector

IN HIS EARLY FORTIES

POSSESSES A TECHNICAL BACKGROUND

A MALE FOUNDER

PLAYS THE ROLE OF CEO OF THE START-UP

In addition, he has very high results in five competencies that are identified as critical for start-up success:



ACHIEVEMENT MOTIVATION



RISK-TAKING PROPENSITY



IMPACT AND INFLUENCE



INTERNAL LOCUS OF CONTROL



TEAM LEADERSHIP

Figure 2. InnoEnergy Mr Purple. The Sustainable Energy Entrepreneurial Profile.

>> Mr Purple's profile matches the common traits of the sustainable energy entrepreneur: he is a male in his forties and he is effective and very dedicated to understanding the 'big picture'. His technical background contributes to a deep understanding of the challenges and the market, which is the very reason why he decided to start his own business. Combined with his high internal locus of control, his profile gives him the confidence to face the main obstacles to come. He is aware of the main difficulties that every entrepreneur must confront, yet he takes calculated risks, especially when it comes to seeking funding and registering his own patents.

His high achievement motivation is seen in his hard work, time-consuming efforts and drive to achieve challenging goals (e.g. shortening time to market). In addition, his ability to impact and influence, together with his close relationship with the ecosystem

around him, has helped him close a large partnership with customers as well as major players in the sector.

Mr Purple's age does not match the stereotypical young entrepreneur that many people imagine. However, being in his early forties reflects a reality that also matches perfectly with the most common age group of InnoEnergy's entrepreneurs. Sustainable energy is a highly technical and complex field. In general, a large percentage of entrepreneurs have years of experience contributing to their identification of market needs and niches. Rarely is a person with the drive to become an entrepreneur stopped, but it may take years to identify the right market opportunity. It is never too late to be an entrepreneur in the sustainable energy field if you have a high-potential idea, strong motivation and the right competencies.

THE FIVE KEY COMPETENCIES

The E2Talent® methodology has been helping InnoEnergy assess entrepreneurial competencies to ensure that teams are well balanced and have the right ingredients. Throughout the years, and despite all the competencies of the model being relevant, five have been identified as key. In addition to Mr Purple, five entrepreneurs from InnoEnergy's programmes who achieved high scores on the E2Talent® assessment of these five competencies were selected and interviewed.



Marisa Hernández / Ingelia

ACHIEVEMENT MOTIVATION

Achievement motivation is the desire or tendency to do things rapidly, efficiently and/or as well as possible. It also includes the desire to accomplish something challenging or difficult.

>> One of InnoEnergy's entrepreneurs who scored substantially higher than others on achievement motivation is Marisa Hernández, CEO of Ingelia. Marisa Hernández was nominated for the European Institute of Technology (EIT) Women Awards 2018 and we wanted to know more about her and the project she is leading.

Founded in Valencia, Spain, Ingelia is a technology-based company whose objective is to implement sustainable projects based on the use of local resources and through an innovative process of hydrothermal biomass carbonization (HTC process) industrially developed internally.

The challenge of Ingelia was embraced by Marisa from the very first moment – a trait seen in individuals with high achievement motivation. These people engage in activities or tasks that have a high degree of individual responsibility for outcomes, require individual skills and effort, have a moderate degree of risk and include clear feedback on performance. In Marisa's words, 'the easy path was to keep doing what I was doing, secure and comfortable. However, when I had the possibility to join this project, I felt responsible because we are completely responsible for our environment. If you have had the chance of being educated, of finishing your university career and also having people that give you support and facilitates – all that – you can't say "no" to these kinds of opportunities. Someone must do them because they create a tremendous value.'

People high in achievement motivation tend to have a positive

attitude towards overcoming obstacles, attain high standards and strive to meet or exceed self-imposed standards of excellence. In Marisa's experience, she saw this very clearly 'when we closed the capital round with our British partner. After three other rounds, this was the first investor that was an institution, a corporation, not a particular person, and we had to negotiate with their whole structure. The meetings and negotiations lasted one year, and I remember saying to myself, "Marisa, this is what you want and you gonna get it". For me, a "no" was not an option. Finally, we closed the deal, which was way better than the first proposal because we not only signed the shareholder agreement, we also got a formal covenant for a license agreement in the UK and their commitment to place Ingelia within the British market'.

People who score high in achievement motivation oftentimes seek concrete evidence of whether their actions have been a success by observing quantifiable indicators. In this sense, Marisa affirms that this is something good because you have to 'draw conclusions from everything you do; analyse situations, asking why this has happened; distinguish things that you've done correctly or wrong and which experiences can bring you value for the next step'. Olivier Bordelanne, Partner at DEMETER, who has been an entrepreneur and currently is part of a large number of start-up boards, affirms that this is indeed a good sign of an entrepreneur: 'It is very interesting to learn from where they have been and try to understand the bad or good choices they have made. A person who is willing to explain why he or she wasn't successful before means that he or she has digested the experience and he or she is ready to take risk again and can be much more efficient.'



Theresa Steininger / Wohnwagon

RISK-TAKING PROPENSITY

Risk-taking propensity refers to an individual's willingness to take moderate risks.

>> We talked to Theresa Steininger, the managing director of Wohnwagon, who shared her vision of risk-taking propensity. Wohnwagon (literally translated as 'living wagon') designs a new way of living: off-grid caravans that provide all the necessary utilities and offer the same comfort as a normal house or flat while being 100% sustainable. Theresa saw a big possibility of having an impact, so she took the risk and, together with Christian Frantal, they founded this start-up. 'The idea itself became really big and I wanted to dedicate my life to it, make it happen, as it will change the way our homes are built in the future. We want to inspire people, to show what is possible regarding renewable energy, sustainable buildings, new ways of living concepts with more community areas and less individual space, to reduce the resource footprint of your living space,' said Theresa. The main driver behind Wohnwagon is crystal clear.

Talking to Theresa, she seems to be very used to taking risks as she founded her first company at the age of 21. For that reason, she takes decisions and sees risk-taking propensity with a sense of spontaneity as well as with a high sense of commitment. 'From my experience, it was not to take one big leap. When you start a company, you have always the next step and, for me, the next step was always doable. You learn with the next challenge. I've learned to live with the risk and learned to develop a good gut feeling about which risks I can take and which risks are beyond what we can tackle as a company or what is too big for us right now. So, I try to have a good connection with my stomach. I believe that I have good communication between my stomach and my brain,' she laughs. 'The other thing is that I have learned how to deal with the problems that I have, in a way, putting them in a box and knowing that there are problems that I cannot solve today or that I cannot tackle at the moment, and not let them ruin my life. So, in

between, I can still sleep.'

Theresa indeed seems comfortable with the inherent risk of entrepreneurial ventures – a competency that she affirmed to have learned by doing and sharing experiences with other entrepreneurs. Theresa takes moderate risks, and she remarked that a key condition for feeling at ease is the support of her team and how they all deal with failure. 'I faced a lot of failures; we try to have one small every day to learn from it. We have a good team culture where we never try to find faults but always try to find out what we can learn from mistakes and how we can avoid repeating them in the future. This is something that the team really works on, to have this consciousness of not blaming for a failure but learning and finding a solution. This is a very important part of what we are trying to develop here.' Moreover, Theresa aims to exemplify what she preaches and has a team that sticks together and rows towards the same direction. 'We all know what we are working for. I give as much freedom as possible to create, to take possibilities in this area. It's very important for me to have team members who can think for themselves and have the freedom to decide for themselves.' After all, the freedom to create and turn her ideas into reality was one of the things that Theresa was looking for when she decided to become an entrepreneur. There were no fears or risks that could stop her by then or that can stop her now.



Sara Gonçalves / Trigger Systems

IMPACT AND INFLUENCE

Impact and influence is a key competency that implies the intention to convince, influence or impress others for personal or organizational purposes. It has several levels according to the complexity of the arguments and tactics used.

>> For impact and influence, we interviewed Sara Gonçalves, who together with Francisco Manso founded Trigger Systems in 2016. Based in Portugal, they offer software and hardware solutions for efficiency in water and energy for agricultural and environmental businesses. Trigger Systems offers an accessible and flexible tool that reduces the environmental impact of irrigation and agricultural activities in Europe by tackling the excessive use of water with control systems that use a calculation model based on weather forecasts and plant conditions. 'Of course impact and influence is a key competency. After all, I was influenced to be part of this,' she jokes. 'I started in academia, but it was not exactly what I wanted. My beginning in entrepreneurship was just a coincidence; however, after being here, I understood that it was the right path.' Sara always wanted to solve problems, and her motivation to work in this sector started when she was a child. 'I lived on a farm, surrounded by nature, animals; I really liked it, like every kid, I think, so I was keen on the subject. But it was after the bachelor in agronomy that I understood that there was a bigger problem and that it needed more from us. We must feed everyone in the world, but we have to do it without damage. So, for me, it was something really challenging.'

Sara Gonçalves, who is nominated for the EIT Awards 2019, sees impact and influence as something critical. In her words, 'this is very important for a pitch to work, but I think that is even more relevant in the daily routine'. During our conversation, several beliefs and convictions came out, but motivation was defined as the foundation stone of entrepreneurship and influence. According to Sara, it has a lot to do with personal goals. 'If you influence a person, matching their own personal goals, I think you could make them feel more motivated. In a role like the one I have in Trigger, I need to influence a lot of people and especially our team. This

is crucial to succeed. Transmit your purpose and where you want to go. One of the key things is to pass the message clearly to make others believe in your vision. Many times, it gets difficult to externalize your ideas, so you must try to be objective and transparent in a way that is easy for those around you to see the potential of the project and where you want to go with it.' To get this result, first, a conscious analysis of the audience should be done to appeal to their interest and also to anticipate the effect of each action, word or any other detail on people's image of the entrepreneur communicating his or her mission.

Other members of start-up ecosystems interviewed for this study also agreed on the critical role of being able to convey a clear message while pitching. Julien Dillon, from Emerald Technology Ventures, referred to this when he said that 'it is interesting to note that while pitching their ventures, some entrepreneurs fail to deliver a clear message or do not emphasize the most relevant high-level aspects of their business for the interlocutor. Although they can be very competent entrepreneurs, they must do their homework and be able to get a short, but crystal-clear message across, realizing who the audience is. Sometimes entrepreneurs don't do that; they dive into the complexity of their endeavours at the expense of the big picture.'

For the above-mentioned reasons, impact and influence is a key competency and its development is critical. Well-managed impact and influence have no limits. 'One of the things I am proud of is influencing some other people that are disconnected from entrepreneurship and bringing them to these kinds of projects. I am starting a non-profit association with my best friend – not exactly in the same field – and also another project with two other friends,' adds Sara.



André Moura / Pro-Drone

INTERNAL/EXTERNAL LOCUS OF CONTROL

Internal locus of control (ILC) refers to the extent to which an individual believes that he or she exercises control over his or her life. In contrast, individuals who are high in external locus of control (ELC) feel that their destiny is beyond their own control and is determined by fate, chance or powerful others. Entrepreneurs who view reinforcements as contingent on their own behaviour – a characteristic of ILC – are better prepared to deal with the challenges of entrepreneurship than those who see reinforcements as determined primarily by fate, chance or powerful others – again, a characteristic of ELC. These two aspects should be balanced, but ILC must dominate as it is related to achievement orientation and risk-taking propensity.

>> About this competency, we had an interesting conversation with André Moura, founder and CEO of ProDrone. Based in Portugal, ProDrone's mission is to revolutionize how wind turbines are inspected by using an autonomous navigation approach that delivers consistent, high-quality data. These data are processed on the company's cloud platform, BladeInsight, to produce high-quality, fully customizable reports, soon to be assisted by automatic damage recognition.

André shows a strong sense of purpose to contribute to the energy transition when he talks about his project – a feeling also conveyed in all of his pitches. 'You can generate value through many things: researches, PhDs, consultancy, working in utilities... All these things have the ability to contribute to the change in renewable energies. But I believe that the most powerful tool is to be able to empower existing renewable energy solutions to become more competitive.'

A high ILC is crucial for an entrepreneur because, in the words of André, 'almost everything is against you when you start. The only thing pushing you in the direction you want to go is yourself; everything else is pushing against you, so you have got to slowly turn the morale. And that requires a huge – an enormous – amount of energy'. Motivated by ambition, a clear purpose and tremendous self-confidence, all powered by a high ILC, André believed that he had the profile to be an entrepreneur. He also had the chance to leverage the market forces by generating the right kind of value to have an exponential impact on the sustainable industry. 'I've always been really motivated to spend my time and energy contributing to the overall wellbeing of the planet. I tried a number of ideas that didn't work, but eventually, ProDrone,

specifically through the InnoEnergy Highway® programme, was able to take off.'

Locus of control is a construct covering a variety of situations and is not task specific (i.e. it is a general psychological orientation which extends beyond entrepreneurial concerns), and it is affected by life experiences. Many entrepreneurs have gone through different experiences that have empowered their appreciation for opportunities. 'Nothing is stopping us from doing pretty much anything. It will require sacrifice, but it would be absolutely nothing compared to the kinds of sacrifices that I saw in people who are fighting every day for their meal. They are struggling at a whole other level,' affirms André after sharing his inspiring experience of travelling around the world for many months. 'When you gain that perspective, what happened to me was that I felt the responsibility to do something interesting and worthwhile for myself and the world. I had this responsibility because perhaps other people want to do something similar and simply don't have the choice. I am educated. I am in a stable country; I don't have security issues. I mean, money is always an issue, but you have loans, you could work part-time somewhere else, but there are not many valid excuses.'

However, a pinch of ELC is sometimes necessary. 'You are in control of what you can do, but the fact is that you need luck. Just to be more precise, with luck, I refer to timing; it is absolutely key. Things happen to you. For example, you go to a conference and are having a cigarette outside; you meet someone who absolutely falls in love with your product and becomes your biggest client. With my team, it took me eight months to hire the first person and I ended up hiring two students out of university. They turned out to

be amazing! They are here with me today and are the closest thing I have to co-founders. I didn't know how things were going to turn out.' Timing was also expressed as critical when we discussed with investors, and it was explicitly mentioned by DEMETER's partner, Olivier Bordelanne – 'you need to be in the proper time to market' – and Cindi Choi, managing director of Total Ventures – 'a lot of it is timing and luck'.

A balanced degree of ELC normally generates gratitude and helps entrepreneurs and non-entrepreneurs overcome what they cannot control. André described a frustrating investment situation that they had had recently and that did not go through due to macro-political and legal reasons. Despite the indescribable effort that was put into this opportunity, the investment was not realized due to external reasons, but they recovered from the situation with resilience and the belief that sometimes things like this just happen. 'One of the most important things that a founder has is the responsibility to keep himself sane, positive and productive. That is on the founder's to-do list. If you break down or you lose faith, then obviously, it is going to affect your leadership'.

According to André, resilience is a very important aspect of an entrepreneur because awards and prizes do not prove that you are a good entrepreneur; what really does are the tough situations. This exact point of view was shared by other entrepreneurs, such as Marisa Hernández from Ingelia and Patrik Möller, CEO of CorPower Ocean, and also by Emilio Martinez, ENAGAS Corporate Entrepreneurship Manager and investors, such as Julien Dillon, Corporate Finance Specialist at Emerald Technology Ventures.



Patrik Möller / CorPower Ocean

TEAM LEADERSHIP

Team leadership entails an intention to take on the role of leader of a team or other group. It implies a desire to lead others. Team leadership is generally, but certainly not always, shown from a position of formal authority.

>> A good team is a crucial factor mentioned by all the interviewed professionals, but leading a team is never easy, especially if the goal that the team is pursuing could take years to reach. This is the case of CorPower Ocean, a wave energy technology developer utilizing 40 years of ocean energy research to bring a new class of high-efficient wave energy converters to market. These converters enable robust and cost-effective harvesting of electricity from ocean waves. The development of the technology was initiated in 2009 by inventor and cardiologist Stig Lundbäck, who was inspired by the pumping principles of the human heart. After tests showed the viability of the system, tech entrepreneur Patrik Möller paired up with Stig, taking on the role of CEO in 2012. That same year, CorPower was accepted into the InnoEnergy Highway® acceleration programme. For the purpose of this study, we talked to Patrik about his team leadership style.

Like other serial entrepreneurs, Patrik is not afraid of challenges: 'It's a way to say, "Okay, that's extremely challenging; we are going to bring wave energy to the market. A hundred companies have tried and failed, but we are going to do it". In his words, 'if you look at all of that on day one, it is so low probability that we will succeed, so you really need to break it down into chunks. If we can take this step, what is most important to show in the beginning if we really want to convince customers, investors and ourselves that it is worth continuing to invest our time and possibly people's money into this? Which are the key metrics that need to be improved or proved to motivate further investment in the next stage?'

Patrik defines himself as a 'product guy from heart and soul'. His passion started with building technological solutions. Those are

the kinds of projects that he has been focused on, and where his profile and background bring more value. In CorPower, he is the 'structure person'. He was in charge of putting the structure in place according to the initial idea and bringing together the team. 'We learned from a lot of failures of the sector and then we put together this structure product planning process in five steps. Apart from that, we had to find the best people to work in this very demanding, complex product development for the next 10 years while keeping up the motivation and confidence. We have been lucky to attract a lot of smart people from around the world.' As a leader, Patrik makes sure that the measurements are clear, and he keeps the team informed of how the plan is going. 'What really motivates people who want success is just to see that the right decisions are taken for the company, that really clear targets are defined along the way for each of the phases and that you start hitting your targets. The biggest challenge is, of course, when something takes longer, is harder to meet or when you have to make unexpected changes to the plan. There can be pretty rough periods when you are out testing in the ocean and things break down or take longer to work. Keep the belief and the confidence that we will deliver; that is actually the biggest challenge.' On these occasions, complex strategies for promoting team morale and productivity are needed. 'That is what I work the most with: reminding everybody how things were in the past and how we found a way to deliver results in the end. But then, it is good to have these clear metrics and measurements of the goals in small steps.'

During our conversation, Patrik showed his full confidence in his team and he expressed positive expectations of the team members in terms of their abilities and expected contributions

– a characteristic seen in countless good leaders. Many names came up, like the commercial person, Anders Jansson, who worked before at Minesto with great results, or the engineering manager, Jonathan Meason, who developed the most powerful tidal turbine in Orbital in Scotland. 'Over time, we combined inventors. We had the first idea from Stig, and there are still very important parts of the technology from that initial idea, but over time, we also brought on new inventors to complement and create a more competitive product. Nowadays, our lead scientist Jörgen Hals Todalshaug is a respected scientist in wave energy, and has brought new advanced control technology to the Wave Energy Converters. So, there have been many iterations, changes and improvements on the system architecture over time and, enabled by bringing new people with new knowledge and we gained more and more experience from testing.'

Achievement orientation and an ability to communicate a compelling vision generates enthusiasm and the belief that new solutions are possible and are about to come, were remarked by Patrik Möller throughout the interview. 'Today I couldn't imagine anything more motivating than bringing forward technologies that significantly impact sustainability to make this a better world. This is definitely the case in CorPower, and I believe that all team members feel a strong commitment knowing that what we do is very meaningful. This is the big driver behind the motivation that we feel, why we can work nights and weekends when it's needed, is really because we want to make big positive impact. Solving the major challenge of getting clean affordable energy from our oceans is what keeps us up', Patrik affirms.

ENTREPRENEURSHIP, DOES IT HAVE A GENDER?

Several studies, the literature in general and also a quick look at the industry reality show the worrisome situation of female entrepreneurship in Europe and the world. As InnoEnergy prepared to analyse the data from its E2Talent® platform, we reviewed some of the latest studies on the topic.

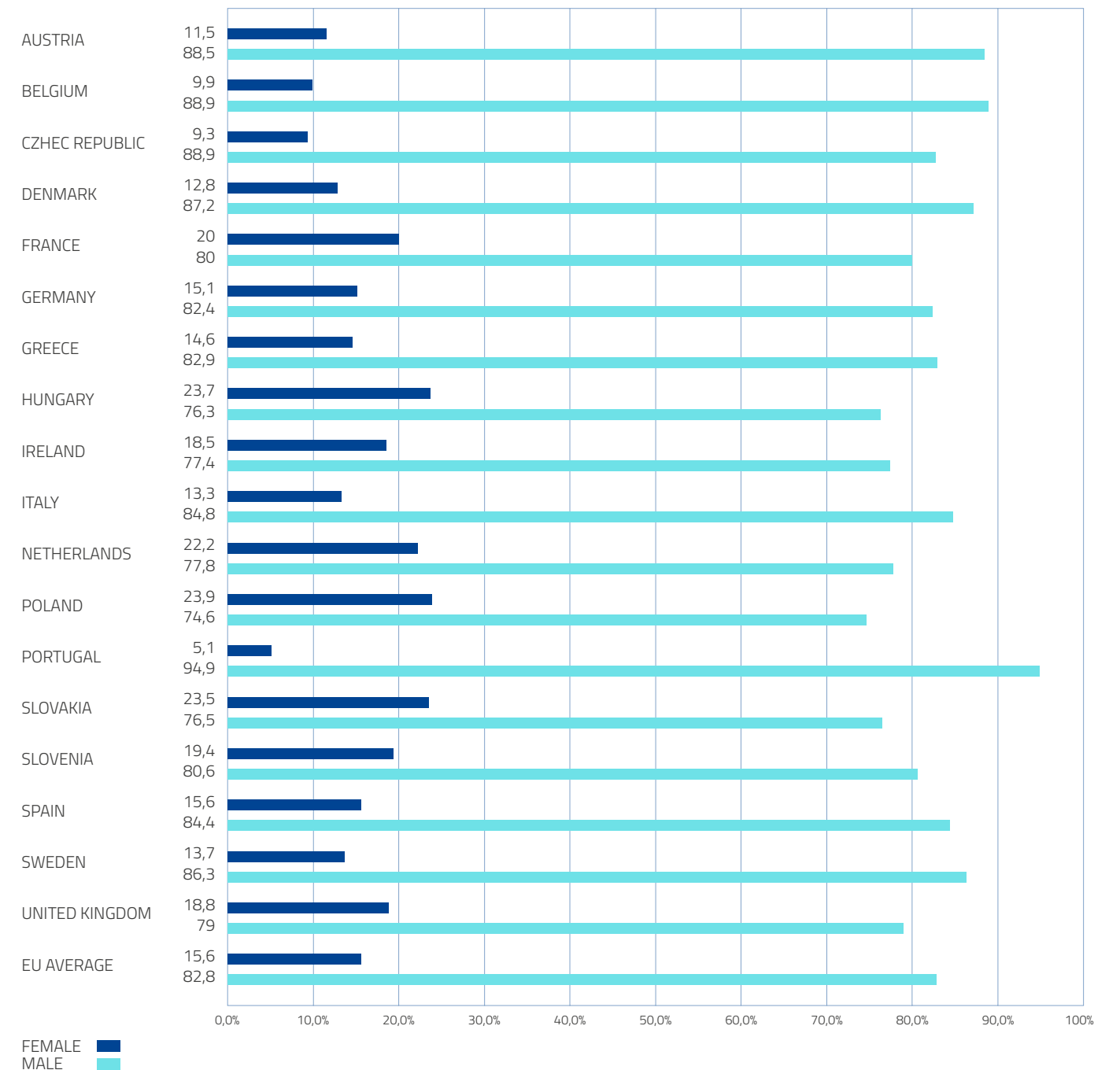


Figure 3. Gender distribution of EU Start-up Founders (EC, 2018)

>> According to the EIT (n.d.), women constitute 52% of the European population, but only about 30% of entrepreneurs and 32% of economic leaders. In this regard, the EIT (n.d.) affirms that 'women are the largest untapped entrepreneurial and leadership potential in Europe'. The problem gets worse when it comes to the tech sector, where women make up only 15% of jobs in the European Union (EU), and senior management and company board participation is even lower with just a few exceptions in some European countries (EIT, n.d.). Similarly, the Organization for Economic Co-operation and Development (OECD, 2019) shared that only 15% of start-ups include a woman on their teams and this percentage decreases to 6% if we talk about founders. The Global Entrepreneurship Monitor 2018/2019 (GEM, 2019) report showed that there are 7 women entrepreneurs for every 10 men.

Overall, no country in the EU or North America shows gender parity.

A different study title EU StartUp Monitor (EC, 2018) also shared that the average start-up founder gender distribution in the EU has changed for male founders from 85.2% in 2016 to 82.8% and for female founders from 14.8% to 15.16%. As we can see from Figure 3, and despite these changes, the figures are still concerning, especially as some countries have considerable differences. The countries with the lowest percentages of female founders are Portugal (5.1%), the Czech Republic (9.3%) and Belgium (9.9%), while Poland (23.9%), Hungary (23.7%), Slovakia (23.5%) and the Netherlands (22.2%) have the highest percentages.



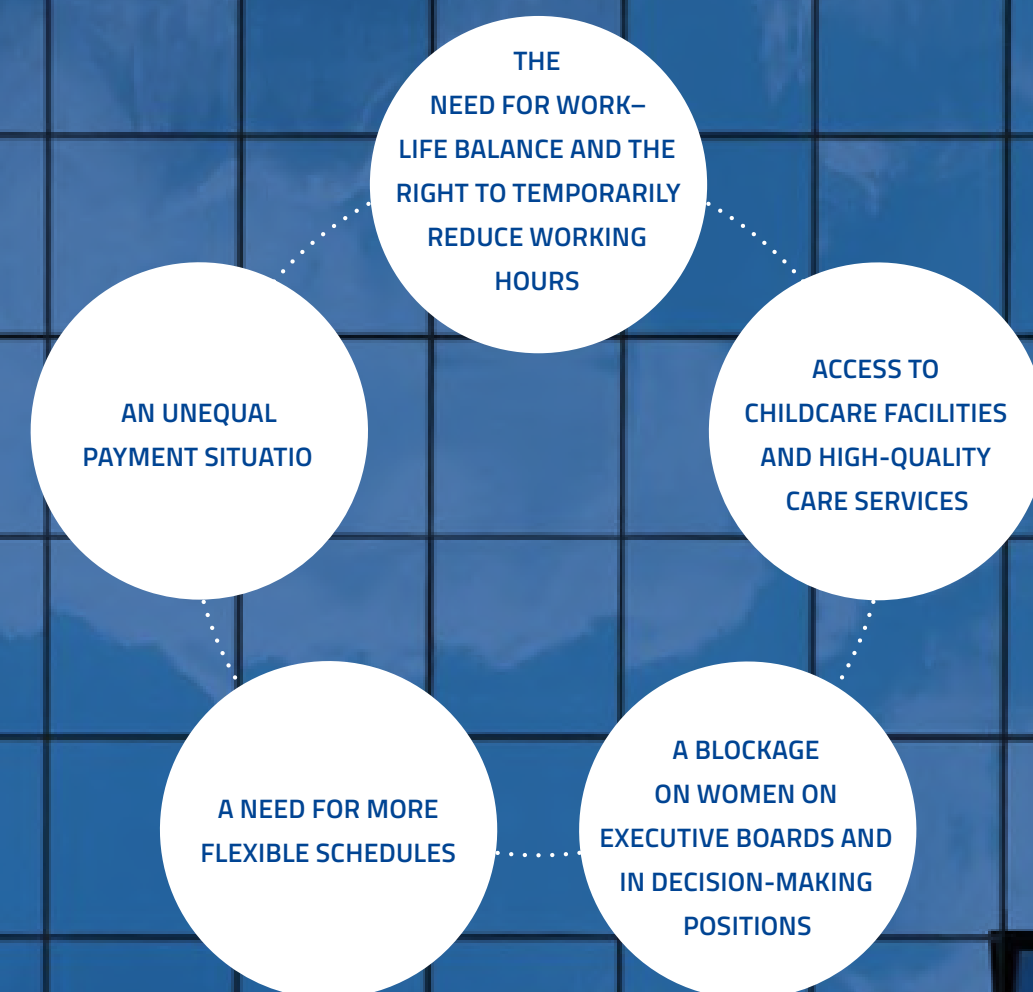
Despite the lack of data on the exact number or percentage of women entrepreneurs in the sustainable energy industry, it is possible to discern that there is a significant gender gap. While the estimated number of women entrepreneurs in Europe varies depending of the source, with percentages ranging from the 29% stated by the EC (n.d.) to the 15.6% in the EU Startup Monitor (2018), the number of women entrepreneurs in the field of sustainable energy falls within an even narrower niche. In the data used in this study, women accounted for only 10% of the sample, exemplifying that the number of female entrepreneurs in the field is substantially lower than the total number of male entrepreneurs.

In IRENA's (2019) study, 'Renewable Energy: A Gender Perspective', on the main entry barriers for women in the renewable energy sector, 'perceptions of gender roles' was identified as the most important one. These perceptions are driven by cultural and social norms which contribute to misperceptions of woman's abilities and cause a limited presence of women in the renewable energy field. The views about gender roles also translate into lack of access to career information and relevant networks. Moreover, this reality shapes hiring practices because it affects the possibilities for accessing entry-level positions, such as internships and apprenticeships.

In addition to these cultural and social norms, lack of flexibility in the workplace has been highlighted. These two factors are both

complicated circumstances, especially for women who decide to raise a family and must balance this decision with their working life. Along the same line, the EU (2019) study, 'Women, Gender Equality and the Energy Transition in the EU', commissioned by the European Parliament's Policy Department for Citizens' Rights and Constitutional Affairs, affirmed that 'there is a significant gender gap in the number of women in positions to influence the energy transition, both in the corporate sector as well in the public energy sector and civil society initiatives'.

AS ONE CAN IMAGINE, THESE BARRIERS ARE REPLICATED IN ALMOST EVERY SECTOR. THE ' 2019 REPORT ON EQUALITY BETWEEN WOMEN AND MEN IN THE EU' (EC, 2019), PUBLISHED BY THE EC, DESCRIBED VERY SIMILAR GENERAL BARRIERS. SOME OF THEIR FINDINGS RELATE TO THE FOLLOWING:



AS WE CAN SEE, WOMEN IN THE WORKFORCE IN EVERY SECTOR ARE FACED WITH SIMILAR BARRIERS THAT KEEP THEM FROM RISING BEYOND A CERTAIN LEVEL IN A HIERARCHY, HAVE IN INFLUENCE ON ACHIEVING FEWER AND SLOWER PROMOTIONS AND KEEP THEM FAR FROM EQUALITY.

WOMEN ENTREPRENEURS IN THE SUSTAINABLE ENERGY FIELD

The UN 2030 Agenda for Sustainable Development, adopted by many world leaders in September 2015, acknowledges the critical importance of advancing gender equality and empowering women and girls to realize sustainable development. Together with several other international agreements, these goals are a mandate for advancing gender equality and women's empowerment across all areas of sustainability and climate change action.

>> As we have already seen, based on start-up ecosystem studies, the lack of female entrepreneurs is not only a European problem, as no ecosystem in the world comes close to having an equal share of male and female entrepreneurs. Overall, women outnumber men in Europe (52% to 44%) (EIT, n.d.), and many wonder how we can afford to waste this talent.

In the more than 800 E2Talent® start-up members analysed in this study, only 10% were women. When it comes to regions, Iberia takes the lead with 13% female entrepreneurs.

In terms of the types of technology or markets in which these women are working, the sample is diverse. In InnoEnergy's

portfolio, women entrepreneurs are found in fields across the board, including smart buildings, energy efficiency, storage, renewable energy and energy for chemical fuels. However, there are two interesting aspects. In start-ups where cross-innovation between health/biomedical and energy is applied, women have a predominant role. In addition, when compared with hardware, more women have created start-ups based on software and have tried to solve problems on mobility and smart housing.

Majority InnoEnergy's entrepreneurs – regardless of gender – share the same motivations to start a company. However, in the case of female founders, there are two motivations that appear more frequently: the lack of opportunity to develop in their previous work environment and the desire to do something good – that is, to have a positive impact on society.

Our analysis seems to confirm some of the aspects highlighted by the literature and statistics. There is a strong correlation between education and entrepreneurship in sustainable energy. Women make up approximately one quarter of researchers in STEM classrooms, on average, across Europe, and this partially explains a potential supply problem. However, when innovation comes from complementary teams or cross-innovation, women have more opportunities because they represent the majority of people in tertiary education in social sciences, business and law, and health and welfare.

When asked about the main barriers to a start-up in this field, access to social capital was the most commonly quoted hurdle. Entering into a typical 'boy's network' is especially challenging, and most women need to rely on their male colleagues and peers to obtain initial introductions into professional networks. Conscious of this barrier, most successful female entrepreneurs begin building networks from day one and demonstrate a proactive attitude towards it. This finding confirms the conclusions of previous studies on women entrepreneurs that access to social capital is one of the main barriers.

However, against the common belief and statistical data, our female entrepreneurs did not perceive access to finance as a

barrier. After enquiring about this topic, we concluded that most of our women entrepreneurs had resorted to seeking funding from family. Some possible reasons for this are that they had less ambitious plans and their need for capital was not so high, especially because many of them work with non-capital intensive technologies within the field of sustainable energy. In this regard, a previous InnoEnergy study on the topic found that women seem to be more effective at raising funds as a result of face-to-face meetings. This seems to be especially the case if they resort to bank loans for funding.



ABOUT ENTREPRENEURIAL COMPETENCIES

For the purpose of this study, InnoEnergy E2Talent® data on entrepreneurial competencies were divided between female and male entrepreneurs. The results show no significant differences between females and males; they scored almost equally on most competencies. These results are in line with Boyatzis et al. (2002), who found no significant differences between male and female leaders in their demonstrated competencies. However, in their study, gender did moderate the relationship between the demonstration of these competencies and perception of successful performance.

As we can see from Figure 4, which shows scores on a scale of 0–100, there are no major differences between women’s and men’s profiles. The maximum difference in our quantitative analysis came down to a mere 3.4 point difference in entrepreneurial self-efficacy competency. Secondary findings worth mentioning are as follows:

>> Despite the literature pointing out that women are more **risk averse**, we do not see that reflected in our entrepreneurs’ data. This risk-averse stereotype might prove right in a database not formed entirely of entrepreneurs, but it does not seem to explain the low percentage in the sample. The limited number of women may be due to the aforementioned barriers, but this is a topic that will need to be investigated elsewhere.

>> Women scored higher than men on **transformational leadership** related to having ‘a positive and inspirational influence on other members of the entrepreneurial team by paying individualized attention and consideration to each team member’. Regarding this finding, and although transformational leadership is oftentimes regarded as positive, experts warn about the need to manage it strategically in early-stage start-ups because, usually, the teams are small and there is no time to invest in this aspect.

>> Women felt less confident than their male counterparts when they graded themselves on entrepreneurial self-efficacy. In detail, they are more confident than men in **management skills**, but less confident in financial skills. This finding resonates with Tim Butler, Senior Advisor to Career and Professional Development at Harvard Business School, according to whom ‘when it comes to self-rating finance skills, women are more likely than men to rate themselves lower’.

NO SIGNIFICANT DIFFERENCES BETWEEN FEMALES AND MALES, AND THEY SCORED ALMOST EQUALLY ON MOST COMPETENCIES

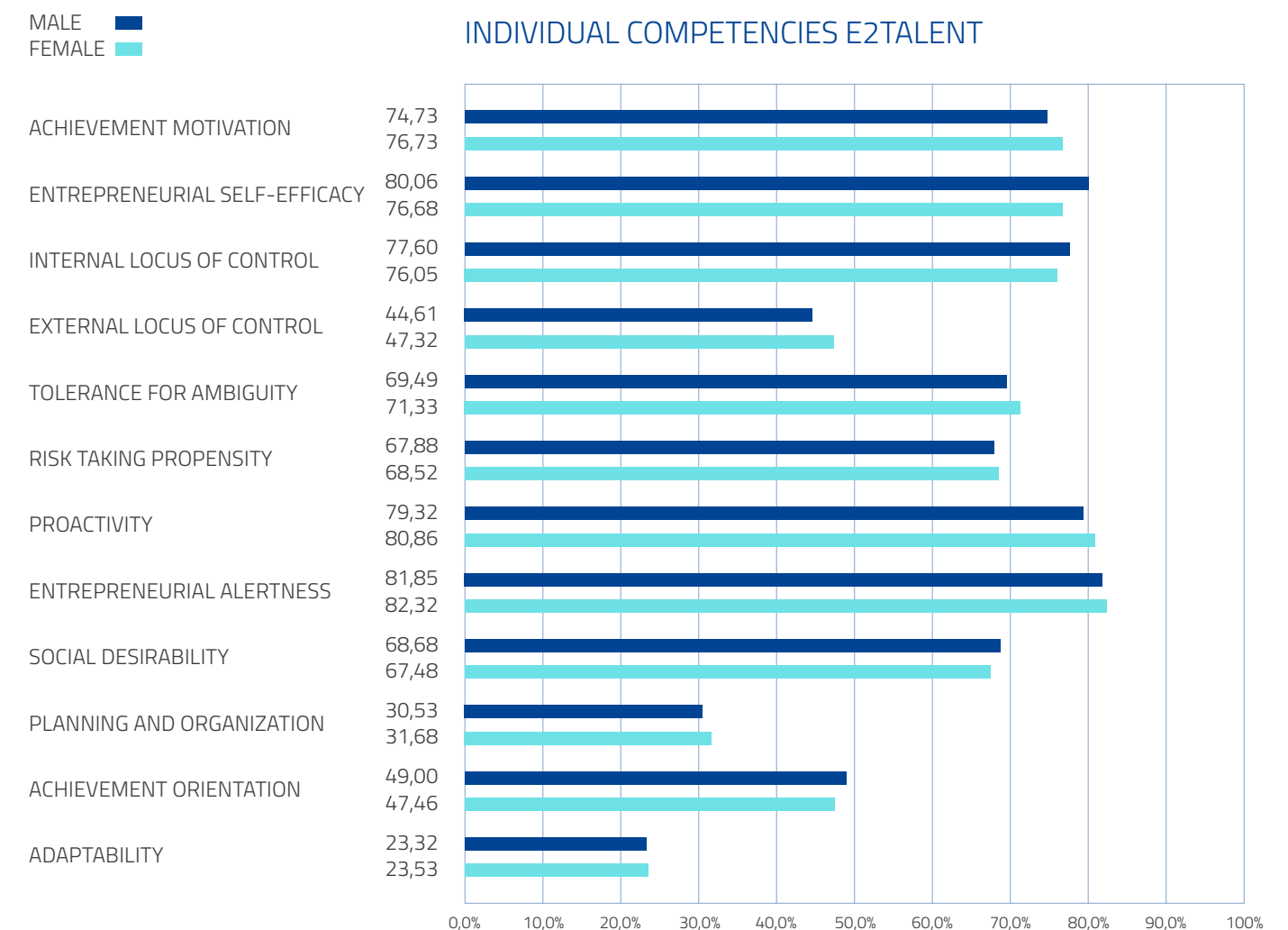


Figure 4. Individual competencies in E2Talent

WHAT DO REPRESENTATIVE PROFILES FROM THE START-UP ECOSYSTEM THINK?

To enrich the quantitative analysis, we decided to ask members of start-up ecosystems about their views on the topic:



Emilio Martinez
ENAGAS Corporate
Entrepreneurship
Manager

'I don't think that are differences when it comes to competencies. However it is true that there are cultural barriers, maybe affecting mentality and, as a result, there are much less women than men in entrepreneurship'



Marisa Hernández
Entrepreneur,
Co-founder
and CEO at Ingelia

'I have always been working with men and I don't see differences in the competencies. I think that both men and women have many abilities but women tend to be better listeners and are more flexible. Those two characteristics are very important for innovation'



Olivier Bordelanne
DEMETER partner
and start-ups
board member

'For me, there are no differences and I consider that success is not linked to the gender of an entrepreneur. When I meet an entrepreneur it is not relevant if is a man or a woman'



Sara Gonçalves,
Entrepreneur,
Co-Founder and COO
at Triggers System

'I like to think that we are the same and that we have the same competencies'



Patrik Möller
Entrepreneur, CEO of
CorPower Ocean

'In my experience, there are no differences between male and female in terms of competencies. If you do a rough generalization one may say that girls more often have the right competency without bragging about it while guys more often are good at convincing others they may have it.'

All in all, the main conclusion from E2Talent® data is that female and male entrepreneurs do not display many differences; they know they are in the entrepreneurial arena and they are equipped with a right and balanced set of competencies to go along effectively. This is a conclusion also shared by the interviewees who think that there should not be any disadvantage due to gender when it comes to competencies. Diversity is necessary because it brings a considerable value to the ecosystem. As an example, for some of the interviewees, women are better listeners and sometimes are more flexible, two good attributes for innovation.

As already stated, the issue of why not a lot of women join the sustainable energy entrepreneurial path is something to be investigated further and that might have a lot to do with social stereotypes and barriers. As Mercè Alsamora stated: 'there are no differences when it comes to competencies and entrepreneurial energy. If you are an entrepreneur that capacity doesn't have a gender, you ARE an entrepreneur. One thing is having the conditions, another to have the opportunity to develop them. It is possible that a woman, for many reasons, finds barriers and a glass ceiling that makes it more difficult'.

FEMALE AND MALE ENTREPRENEURS DO NOT DISPLAY SIGNIFICANT DIFFERENCES



ENTREPRENEURSHIP, DOES IT HAVE A CULTURE?

Given the fact that national culture can have a significant impact on the context in which job roles are executed, cross-cultural validity is also an important issue (Emmerling and Boyatzis, 2012). To prepare for interpreting our quantitative data, we reviewed a finite number of articles on aspects that could be problematic during the analysis. Essentially, we identified two aspects that will be covered in this chapter.

>> The first one relates to potential problems that can arise from the cultural interpretation of the behaviour being assessed as well as the cultural appropriateness of the behaviour being shown. For example, is the competency initiative (highly valued in the USA) equally valued and seen in positive terms in other countries? (Emmerling and Boyatzis, 2012).

>> Second aspect has to do with the fact that many start-ups have been founded by immigrant entrepreneurs who have settled their business in a foreign country. According to European Start-Up Monitor (ESM, 2016), 'although the majority of European founders formed their start-up in their country of residence (79.0%), the share of founders from other EU countries increased

by 8.6 percentage points to 16.2%'. Moreover, 'while 79.6% of male founders formed their start-up in their country of residence, this is only the case for 75.8% of the female founders. Also, the percentage of female founders from non-EU countries (5.5%) is slightly higher than the percentage of male founders from non-EU countries (4.6%). Surprisingly low rates of founders from the same country were found in Greece (25.0%) and Belgium (33.3%), where most of the founders came from other EU countries. The highest share of non-EU founders was found in Poland (33.3%) while Germany showed the highest rate of founders who indicated that they are citizens of their start-up's home country (92.0%)'.



Julien Dillon
Corporate Finance
Specialist at Emerald
Technology Ventures

'At a certain level, the entrepreneurial eco-system became quite global and open and you don't see a lot of differences in the mindset just because of the geography. People are, in my opinion, speaking a common language. Of course there are some cultural differences but in the end, the metrics or how you define if they are good or not stay the same'



Emilio Martinez
ENAGAS Corporate
Entrepreneurship
Manager

"It is not about borders. It is about ecosystems. The kind of ecosystems that really motivates people and encourage them to innovate, to train and develop skills and to connect with one another"



Cindi Choi
Managing Director
at Total Ventures

'It has a lot to do with the ability to take a risk and how that's perceived. Whether taking a risk is positively reviewed and failure is positively reviewed'



André Moura
Entrepreneur,
Co-Founder and CEO
at Pro-Drone

'Cultural and geographical aspects influence cultural mindset. If you come from a culture where dealing with failure is highly negative, you will be judged negatively for failing and that does not encourage you to try'

SECONDARY FINDINGS OF OUR STUDY CAN BE FOUND BELOW WHEN COMPARING DIFFERENT REGIONS.:

>> Start-up members showed extensive relevant experience, but scored low on specific knowledge. In this regard, it is well established that start-up founders and members do not necessarily need to be experts in the field nor have a business background (Elon Musk studied applied physics before he turned his attention to SpaceX and Tesla). However, in a sector such as sustainable energy, where innovation is oftentimes the result of the use of new technology, these results are unexpected. We should nevertheless acknowledge that the relevant experience of members of a start-up team may be complementary and not everyone needs to be a technology expert.

>> The results concerning social capital are also surprising, as the assessed entrepreneurs scored relatively low in this regard. Social capital is critical for start-ups due to the importance of networks for innovation in general (e.g. Powel and Grodal, 2005), their relevance for investment processes (e.g. Laubacher, 2012) and its crucial role as a source of new ideas and resources (e.g. Chesbrough, 2003). Moreover, as already mentioned, networks are related to higher start-up performance and relationships (Startup Genome, 2018).

>> The results for project engagement, as the extent to which a specific individual is as committed to their current entrepreneurial venture, also yield some bothersome conclusions. Project engagement was assessed as a function of how much time is committed to the current activity (i.e. part-time vs. full-time), and the amount of money (assessed as a percentage of gross annual income) is seen as another concrete indicator of project commitment. The results in general are low and present some doubts about the engagement of the start-up members and how they will react in turmoil.

>> Some differences appear in tolerance for ambiguity and risk-taking propensity, where we see differences of about 5 points between the lowest tolerance (Germany) and highest tolerance (Scandinavia) and roughly a 4-point difference in risk-taking propensity between the lowest (France) and the highest (Benelux) levels. These differences seem to be relatively in line with classic studies of national culture (e.g. Hofstede).

INDIVIDUAL SUMMARIES PER EACH OF THE COUNTRIES



ENTREPRENEURS IN THE IBERIAN ECOSYSTEM

Iberia exhibits the highest achievement orientation/motivation of all the regions and altogether has a well-balanced profile with no major negative aspects. The average of these entrepreneurs did not score the lowest on any of the competencies. Rather, they only suffer from the common weaknesses of all regions, such as specific knowledge or financial control (within entrepreneurial self-efficacy).

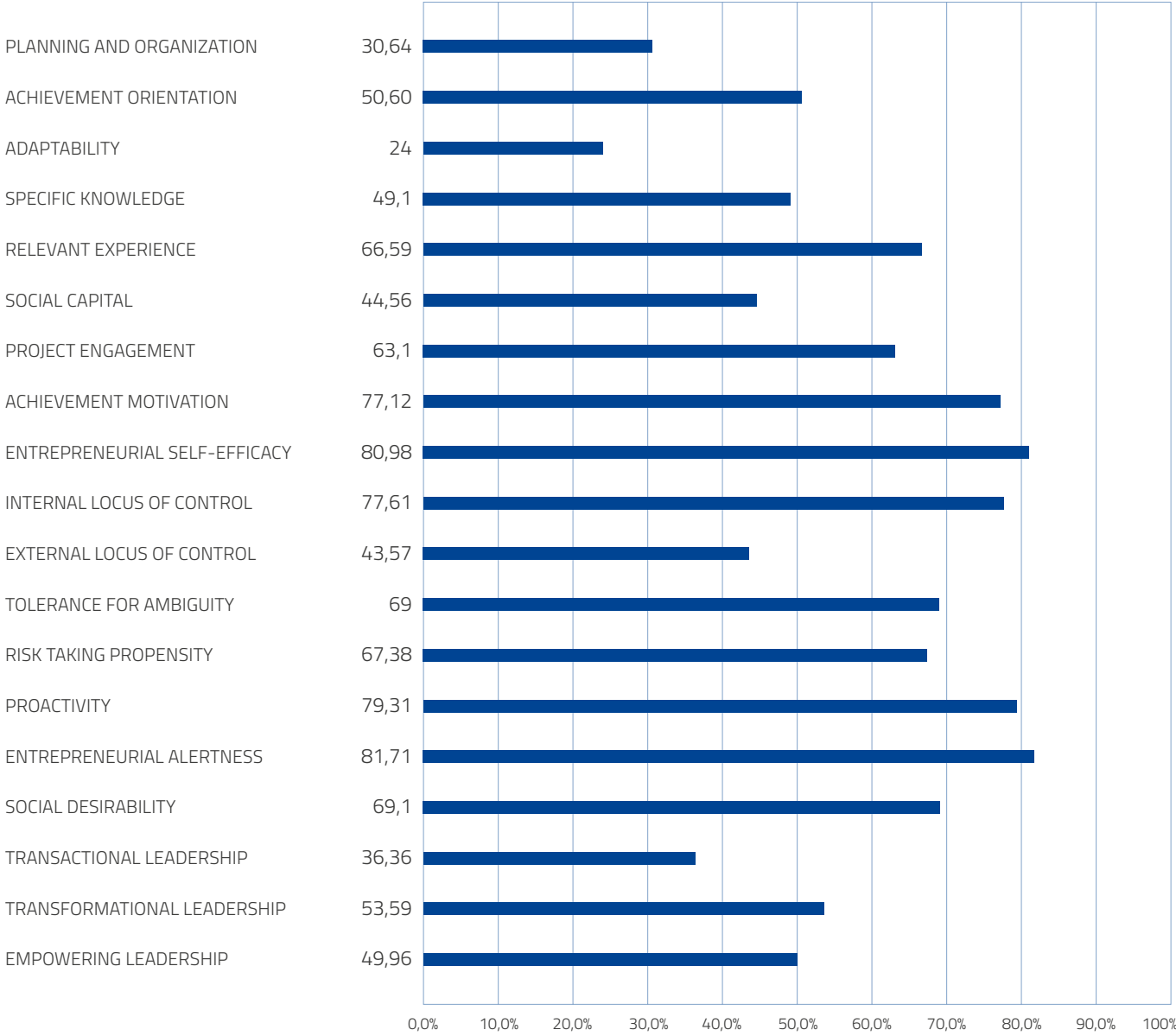


Figure 5. Iberian Ecosystem Profile



"I'LL DO IT, NO MATTER WHAT"

ENTREPRENEURS IN THE FRENCH ECOSYSTEM

Based on France’s scores, the start-up members in the region show a well-balanced leadership style. At the same time, social capital is not very strong and they do not seem as confident as their counterparts in management, innovation, marketing, risk-taking and finance skills (entrepreneurial self-efficacy).

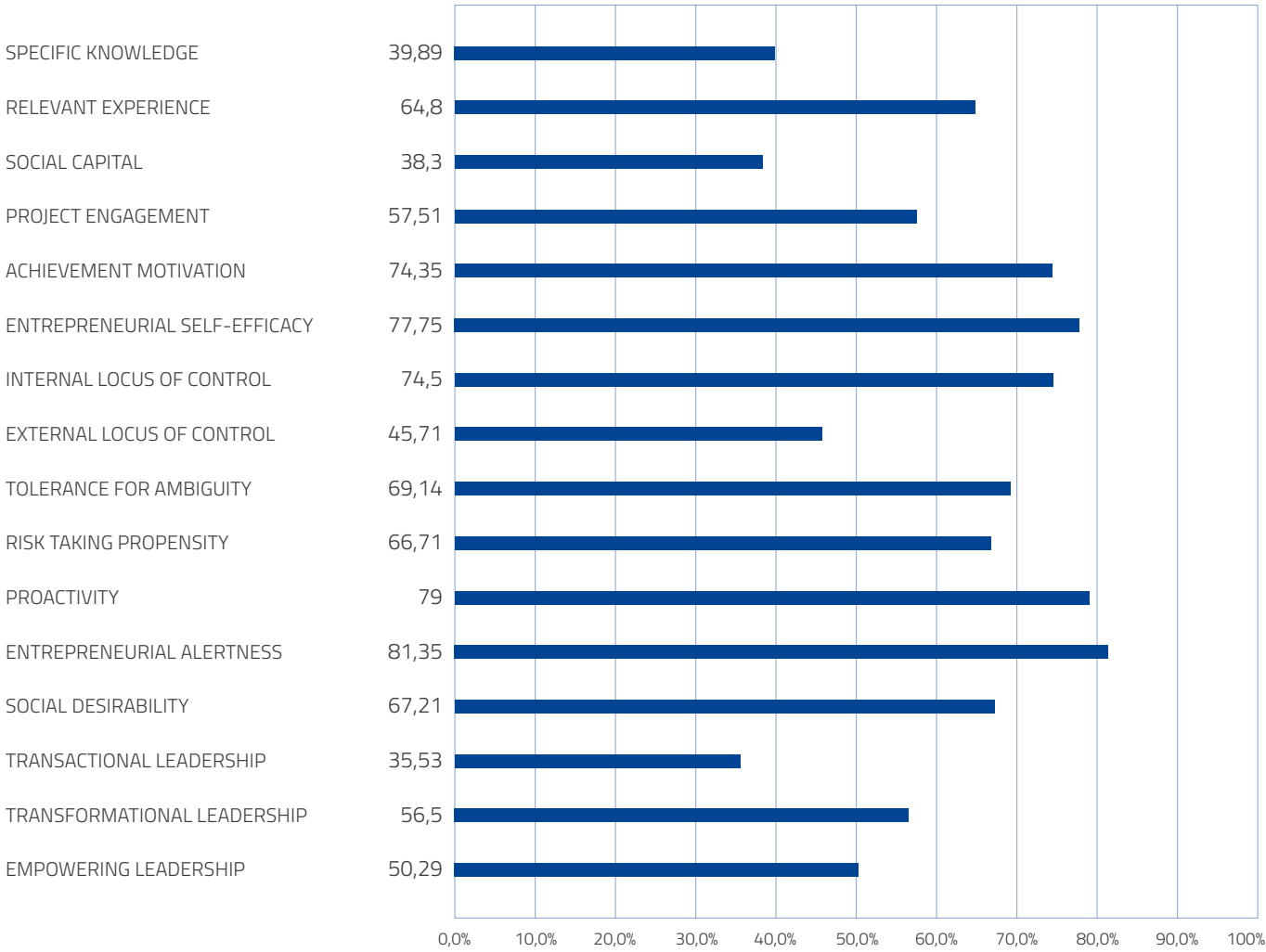


Figure 6. French Ecosystem Profile



"EACH OCCASSION REQUIRES A SPECIFIC KIND OF LEADERSHIP"

ENTREPRENEURS IN THE GERMAN ECOSYSTEM

The main highlight for Germany is its consistency across competencies. Their start-up members do not excel at, or are the highest in, any of the competencies, but they do not underperform, nor are they the lowest in any competency. Their profiles seem to be very balanced.

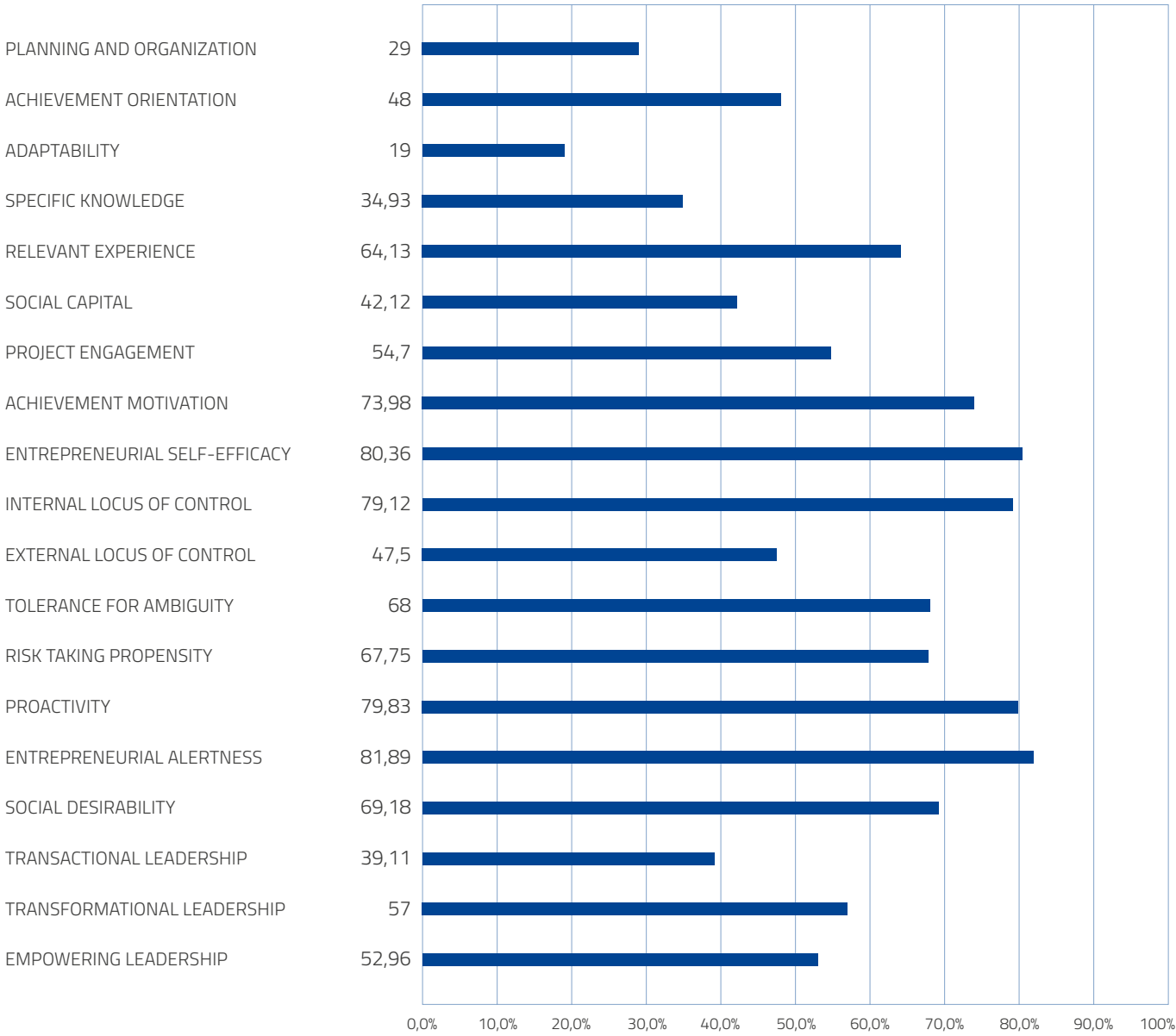


Figure 7. German Ecosystem Profile



ENTREPRENEURS IN THE BENELUX ECOSYSTEM

Benelux excels on risk-taking propensity and also has the highest, though still limited, results for social capital. However, Benelux scores the lowest for empowering and transformational leadership and their results regarding achievement orientation/motivation are low compared to the other regions.

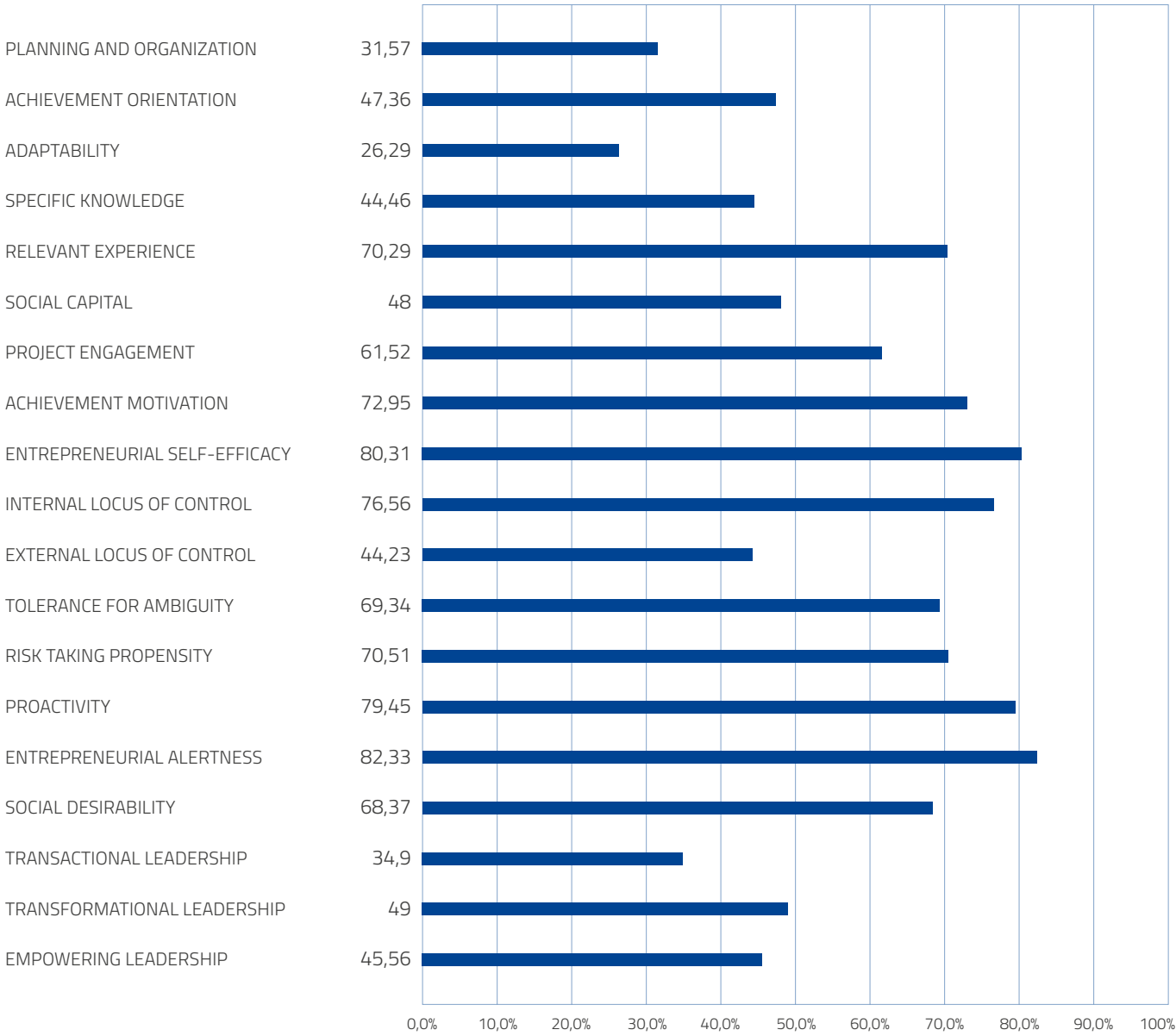


Figure 8. Benelux Ecosystem Profile



"DEDICATING TIME TO WEAVE YOUR NETWORK IS CRUCIAL"

ENTREPRENEURS IN THE SCANDINAVIAN ECOSYSTEM

Scandinavia excels at both tolerance for ambiguity – being the highest of all regions – and risk-taking propensity (second highest). However, their locus of control level leans excessively towards external in what may be a trait of trust in the system. Additionally, project engagement is the lowest of all regions, motivated perhaps by the popularity/preference in Scandinavia for holding down different part-time jobs.

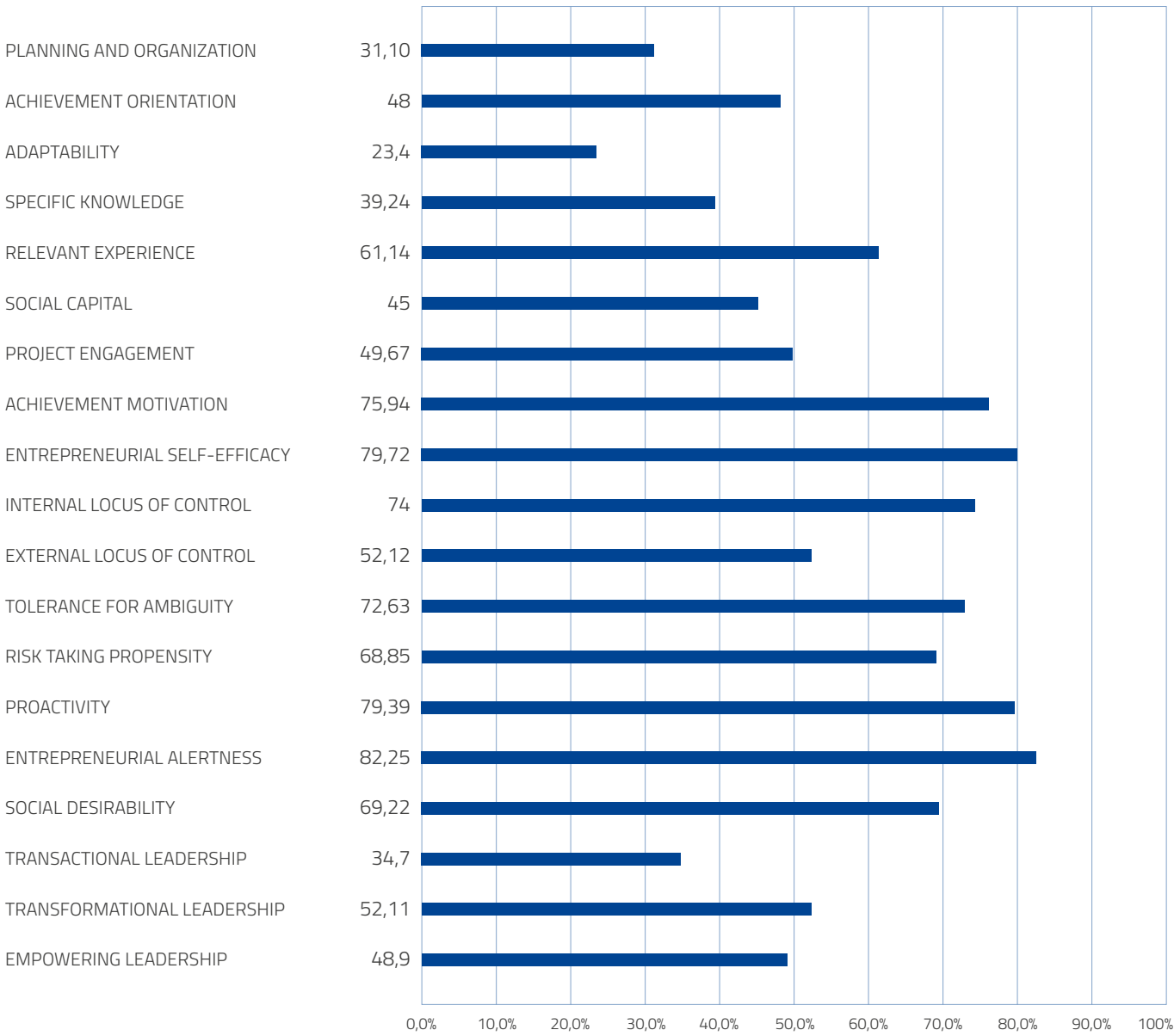


Figure 9. Scandinavian Ecosystem Profile



ENTREPRENEURSHIP, CAN IT BE DEVELOPED?

One of the main aspects emphasized throughout this study is that not only technical skills are required; soft skills and competencies are another part of the puzzle that can either lead to success or failure. The competencies that support the entrepreneur when he or she must handle ambiguity and the risks or difficulties that emerge daily (because they always emerge!) are of critical importance.

>> Ambiguity and difficulties test an entrepreneur's abilities, patience and dream and are the ones that define him or her, teach and oblige him or her to choose between giving up or moving forward and learning. The good news is that with a passionate objective in mind, it is possible to learn the competencies required to face the challenges ahead.

Boyatzis (2008) affirmed that one of the benefits of the

competency or behavioural approach to talent is that we enter a domain of human talent that can be developed in adulthood. Moreover, decades of research in different fields, 'have shown that people can change on this complex set of competencies that we call emotional and social intelligence competencies that distinguish outstanding performers in management and professions' (Boyatzis, 2008). In addition, this approach matches the long-term orientation characteristic of competitiveness.



Mercè Alsamora
Systemic Coach and
E2Talent Expert

'You can learn up to a degree but I think is better to talk about discovery, about unleashing the layers to take out the potential inside and reinforce it. There are people that have it super developed but there are others that need more support and stimulation.'



Patrik Möller
Entrepreneur, CEO of
CorPower Ocean

'They can always be learned. By having a certain mindset, if you decide, 'we are going to do this, no matter what it takes' with patience and dedication you can learn a lot of the other things'



Julien Dillon
Corporate Finance
Specialist at Emerald
Technology Ventures

'You can if you find the right idea and you get passionate about something. However, I think most successful entrepreneurs exhibit a 'base layer of competencies' which are very often associated with a typical mindset inherent to the individual. If you possess this mindset, you can then build the necessary entrepreneurial skills on top of this base layer. In the end, curiosity and passion will take you there!'



Yvonne Van Erp
InnoEnergy Business
Creation Team and
E2Talent Expert

'To develop the competencies the entrepreneur needs to be open and willing to listen and learn. Coachability is key'



Theresa Steininger
Entrepreneur, Co-
Founder and Managing
Director at Wohnwagon

'Some skills come more naturally to some people, sometimes you have to work harder...because there is so much to learn. No doubt that your professional background is key but you also have to know how to learn things'

>> For people in general, and entrepreneurs specifically, to change their behaviour, Noel Burch's four-stage model becomes a paramount must-know. As we can see from Figure 10, the model categorizes individuals into four categories from the unconsciously incompetent to the unconsciously competent. In stage one, unconscious of incompetence, individuals are not aware of their incompetence and cannot, therefore, change their behaviours. In stage two, however, individuals become aware of their incompetence and can act to become competent. Stage three relates to the moment in time when individuals become

competent and are aware of their competency. In the last stage, the behaviour has become so embedded in the individual that there is no need to be conscious of the competency any longer. InnoEnergy E2Talent® streamlines the process of becoming conscious of both the competencies in which entrepreneurs are weak but also those in which they excel. This realization of both strengths and weaknesses accelerates the process of moving from stage one to stage two and acts as input for development plans.



Figure 10. Burch's Four Stage for Learning a New Skills

Furthermore, people can change their behaviour, moods and self-image, but so can start-ups. In fact, one of the major challenges for a new venture is that both the problems faced and the necessary skills change as the firm moves from one stage of development to another (Churchill and Lewis, 1983 in Mitchelmore and Rowley, 2008). Orser and Riding (2003), from the Queen's School of Business in Canada, conducted a survey to investigate management development for growth and the results emphasized the changing role of the entrepreneur during growth. Orser and Riding (2003) stated that entrepreneurs, 'note that the entrepreneur must identify the skills needed at each stage of growth, and choose whether to help existing team members develop new aptitudes, or to face the challenge of adding new talent and skills through recruitment'. In some instances, respondents suggested that the founder/founding team with appropriate coaching, education and mentoring can make the transition.

Olivier Bordelanne from DEMETER shared with us some experiences relating to how those entrepreneurs who can evolve with the start-up – the ones who learn – get new competencies and ways of acting and change their behaviours to keep leading the project. 'There are some entrepreneurs that are able to evolve with the growth of their company, and this is fantastic to see'. Yvonne Van Erp, InnoEnergy E2Talent® expert, referred to a specific case

in which 'one entrepreneur came to InnoEnergy being an engineer and thinking like an engineer. Through listening to coaches, through doing pitching trainings, seeing a broader picture, not only the product, based on the four pillars that InnoEnergy uses (team, market, technology and finance), he could walk through his personal process. He finally decided to find a new CEO for the company in order to become the Technology Officer and – hey! – they are getting there'. For this reason, entrepreneurs should follow a well thought-out plan to develop the competencies they need to face each stage of their project and recognize where they can generate more value and contribute to the profitability and growth of the start-up. As Yvonne Van Erp and Cindi Choi highlighted, coachability is key to moving towards success. Therefore, it is not only aptitude; attitude and being open to learning also play a major role.

The main conclusion from our qualitative analysis, and our non-exhaustive review of the academic literature, is that entrepreneurial competencies can indeed be developed. There is a need to be aware of one's limitations, and coachability and the existence of a first layer of competencies are critical, but the majority of the competencies seen in successful entrepreneurs can be taught. According to Mercè Alsamora, E2Talent® expert, 'there is a need for a kind of education that allows you to discover your entrepreneurial mindset, to unleash it'.





INNOENERGY MASTER SCHOOL

Frank Gielen – InnoEnergy Education Director

>> I would first start by defining entrepreneurship because the image of entrepreneurs is often reduced to Silicon Valley style start-ups. At InnoEnergy, we define entrepreneurship as learning to apply knowledge, skills and judgement under conditions of uncertainty that are typical in innovation. Uncertainty or unpredictability has become the key issue as the ability to deal with it is the new normal. You can only develop this ability when you are confronted with real uncertainty conditions during the learning journey.

Moreover, when we talk about entrepreneurial competencies, we really need to train for mindset and attitude rather than for skills: think creativity, collaboration, coalition building, resilience, experimentation and embracing failure as a way to learn. We used to call them soft skills, but we realize today that those are the power skills to succeed in a fast-changing world driven by innovation.

This is exactly what we do in InnoEnergy's Master School, where we have embedded the development of an entrepreneurial mindset into our programmes as an innovation entrepreneurship journey where the students work on real-world challenges related to the sustainable energy transition or get support and coaching for working on their own start-up in InnoEnergy SideWalk, our student entrepreneurship programme. By bringing real challenges from industry and society into the learning journey, students learn to deal with complexity and experience hands-on what it means to lead, take responsibility and solve problems with multidisciplinary dimensions and no predefined outcome.

This is where the InnoEnergy Master programmes lead: by innovating education to better support entrepreneurship and

innovation. Our students apply their knowledge immediately to innovation challenges issued by start-ups and companies from InnoEnergy's ecosystem. They acquire the mindset, tools and resources to build transformational energy solutions for social impact and the marketplace while working on teams with world-class faculty, expert practitioners and our global network of alumni, partners and impact start-ups.

A nice example is the RECHARGE project in Thailand, where a team of our Master School students restored and upgraded the micro-grid system on Koh Jik, a peaceful fisherman's island that is a 40-minute boat ride from the East Coast of Thailand. They not only solved the technical challenges but also found local industry partners, worked with the fishermen to understand their needs and raised the financing for the programme. The team of eleven scientists and engineers representing nine nationalities and seven different disciplines made this happen and is now ready to convert the next islands.



INNOENERGY ACCELERATION PROGRAMMES

Yvonne Van Erp – InnoEnergy Business Creation Team and E2Talent® Expert

>> Every team intending to participate in InnoEnergy acceleration programmes is assessed via our E2Talent® methodology. This allows InnoEnergy to get a comprehensive picture of the dynamics in a start-up team and understand how each of the entrepreneurs contributes with his or her competencies. These results help us make informed decisions and, in case of the team's acceptance into the programme, support the development of each entrepreneur's competencies.

Personal development is not always easy, and it requires time. For that reason, motivation is key. Being open to learning new skills and acquiring new tools to face the entrepreneurial path is also critical. It is important to have a strategic development plan. According to experts, if a person does not have a competency, it is often not worth the effort to try to develop it. In these cases, it is better to focus on developing something that the person is already using because he or she will have more traction and motivation than when trying to develop something that is not there at all. It is important to understand what the person does naturally – that is, what his or her tendency is – because that is the way to ensure sustained behaviour over time. Being an expert in all competencies is unrealistic, but having specific knowledge of each of them is essential for reading between the lines and grasping the big picture of the whole start-up and its changing needs. That is the principal task of a good leader: having a good understanding of current and future situations to understand where to focus one's energy, deciding which battles are the ones that must be fought and surrounding oneself with the right people to move forward.

The assessment of competencies plays a critical role in developing this understanding because it enables entrepreneurs to find the right balance by either working on the missing competencies or adding new members to the team. A team must be viewed as

something not static, and many of our entrepreneurs are very technical, but lack a good market/service orientation. Even though this is something that can be developed with, for instance, the help of a coach, one can also decide to focus on other areas and add another member who can complement the team.

I especially remember one of our entrepreneurs: a former PhD student who invented a really good product and knew everything about it. E2Talent allowed him to gain insight into his entrepreneurial competencies, and it was productive to identify them, put a name to them and give him a structure for what was there, what was missing and where to start a development plan. He was someone who, despite his own limitations, wanted to work towards being a good pitcher and learn more about the market rather than concentrating only on technology. He worked with InnoEnergy to determine the best way to become more proactive and use his network to get advice in all areas. Fortunately, he managed to make the start-up evolve to the next level and, when it got bigger, he agreed to add people with different expertise to his team. He found someone who wanted to invest and become a shareholder, and this person is now in charge of the commercial side. We also knew that he needed additional corporate experience, and he was very open-minded to ask an older and more experienced person to join the team.



ENEL INTRAPRENEURSHIP INITIATIVES

Fabio Tentori, Head of Enel Innovation Hubs and Startup Initiatives
Alessia Sterpetti, Head of Open Innovation and Idea Factory

>> Enel, with its corporate venturing initiatives, has taken several actions to encourage the creation of new start-ups with disruptive ideas and has also created the right environment where entrepreneurial competencies can be applied and developed.

To face the main current and future challenges of this new era, we believe that open innovation and sustainability can solve world problems and that entrepreneurs can shape the energy transition. Ecosystems are key, so we have created a global network of 10 innovation hubs and 5 innovation labs around the world to foster innovation through open collaboration and through challenges. Individuals with different innovative profiles are invited to participate – entrepreneurs, professors, students, accelerators, incubators and in general all innovators – with the objectives to make our business more efficient and to create new business opportunities for us. Up to these days we have scouted more than 6.000 opportunities and collaborated with about 240 start-ups, of which more than 50 are now our suppliers of technologies and solutions to lead the energy transformation.

Along the same line, ENEL has a powerful intrapreneurship programme called “Make It Happen” for which teams are set up and have six months of leave from their regular job position to work on their project. Anybody can participate – there are no limits – and accepted teams have a specific budget to invest in their idea. Participation in the programme is a learning process where colleagues (on the team) present their proposal on two

kinds of ideas: improvements or new business model. Once they pass the screening, they enter an acceleration phase where, with the support of an acceleration provider, they carry out all of the activities to validate their idea.

In addition, we foster initiatives with the certainty that entrepreneurial competencies can be developed. An example is ENEL’s Innovation Academy, where employees learn how to improve their soft skills through Emotional Intelligence and Creative Problem-Solving training, as well as learn how to think like a customer and launch a start-up. Moreover, the ENEL Idea Factory is another linked initiative with the objective of helping our colleagues step out of the box and unleash their creative thinking. Together with ENEL’s no-blaming culture, where colleagues are encouraged to share stories of failure and relevant lessons learned on the My Best Failure platform, ENEL has developed an environment in which intrapreneurship blooms.



ENAGAS EMPRENDE

Emilio Martinez Gavira, ENAGAS Corporate Entrepreneurship Manager

>> ENAGAS offers our employees possibilities to explore the world of innovation and work on the development of their entrepreneurial competencies. The company has bet for intrapreneurship through our corporate venturing initiative, Enagás Emprende, in which we encourage entrepreneurship inside the company by sharing the advantages of becoming entrepreneurs with our support. We need new ideas to continue growing, new technologies or new business models, and the context demands that we develop these entrepreneurial competencies. For this reason, it is essential to empower our staff and make them see that their ideas can help the future of Enagás and that they are best suited to be in charge because who else is going to better know the company and its challenges?

Anyone in Enagás, despite their role or previous experience, can present a business idea. If Senior Management thinks that the idea is interesting, and meets our selection criteria, it might be approved. During the different steps of the selection process, potential entrepreneurs receive training to prepare for each phase. Initially, this includes information, videos and reading material, but those who reach the final phase receive elevator pitch training and guidelines on how to create a business plan. As they have already shown the spirit and the aim of collaboration, they also receive training in creativity and innovation to keep them innovating in their daily lives. In the company, regardless if they finally can become intrapreneurs with their own project or not.

After the last steps, the winner receives what they need to turn the idea into a real business project. Thanks to InnoEnergy E2Talent®, we can recognize competencies and have a clear diagnostic of the team situation. Based on those results, a development plan is created for each team to reinforce what is already there and complete what is missing with training and mentoring (internal and external) and by increasing their network inside and outside the company, meeting Enagás partners, clients, etc.

Participating in this initiative gives our employees a fruitful experience because they receive important points inside the company, such as bonuses, economic prizes and, for those who reach the acceleration phase, the possibility to return to their old job if the idea does not go further. This is a way of mitigating the risks and fears that the entrepreneurial path may generate. In addition, by having a co-working space of innovation (Enagás Fab), entrepreneurs can work where they are immersed in an inspiring atmosphere, know more about each other and share their doubts and experiences. I am personally convinced that one of the key aspects of developing entrepreneurial competencies is being surrounded by good entrepreneurs. It is not enough to learn; you must train hard to develop those skills and abilities, in addition to foster your network. Sometimes, this is the bridge that makes your project successful.

FINAL CONCLUSIONS

>> This study on entrepreneurial competencies in sustainable energy start-ups in Europe makes four main contributions:

1. Developing the European Entrepreneur Profile with five key competencies: team work, achievement orientation, impact and influence, risk-taking propensity and internal locus of control
2. Highlighting the existence of only minor differences between female and male entrepreneurs
3. Emphasizing that there are no major differences between entrepreneurs from different European national ecosystems
4. Restating the common agreement and realization that entrepreneurial competencies can be developed

First, owing to data from more than 800 start-up members collected through InnoEnergy E2Talent®, we were able to put together an archetypal sustainable energy entrepreneur. InnoEnergy's Mr Purple is an engineer in his early forties, with an extensive technical background, acting as the CEO of a start-up. He excels in five competencies that are critical for start-up success and growth: team work, achievement orientation, impact and influence, risk-taking propensity and internal locus of control. Mr Purple serves as a reminder of the most common characteristics and competencies found in sustainable energy entrepreneurs.

Second, we realized that male and female entrepreneurs share a

very similar profile when it comes to entrepreneurial competencies. The results of InnoEnergy's entrepreneurial competency assessments portray very similar results for both men and women but validate the shared opinion of inequality in the number of female entrepreneurs. In our sample, women accounted for only 10% of the total number of entrepreneurs. As their profiles raise no questions about their ability to succeed as entrepreneurs, the question is what is preventing them from doing so? This is a topic of major importance that needs separate consideration.

Third, we saw very minor differences when we analysed the data by region. The studied entrepreneurs had very similar profiles in which strengths and weaknesses were shared across the five different areas studied. Our main conclusion is that entrepreneurs in general are a very special type of individual, but they can be found in different national ecosystems. In other words, it takes 'something' to be an entrepreneur, and they are difficult to find, but their profile is consistent across regions.

Fourth, academics and practitioners seem to agree that entrepreneurial competencies can be developed. There is indeed a need, as well as a willingness, to be coached (coachability) and a first layer of competencies, knowledge and expertise, but most of the competencies found in successful entrepreneurs can be taught and learned.

The energy market is changing, new business models are appearing and the EU Winter Package highlights new areas of development, putting the consumer at the centre. This new context requires high doses of creativity, high potential and diverse teams with multidisciplinary approaches to face energy challenges. In this context, with no major differences found between men and women entrepreneurs, and a consistent entrepreneurial profile across regions in Europe, the capacity to push more innovations and create more start-ups is enormous. Moreover, with the realization that an entrepreneur, should he or she have the motivation, can be made, the pool of potential entrepreneurs enlarges. All in all, we see a very promising path ahead for innovation, collaboration and start-ups in the field of sustainable energy in Europe.

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TABLE OF FIGURES

Figure 1. Iceberg model of personal qualities (Spencer and Spencer, 1993)	9
Figure 2. InnoEnergy Mr Purple. The Sustainable Energy Entrepreneurial Profile	21
Figure 3. Gender distribution of EU Start-up Founders (EC, 2018)	31
Figure 4. Individual competencies in E2Talent	37
Figure 5. Iberian Ecosystem Profile	44
Figure 6. French Ecosystem Profile	46
Figure 7. German Ecosystem Profile	48
Figure 8. Benelux Ecosystem Profile	50
Figure 9. Scandinavian Ecosystem Profile	52
Figure 10. Burch’s Four Stage for Learning a New Skills	56

ANNEX I – LEARNING ABOUT E2TALENT


>> To find a tangible way to assess and measure team capacity, InnoEnergy made the decision in 2012 to research the market for available and trustful tools or methodologies that could provide a specific picture of the entrepreneur’s competencies and consequently, the correct distribution of roles and productive dynamics of the team. No tool was found, and conversations with several kinds of investors, accelerators, coaches and other institutions that commonly work with entrepreneurs did not bring a clear picture of how teams are being assessed. The answers given varied, but the three most common ones were assessing by gut feeling, asking and checking references and making entrepreneurs take the ‘beer test’ (informal interview in an informal environment).

To ensure that the team component was assessed properly, InnoEnergy partnered with ESADE Business School and its Leadership Development Research Centre to build a solution that could help us develop an objective assessment of start-up teams. Renowned entrepreneurship experts Richard Boyatzis, Robert Emmerling and Joan Manuel Batista Foguet worked together with InnoEnergy experts and practitioners to create E2Talent®. The outcome of the project, an assessment centre, has allowed InnoEnergy to complement the technology, market and financial due diligence with a special assessment to identify entrepreneurial competencies.

E2Talent® has become InnoEnergy’s solution for measuring the entrepreneurial skills of individuals and team dynamics within a start-up to ultimately support decision-making processes for investors (VCs, BAs, etc.), business accelerators, universities and government agencies. The platform proposes a set of tools to measure skills, such as performance expectations, adaptability and capacity, through a series of surveys and simulations.

In addition, E2Talent® enables InnoEnergy and its external clients to assess key aspects of team dynamics, which are crucial to the development of a start-up, such as the leadership dynamics within the team, how they solve problems, the complementarity of skills and missing competencies within the team. The results can then be used to build a competency improvement plan. Moreover, E2Talent® alerts about potentially incompatible team members, those who may struggle with being coached or staffing recommendations in high-standard mentorships programmes.





John Doe (InnoEnergy Team)
InnoEnergy Iberia
john.doe@innoenergy.com

Individual summary			
In-Basket Simulation			
Mirrors a day in the life of an entrepreneur by asking individuals to prioritize, make decisions and adapt, in real time, to a virtual case that includes challenges characteristic of an entrepreneurial venture.			
Competency	Rating		
Planning and Organization	86.37%		
Results/Achievement Orientation	71%		
Adaptability	25.53%		
Biographical Survey			
Seeks to understand the level of knowledge, experiences, social capital and current level of project engagement in the entrepreneurial venture by asking factual questions about the individual's past experiences and current activities.			
Competency	Rating		
Specific Knowledge	48.75%		
Relevant Experience		88.13%	
Social Capital	50%		
Project Engagement			80%
Entrepreneurial Profile Survey			
The personality traits assessed in the Profile Survey represent constructs that have been demonstrated through previous research to be associated with successful entrepreneurship.			
Competency	Rating		
Achievement Motivation			75%
Entrepreneurial Self-Efficacy			92%
Marketing			89%
Innovation			90%
Management			98%
Risk-taking			100%
Financial Control			80%
Locus of Control			55%
Tolerance for Ambiguity			79%
Risk Taking Propensity			48%
Proactivity			70%
Entrepreneurial Alertness			86.67%
Scanning and Search			85%
Association and Connection			85%
Evaluation and Judgment			90%
Social Desirability			77.6%
Egocentric Response Tendencies			75%
Moralistic Response Tendencies			80%



Critical Incident Interview	
The interview asks participants to describe, in specific detail, incidents in which they felt effective and achieved a valued outcome. A recording of the interview is then reviewed and coded for evidence of seven specific competencies associated with entrepreneurial success.	
Competency	Rating
Achievement Orientation	High Average
Initiative	Low Average
Network-Based Information Seeking	Low
Market Service Orientation	High Average
Impact & Influence	High
Team Leadership	High Average
Teamwork and Collaboration	Low

ANNEX II – CONTRIBUTORS

For the development of this report we have counted with the help and support of many entrepreneurs, executives and investors. We especially would like to thank to:

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