



Building Educational Cooperation in Smart City

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*Entrepreneurship Report*

Nordplus Horizontal 2018

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## Abstract

This project is formed around the common interests of participating educational institutions to provide qualified graduates to the labour market, taking into account the real needs of enterprises to perform in fast and flexible ways. The differences between what has been taught in schools and what kinds of skills enterprises actually need has grown over time, resulting in higher unemployment and enterprises that still lack a skillful workforce.

The overall aim of the project is to support the creation of a new multicultural network of knowledge transfer and innovation between educational institutions, enterprises and sector organisations, and to further support the close cooperation between these groups in Nordic and Baltic countries.

This fully corresponds to two general objectives of Nordplus 2018-2022 program which are:

- support, build on, reap the benefits of and promote innovative products and processes in education through the systematic exchange of experiences and good practice;
- contribute to the development of quality and innovation in the educational systems for lifelong learning in the participating Nordplus countries through cooperation in education and training, as well as cooperation with the labour market on development projects, exchange programmes and networking

## Objectives

As partners from educational institutions experience a growing need to support students and teachers, there has been a related push for cooperation and sharing of ideas between these groups. The networking activities of the present project have been organised with this in mind. Particularly from the perspective of innovation, learning is of critical importance, taking place in horizontal networks of educational institutions of different levels, enterprises, sector organisations and others.

The cross-sectoral dimension of the project is related to the choice and participation of partners, extending from different levels within educational organisations to businesses and sector organisations. This kind of partnership is vital as the main objective of the project is to find and describe flexible ways, study methods and/or curricula development for meeting the rapidly changing demands of enterprises towards the specific skills of graduates. The economic

sectors concerned are differing from country to country, but the ways to reach cooperation with businesses in order to enhance innovation in teaching methods or environments, could be similar or adaptable to different sectors. Therefore, it is crucial to examine today's process of cooperation with enterprises within different partnering countries and cross-sectoral educational institutions to find suitable model(s).

The concrete objectives are:

- thematic reports on three themes of the project - work based learning, entrepreneurship and IT/ digitalisation which entails both methodological part as well as a collection of case studies from partnering countries
- study tours implemented in these themes to evaluate and complement the reports with the results of study tours and discussions
- a handbook that entails the end results and findings of the three thematic reports;
- dissemination of handbook via events, web and other media means;
- established network that shares knowledge and works together to improve the cooperation within the network partners as well as outside.

The Estonian Entrepreneurship University of Applied Sciences takes a role as project coordinator. The responsibilities for work packages are shared between partners so that each partner has a specific role and no-one is a “silent partner“ in the network. Other partners are participating in activities according to their specific interest and/or experience. Participating in the discussions, making presentations and being part of dissemination process are helping to achieve the project aims and bring extra value to the project outcome.

This project is innovative in the way that it goes beyond traditional university-enterprise cooperation. It extends also to other levels of the educational sector and sectoral organisations in order to enhance innovative solutions arising from different setups within the network. It also involves students in the process. In addition to this, one of the themes – work-based learning is an innovative study method that has not been used extensively in the world and, therefore, the members of the network are interested to learn more about it.

The long-term influence can be seen as the involvement in education has risen, graduates are satisfied with the education as they find jobs more easily after finishing school. Enterprises are more satisfied as they find employees who are in much greater detail meeting their real needs towards the skills of employees.

International cooperation in this project adds value because:

- It enables participants to experience different cultures and environments, thus the participants (especially students) get a sense of accomplishment in international scale in the longer term. It also enables the exchange of ideas, teaching methods, and learning and have cooperation with companies (lecturers).
- From students point of view, they see innovative companies and their working environments, learn more about different themes and meet students from different countries, who share the same interests.

Development of areas concerned with intercultural and cross-cultural understanding and communication within educational and academic contexts related to new and innovative work cultures of enterprises.

Long term, it offers excellent opportunities for the Ülemiste Smart City campus companies to network and exchange knowledge together with Nordic and Baltic schools students, lecturers, and experts. The long term influence can be seen as the involvement in education has risen, graduates are satisfied with the education as they find jobs more easily after finishing school. Enterprises are more satisfied as they find employees who are in much greater detail meeting their real needs towards the skills of employees.

The project activities are focusing on three main themes:

Entrepreneurship - participating in this project can offer a clear surplus value for students and lecturers, who can meet the industry key players in Estonia, with the example of Ülemiste Smart City. The project brings together different parties (employers, students, teachers, administrators and other experts from partner countries) to exchange experiences and knowledge and build up stronger network where mutual expectations, possibilities and patterns are more clear. Another side of this topic is employability. It is a common goal for all parties. The study visits will broaden the understanding of how the enterprises work (in Estonian example), what are the different modern and innovative working cultures, what are the most urgently needed skill sets that enterprises need from their employees etc. The specific sectors for study visits will be agreed during the kickoff meeting.

Digitalization – Estonian Entrepreneurship University of Applied Sciences has a very strong curricula within IT/startup studies. Within this package the methods and possibilities are

explored of how IT/digitalization is working within enterprises of different sectors or within the activities of different subjects (e.g. finances). The solutions (both products and/or services) of Estonia as a digi-country based on e-Estonia showroom are explored and discussed among the partners. It may entail also visits of enterprises with specific focus. Thematic report and study tour are organized within this theme.

Work-based learning – work-based learning is an innovative and rapidly growing study method of matching the skills taught in educational institutions with the new requirements of enterprises. There are very few (if any) guidelines about how to organise such cooperation, both from the point of view of educational institution and enterprise, e.g. what can be the obstacles and what could be the possible solutions to overcome them, how universities can approach the enterprises or vice versa, what are the benefits to both sides etc. Thematic report and study tour are organized within this theme.

The project results will be summarized in a publicly available electronic handbook. The handbook is not only a collection of the results but serves as guidelines for other educational institutions and enterprises beyond current network about how to cooperate to achieve the best results in terms of up-to-date skills of graduates.

For more about the project: [www.euas.eu/nordplus2019](http://www.euas.eu/nordplus2019)

## Partner Institutions

### Coordinating institution:

Estonian Entrepreneurship University of Applied Sciences (EUAS)

Website: <https://www.euas.eu/>

Facebook: <https://www.facebook.com/euas.eu/>

### Partner institutions:

University of Akureyri (UA)

Website: <https://www.unak.is/>

Facebook: <https://www.facebook.com/haskolinnaakureyri/>

Twitter: @haskolinn\_ak

Vilniaus kolegija / University of Applied Sciences (VIKO)

Website: [www.viko.lt](http://www.viko.lt), [www.vvf.viko.lt](http://www.vvf.viko.lt)

Facebook: <https://www.facebook.com/viko.vvf/>

Twitter: @vikolt

Vidzeme University of Applied Sciences (ViA)

Website: <http://va.lv/lv>

Facebook: <https://www.facebook.com/VidzemesAugstskola/>

Twitter: [@vidzaugstskola](https://twitter.com/vidzaugstskola)

Oulu University of Applied Sciences (OUAS)

Website: <https://www.oamk.fi/fi/>

Facebook: <https://www.facebook.com/oamk.ouas>

Twitter: [@oamk\\_ouas](https://twitter.com/oamk_ouas)

Norwegian University of Science and Technology (NUST)

Website: <https://www.ntnu.edu/>

Facebook: <https://www.facebook.com/NtnuInternational>

Twitter: [@NTNU](#)

International School of Tallinn (IST)

Website: <https://ist.ee/>

Facebook: <https://www.facebook.com/InternationalSchoolofTallinn/>

Mainor AS

Website: <http://mainor.ee/>

Facebook: <https://www.facebook.com/EEKMainor/>

Tampere University of Applied Sciences (TAMK)

Website: <http://www.tamk.fi/>

Facebook: <https://www.facebook.com/tampereenamk/>

Twitter: [@TAMK\\_UAS](#)

Aalborg University (AAU)

Website: <https://www.aau.dk/>

Facebook: <https://www.facebook.com/AalborgUniversitet/>



# 1. Entrepreneurship

## 1.1 Defining Entrepreneurship

Entrepreneurship is essential in all organisations, from small, independent businesses to large multinational companies and public sector organisations. The importance of entrepreneurship is stressed in policy documents and scholarly reports. According to the European Commission's Entrepreneurship in Europe Green Paper, entrepreneurship is essential as it: *contributes to job creation and growth, is crucial to competitiveness, unlocks personal potential and contributes to societal interests.*<sup>1</sup>

There are many definitions of entrepreneurship. According to P. Drucker (1985) "Entrepreneurship is an act of innovation that involves endowing existing resources with new wealth-producing capacity."<sup>2</sup> The European Commission meanwhile defines 'entrepreneurship' as: "the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organisation."<sup>3</sup> In other words, entrepreneurship refers to an individual's ability to turn ideas into action and includes creativity, innovation and risk taking, as well as the ability to plan and manage projects in order to achieve objectives. This supports everyone in day-to-day life at home and in society, makes employees more aware of the context of their work and better able to seize opportunities, and provides a foundation for entrepreneurs establishing a social or commercial activity.<sup>4</sup>

Martin Lackeus (2015) provides analysis of entrepreneurship concepts of various authors: "a common conception according to Gartner (1990) is that entrepreneurship is about entrepreneurial individuals creating innovative organizations that grow and create value, either for the purpose of profit or not."<sup>5</sup> But entrepreneurship does not have to include the creation of new organizations, it can also occur in existing organizations (Shane and Venkataraman, 2007). It is not only limited to the entrepreneurial individual, but also to entrepreneurial opportunities and to the relation between the individual and the opportunity, i.e. the individual-opportunity

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<sup>1</sup> European Commission, Entrepreneurship in Europe, Green Paper, Brussels, 21.01.2003, COM(2003) 27 final, Available from: [https://ec.europa.eu/invest-in-research/pdf/download\\_en/entrepreneurship\\_europe.pdf](https://ec.europa.eu/invest-in-research/pdf/download_en/entrepreneurship_europe.pdf)

<sup>2</sup> Drucker, P F. 1985. Innovation and Entrepreneurship: Practice and Principles. New York, USA: HarperBusiness.

<sup>3</sup> European Commission, Entrepreneurship in Europe, Green Paper, Brussels, 21.01.2003

<sup>4</sup> European Commission, Proposal for a Recommendation on Key competencies for Lifelong Learning, COM(2005)548 final

<sup>5</sup> Lackeus M, (2015), Entrepreneurship in Education: What, Why, When, How. Entrepreneurship 360 Background Paper. OECD, EC

nexus as described by Shane (2003). Stevenson and Jarillo (1990) define entrepreneurship as “a process by which individuals – either on their own or inside organizations – pursue opportunities without regard to the resources they currently control.” Bruyat and Julien (2001) use a constructivist approach and propose a definition incorporating not only the entrepreneur, but also the new value created, the environment, the entrepreneurial process itself and the links between all of these over time. They also propose using the terms “intrapreneurship” to represent teams whenever applicable. This presents broader understanding of entrepreneurship, which includes activities of individuals when they are not the business owners, but demonstrating their entrepreneurship within their respective organisation. The need for entrepreneurial employees was expressed during the round table discussion in Vilnius (November, 2018), when qualities of the future employees were discussed with representatives of local and international companies. When talking about this type of entrepreneurship, the term intrapreneurship is typically used.

In the field of education, the EU has recognized that “*sense of initiative and entrepreneurship*” is one of the **eight key competencies for lifelong learning**, and thus necessary for all members of a knowledge-based society (European Parliament and Council, 2006). The need to promote entrepreneurship education and entrepreneurial learning is therefore high on the European policy agenda and it is explicitly advocated by the Small Business Act for Europe (European Commission, 2008), the Communication on Rethinking Education (European Commission, 2012a) and the Entrepreneurship Action Plan 2020 (European Commission, 2012b).

The Danish Foundation for Entrepreneurship states: “Entrepreneurship is when you act upon opportunities and ideas and transform them into value for others. The value that is created can be financial, cultural, or social.”<sup>6</sup>

Entrepreneurship is a competency or a skill that can be learnt. However, according to Giancesini and others (2018) studies on entrepreneurial competencies have demonstrated that entrepreneurship is a complex phenomenon and includes various sub-constructs.<sup>7</sup> For example, Man and colleagues (2002) identified six competency areas: opportunity, organizing, strategic, relationship, commitment, and conceptual competencies. On the other hand, Priyanto and

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<sup>6</sup> Danish Foundation for Entrepreneurship, <https://eng.ffe-ye.dk/education/higher-educations>

<sup>7</sup> Giovanna Giancesini, Serena Cubico, Giuseppe Favretto and João Leitão, 2018, Entrepreneurial competencies. Comparing and Contrasting Models and Taxonomies, Available from: [https://www.researchgate.net/publication/326027338\\_Entrepreneurial\\_competencies\\_Comparing\\_and\\_Contrasting\\_Models\\_and\\_Taxonomies/link/5b4ed8b1a6fdcc8dae27b755/download](https://www.researchgate.net/publication/326027338_Entrepreneurial_competencies_Comparing_and_Contrasting_Models_and_Taxonomies/link/5b4ed8b1a6fdcc8dae27b755/download)

Sandjojo (2005) divided entrepreneurial competency into four scopes: management skills, industry skills, opportunity skills, and technical skills. More recently, Kyndt & Baert (2015) assessed behavioral indicators in actual and aspiring entrepreneurs as proximal outcomes of entrepreneurial competencies and identified 12 competencies, from perseverance to social conduct and environmentally conscious conduct. Unfortunately, only two competencies (perseverance and insight into the market) predicted entrepreneurship three to five years after their survey. Social and environmental conscious conduct on the other hand related negatively to entrepreneurship.

The Estonian entrepreneurship competency model according to Venesaar, Täks and others (2018) is presented to emphasise the way sub-competencies are interconnected.<sup>8</sup> The sub-competencies are divided into four competency areas, namely 1) self-management, 2) solving of social situations, 3) creative thinking and finding solutions, and 4) acting on opportunities, which together comprising 14 sub-competencies. The first three competency areas are used to highlight competencies needed for developing entrepreneurial mindsets, creative and entrepreneurial members of society. Meanwhile, the last competency area – acting on opportunities – is necessary for entrepreneurial action and becoming an entrepreneur. Further, it is beneficial and essential for those choosing a career as an employee. This fourth competency area must therefore be developed together with the entrepreneurship sub-competencies of the other three competency areas.

The *Entrepreneurship Competency Framework*, also known as EntreComp, offers a tool to improve the entrepreneurial capacity of European citizens and organisations.<sup>9</sup> The framework aims to build consensus around a common understanding of entrepreneurship competencies by defining 3 main competency areas from a list of 15 competencies (see Annex 1). This framework can likewise be used for entrepreneurship competency development and assessment.

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<sup>8</sup> Venesaar U, Täks M. et al., 2018, Model of entrepreneurship competency as a basis for the development of entrepreneurship education. Estonian Journal of Education. Available at: [http://eha.ut.ee/wp-content/uploads/2018/10/11\\_06\\_venesaar\\_summary.pdf](http://eha.ut.ee/wp-content/uploads/2018/10/11_06_venesaar_summary.pdf)

<sup>9</sup> <https://ec.europa.eu/jrc/en/publication/eur-scientific-and-technical-research-reports/entrecomp-entrepreneurship-competency-framework>

## 1.2 Aim, Objectives and Programme

A “study tour” was organised between the 16th and 18th of January 2019 in Ülemiste City, Tallinn, Estonia. The aim of the study tour was to organize creative entrepreneurial activities (meetings, seminars, lectures) to share experiences/good practices and knowledge for the development of entrepreneurial mindset and knowledge between the international partners and experts in this field.

The objectives:

1. To provide students an opportunity to meet business companies and to work in international teams developing solutions for real business problems.
2. To organise experience sharing on entrepreneurship education workshop for lecturers.
3. To provide open lectures for study tour participants and Ülemiste City business companies staff and provide an opportunity to share experiences and opinions in the panel discussion.
4. To introduce new views on international cooperation, the entrepreneurship mindset and skills development, as well as the creation of new services for the Ülemiste City businesses.

The study tour was planned to find out: (1.) Why do companies need people with a creative entrepreneurial mindset? (2.) What defines an enterprising company? (3.) How does the creative entrepreneurial mindset affect the success of the company? (4.) taking into consideration entrepreneurial competencies, what should be the future services in the Smart City?

In accordance with the stated objectives, three main target groups were involved in study tour activities: students, lecturers, and business companies. More than 40 students, teachers and entrepreneurs from six different countries attended the study tour. The programme was planned in order to present various activities for all target groups: a Creative Campus dedicated to students acquiring creative business problem-solving skills; workshops and lectures for networking and sharing experiences in entrepreneurship education, with a particular focus on the creation of entrepreneurial mindset; direct contact between businesses, students, and speakers and their participation in open lecture and panel discussions (see Study Tour Programme, annex 2).

### 1.3 Creative Campus<sup>10</sup>

The Creative Campus has been organised aiming to encourage students to demonstrate their entrepreneurship skills working on a real business problems presented by participating companies. The study tour's goal was to give students practical experience and innovative opportunities to work together directly with real estate development in Ülemiste City.

During the first day, students visited 12 companies in Ülemiste City – two per group. Students took interviews with the company representatives using the KISS method (see explanation in Annex 3) in order to map the soft services of Ülemiste City and identify possible improvements. After the visits, CEO of Ülemiste City, Mr. Margus Nõlvak, provided additional background information about the City.

On the second day students in the four international teams worked on the information collected during the visits. They had to describe three services which they marked out for improvement as well as provide possible solutions for the solving of their designated problems. For the assessment of student proposals an expert committee was formed: Ülemiste City CEO Margus Nõlvak, Tehnopolis Ülemiste Marketing manager Tõnis Pechter and ABB CEO Henry Arusaar. After presentation of the ideas to the committee students received feedback and start to work on one theme, preparing 5 min. pitches for the next day.

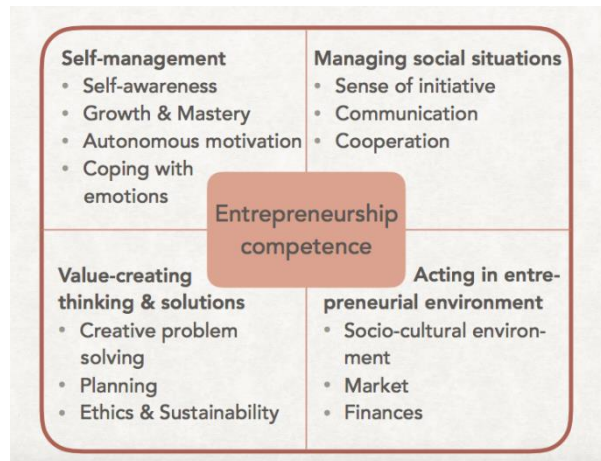
The third day was pitching day. Students made their presentations to all participants of the study tour. Team Green Boat presented ideas on how to bring environmental and organic mindsets into Ülemiste city. Team Oh Boy presented a concept how to initiate networking in Ülemiste City, which would help to create a community in the city. Team i3 presented a rebranding concept, where Ülemiste City would be more people-oriented and would create a “soul” for the city. Team Blondy's+1 saw an option to improve signs and indicators in the city so it would be more navigation friendly. After the event, EUAS Rector Mr. Mait Rungi gave diplomas to all the participants.

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<sup>10</sup> Prepared with the assistance of Creative Campus Report moderator Rode Luhaäär

## 1.4 Workshops for Lecturers

During the workshop for lecturers, all participants were introduced to the Estonian youth, employment, education & entrepreneurship competency model.



Picture 1. Estonian entrepreneurship competency model

All lecturers then shared the ways in which they have developed each sub-competency for students and thoroughly analysed the entrepreneurship competency model. Lectures were split into 4 groups (based on components) and included discussions of how best to improve the delivery of entrepreneurship competency to students.

The findings were presented to all participants at the end.

## 1.5 Open Lecture

During the third day of the study, all students and lecturers participated in open lecture, where three speakers presented their views on entrepreneurship. Hans Dorsch from Aalborg University talked about focusing on exactly what a talent for innovations means within a Western narrative. Daiva Pakalnė from Vilniaus Kolegija (University of Applied Sciences) presented a speech on how to think like an entrepreneur. Dan Ackers from Buutti Oy and OAMK presented his findings on the way success is achieved through inspiring others.

## 1.6 Outcomes

Ultimately, the study tour was beneficial to all participants:

- Students had an opportunity to demonstrate their entrepreneurship competencies, to meet innovative companies, to expand their network and to even expand their career opportunities.
- Lecturers had an option for international cooperation and option to exchange know-how.
- For the business companies and Ülemiste City it was an option for improvement and offer additional services.

The final project meeting provided the opportunity for all participants of the study tour to make general observations about the project. It was agreed that development of entrepreneurial competencies of students is a complex issue, involving (1.) the close cooperation of higher education institutions and the business world and (2.) the development of an entrepreneurial mindset in teaching staff.

Several methods were introduced, which are presented in a table below:

Method	Beneficiaries	Benefit	Description
Hackathon	Students and business companies	Creates innovative ideas for improvement of business performance; International cooperation experience.	Companies are providing problems for international students teams. Students discussing problem and proposing ideas.
24 hours challenge	Students and business companies	Development of justified solutions ready to apply	Companies providing problems (challenges) and resources for its implementation. Students (last year studies) during 24 hours working on the issue and at the end presenting solution and its implementation plan.
Interview with real entrepreneurs	Students; teaching staff	Understanding business reality having meetings with real entrepreneurs;	Entrepreneurs sharing their experience about success and failure

		possibility to get real cases.	of business establishment and performance.
Internships	Students Teaching staff	Learning by doing experience. Better understanding of business processes.	Close cooperation of business and educational institution helps to organise valuable practical experiences for students and teachers.
Switching the roles	Students, teaching staff	Getting better understanding of various aspects of business	Students are analysing particular business issues in order to explain it to other students. Evaluation of business cases against presented criteria can be also applied.

### Developing of Entrepreneurship competencies

The project partners agree that the main goal of Entrepreneurship Education is to support entrepreneurial skills development in students. According to the Martin Lackéus (2015), there are significantly differing views on what is meant by entrepreneurship in the educational domain: 1) it may be about opportunity identification, business development, self-employment, venture creation and growth, i.e. becoming *an entrepreneur* (Fayolle and Gailly, 2008, QAA, 2012, Mahieu, 2006), or 2) it may be about personal development, creativity, self-reliance, initiative taking, action orientation, i.e. becoming *entrepreneurial*.<sup>11</sup> In case of the present project, both views are relevant and correspond to a definition of entrepreneurial education, in line with that which has been proposed by Danish Foundation for Entrepreneurship: “Content, methods and activities supporting the creation of knowledge, competencies and experiences that make it possible for students to initiate and participate in entrepreneurial value creating processes” (FFE-YE, 2013).<sup>12</sup> Such a definition stresses the value-creating processes, which should be understood as reaching beyond the learning of the individual student and as far as

<sup>11</sup> Lackéus M, 2015, Entrepreneurship in Education: What, Why, When, How. Entrepreneurship360 Background Paper. OECD, EC, [https://www.oecd.org/cfe/leed/BGP\\_Entrepreneurship-in-Education.pdf](https://www.oecd.org/cfe/leed/BGP_Entrepreneurship-in-Education.pdf)

<sup>12</sup> Rasmussen A., Moberg K,& Revsbech C., 2015, A Taxonomy Of Entrepreneurship Education, <https://eng.ffe-ye.dk/media/785766/taxonomy-en.pdf>



possible **into the community outside the class or educational institution** (Rasmussen, Moberg, Revsbech, 2015).

Being experienced in business and entrepreneurship education, the Project Partnership believes that besides development of technical competencies (e.g. business establishment and running) the creation of an entrepreneurial mindset in students is crucial. Such an entrepreneurial mindset (Bosman, Fernhaber, 2018) would involve an inclination to discover, evaluate, and exploit opportunities.<sup>13</sup>

There are many best practices in higher education (including Partner organisations), in using various methods that support creation of the entrepreneurial mindset in students (e.g. business incubation, project development, business simulations, workshops and seminars, etc.). Nevertheless, visits to the classroom by entrepreneurs to talk about their experiences (success stories or failures), contacts with local and international entrepreneurs, company visits, opportunities to be involved in real company problem solving (i.e. close links with the real business world) brings undeniable added value to the process. A survey on entrepreneurship education in European universities and business schools (Wilson, 2004) stressed importance of **establishment of better links with business and entrepreneurs and sharing of good practices**, across their own institution as well as with other institutions.<sup>14</sup> The involvement of entrepreneurs in the development of entrepreneurial competencies of students has been stressed in many publications. The Entrepreneurship Education within Higher Education Institutions (Ghina, Simatupang, Gustomo, 2017) provides Alistair Shepherd's opinion: "entrepreneurship can be taught to and accelerated by practitioners who are living within it."<sup>15</sup> Higher education institutions could give students valuable and systematic knowledge of all aspects of business, while equipping them with the necessary tools to prepare for all possible eventualities. The students could test ideas and concepts, besides which they could get worthwhile feedback in HEIs. In this respect, mentorship and guidance is important for developing students into accomplished entrepreneurs.

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<sup>13</sup> Bosman L., Fernhaber S. (2018) Defining the Entrepreneurial Mindset. In: Teaching the Entrepreneurial Mindset to Engineers. Springer, Cham

<sup>14</sup> Wilson K, (2004), Results of a Joint Pilot Survey  
[http://www.gvpartners.com/web/pdf/European\\_Entrepreneurship\\_Education\\_Pilot\\_Survey\\_Results\\_FINAL.pdf](http://www.gvpartners.com/web/pdf/European_Entrepreneurship_Education_Pilot_Survey_Results_FINAL.pdf)

<sup>15</sup> Ghina A., Simatupang T. M., Gustomo A. (2017). Entrepreneurship Education within Higher Education Institutions (HEIs), Global Voices in Higher Education, Susan L. Renes, IntechOpen, DOI: 10.5772/intechopen.69043. Available from: <https://www.intechopen.com/books/global-voices-in-higher-education/entrepreneurship-education-within-higher-education-institutions-heis->

## Appendices

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### Appendices 1

#### EntreComp conceptual model

Areas	competencies	Hints	Descriptors
<b>1. Ideas and opportunities</b>	<b>1.1 Spotting opportunities</b>	Use your imagination and abilities to identify opportunities for creating value	<ul style="list-style-type: none"> <li>● Identify and seize opportunities to create value by exploring the social, cultural and economic landscape</li> <li>● Identify needs and challenges that need to be met</li> <li>● Establish new connections and bring together scattered elements of the landscape to create opportunities to create value</li> </ul>
	<b>1.2 Creativity</b>	Develop creative and purposeful ideas	<ul style="list-style-type: none"> <li>● Develop several ideas and opportunities to create value, including better solutions to existing and new challenges</li> <li>● Explore and experiment with innovative approaches</li> <li>● Combine knowledge and resources to achieve valuable effects</li> </ul>
	<b>1.3. Vision</b>	Work towards your vision of the future	<ul style="list-style-type: none"> <li>● Imagine the future</li> <li>● Develop a vision to turn ideas into action</li> <li>● Visualise future scenarios to help guide effort and action</li> </ul>
	<b>1.4 Valuing ideas</b>	Make the most of ideas and opportunities	<ul style="list-style-type: none"> <li>● Judge what value is in social, cultural and economic terms</li> <li>● Recognise the potential an idea has for creating value and identify suitable ways of making the most out of it</li> </ul>
	<b>1.5 Ethical and sustainable thinking</b>	Assess the consequences and impact of ideas, opportunities and actions	<ul style="list-style-type: none"> <li>● Assess the consequences of ideas that bring value and the effect of entrepreneurial action on</li> </ul>

			<p>the target community, the market, society and the environment</p> <ul style="list-style-type: none"> <li>● Reflect on how sustainable long-term social, cultural and economic goals are, and the course of action chosen</li> <li>● Act responsibly</li> </ul>
<b>2. Resources</b>	<b>2.1 Self awareness and self efficacy</b>	Believe in yourself and keep developing	<ul style="list-style-type: none"> <li>● Reflect on your needs, aspirations and wants in the short, medium and long term</li> <li>● Identify and assess your individual and group strengths and weaknesses</li> <li>● Believe in your ability to influence the course of events, despite uncertainty, setbacks and temporary failures</li> </ul>
	<b>2.2 Motivation and perseverance</b>	Stay focused and don't give up	<ul style="list-style-type: none"> <li>● Be determined to turn ideas into action and satisfy your need to achieve</li> <li>● Be prepared to be patient and keep trying to achieve your long-term individual or group aims</li> <li>● Be resilient under pressure, adversity, and temporary failure</li> </ul>
	<b>2.3 Mobilizing resources</b>	Gather and manage the resources you need	<ul style="list-style-type: none"> <li>● Get and manage the material, non-material and digital resources needed to turn ideas into action</li> <li>● Make the most of limited resources</li> <li>● Get and manage the competencies needed at any stage, including technical, legal, tax and digital competencies</li> </ul>
	<b>2.4 Financial and economic literacy</b>	Develop financial and economic know how	<ul style="list-style-type: none"> <li>● Estimate the cost of turning an idea into a value creating activity</li> <li>● Plan, put in place and evaluate financial decisions over time</li> </ul>

			<ul style="list-style-type: none"> <li>● Manage financing to make sure my value-creating activity can last over the long term</li> </ul>
	<b>2.5 Mobilizing others</b>	Inspire, enthuse and get others on board	<ul style="list-style-type: none"> <li>● Inspire and enthuse relevant stakeholders</li> <li>● Get the support needed to achieve valuable outcomes</li> <li>● Demonstrate effective communication, persuasion, negotiation and leadership</li> </ul>
<b>3. Into action</b>	<b>3.1 Taking the initiative</b>	Go for it	<ul style="list-style-type: none"> <li>● Initiate processes that create value</li> <li>● Take up challenges</li> <li>● Act and work independently to achieve goals, stick to intentions and carry out planned tasks</li> </ul>
	<b>3.2 Planning and management</b>	Prioritize, organize and follow-up	<ul style="list-style-type: none"> <li>● Set long-, medium- and short-term goals</li> <li>● Define priorities and action plans</li> <li>● Adapt to unforeseen changes</li> </ul>
	<b>3.3 Coping with uncertainty, ambiguity and risk</b>	Make decisions dealing with uncertainty, ambiguity and risk	<ul style="list-style-type: none"> <li>● Make decisions when the result of that decision is uncertain, when the information available is partial or ambiguous, or when there is a risk of unintended outcomes</li> <li>● Within the value-creating process, include structured ways of testing ideas and prototypes from the early stages, to reduce risks of failing</li> <li>● Handle fast-moving situations promptly and flexibly</li> </ul>
	<b>3.4 Working with others</b>	Team up, collaborate and network	<ul style="list-style-type: none"> <li>● Work together and cooperate with others to develop ideas and turn them into action</li> <li>● Network</li> <li>● Solve conflicts and face up to competition positively when necessary</li> </ul>

	<b>3.5. Learning through experience</b>	Learn by doing	<ul style="list-style-type: none"> <li>● Use any initiative for value creation as a learning opportunity</li> <li>● Learn with others, including peers and mentors</li> <li>● Reflect and learn from both success and failure (your own and other people's)</li> </ul>
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## Appendices 2

Nordplus Horizontal 2019 Building Educational Cooperation in Ülemiste City

### Nordplus Ülemiste City 1'st Study Tour: **Creative Entrepreneurship**

**Where and when:** 16th-18th of January 2019 in Ülemiste City, Tallinn, Estonia.

**The aim of the Study Tour** To organize creative entrepreneurial activities (meetings, seminars, lectures) to share experiences/good practices and knowledge for the development of entrepreneurial mindset and knowledge between the International partners and experts in this field.

#### We will find out

1. Why do companies need people with creative entrepreneurial mindset? 2. What the enterprising company means? 3. How the creative entrepreneurial mindset affects success of the company? 4. Using entrepreneurial competencies - which should be the future services in Smart City?

#### Initial program

Time	Students	Employers	Project partners (admin.)	Lecturers	Location
<b>1st day, 16.01.2019</b>					
12.00 – 13.00	<b>Arrival</b> , welcome snacks, small talk etc.				Öpik Conference Centre, Valukoja 8, room Kosmos
13.00 – 16.15	<b>Company visits</b> for students, lecturers and partners (companies as <a href="#">Let's do it world!</a> , <a href="#">Zone Media</a> , <a href="#">ABB</a> , <a href="#">Estonian Association of Information Technology and Telecommunications</a> , <a href="#">Helmes</a> , <a href="#">Restaurant "Juur"</a> , <a href="#">Estonian Tax and Customs Board</a> , <a href="#">Securitas Eesti</a> , <a href="#">Innove</a> , <a href="#">Tallinn Airport</a> , <a href="#">International House of Estonia</a> , <a href="#">MoveMyTalent</a> ). People will be divided into the small groups. Every group will visit one company, get the intro of the company, interviews the employees, specially HR person and find out the answers to the KISS*				Different locations in Ülemiste City
16.15 – 16.45	<b>Coffee break</b>				Öpik Conference Centre, Valukoja 8, room Kosmos
16.45 – 17.30	<b>Opening of the Study Tour.</b> Welcome speech and the introduction of the Ülemiste City from the Chairman of the management board Mr. Margus Nõlvak. Introduction of the program, hosts etc.				Öpik Conference Centre, Valukoja 8, room Kosmos

17.30 – 18.30	<b>Free time</b> , preparation for the dinner	<b>Meeting for the administrative questions</b> and also for the planning of the next ST	<b>Free time</b> , preparation for the dinner	Õpik Conference Centre, Valukoja 8, room Kosmos
19.00	<b>Dinner</b> at Restaurant PoMo			PoMo, Sepise 8
<b>2nd day, 17.01.2019</b>				
9.00 – 11.00	Opening words from the rector of Estonian Entrepreneurship University of Applied Sciences (EUAS), prof. Mait Rungi and from the Head of International School of Tallinn (IST), Olavi Otepalu  <b>Creative Campus*</b> Creative Campus moderator is Rode Luhaäär, the CEO and co-founder of the start-up Paytailor and internet marketing lecturer at Estonian Entrepreneurship University of Applied Sciences (EUAS).			International School of Tallinn (IST), Keevise 2
10.45 – 11.00	<b>Coffee break</b>			International School of Tallinn (IST), Keevise 2
11.00 – 13.00	<b>Creative Campus continues</b> <ul style="list-style-type: none"><li>Working out 3 possible solutions for each raised problem</li></ul>	<b>Creative Entrepreneurship Education workshop.</b> Discussion on the following topics: Estonian model of entrepreneurship competency (Marge Täks, lecturer of Entrepreneurship at Estonian Business School (EBS) and University of Tartu (UT), former leader of nationwide entrepreneurship education programme) <ul style="list-style-type: none"><li>How to teach entrepreneurship competencies at university?</li><li>Do the employees need to have the entrepreneurial mindset and how this can support the creative entrepreneurship in organization</li></ul>	<b>Students</b> – International School of Tallinn (IST), Keevise 2 <b>Lecturers</b> – Estonian Entrepreneurship University of Applied Sciences (EUAS), SuurSõjamäe 10a	

13.00 – 14.00	<b>Lunch</b>		<b>Students</b> – International School of Tallinn (IST), Keevise 2 <b>Lecturers</b> – Estonian Entrepreneurship University of Applied Sciences (EUAS), SuurSõjamäe 10a
14.00 – 16.00	<b>Creative Campus continues</b> Validating the possible solutions in front of the experts from Ülemiste City companies	<b>Creative Entrepreneurship Education work-shop continues</b> <ul style="list-style-type: none"> <li>• Entrepreneurship competency in vocational standards (Mariken Ross, director of the Hematology Centre in The North Estonia Medical Centre)</li> <li>• Input to the professional standards (EQF level 6) to value and enhance entrepreneurship competency based on Nordplus other countries practice</li> </ul>	<b>Students</b> – International School of Tallinn (IST), Keevise 2 <b>Lecturers</b> – Estonian Entrepreneurship University of Applied Sciences (EUAS), Suur-
16.00 – 16.15	<b>Coffee break</b>		<b>Students</b> – International School of Tallinn (IST), Keevise 2 <b>Lecturers</b> – Estonian Entrepreneurship University of Applied Sciences (EUAS), SuurSõjamäe 10a
16.15 – 18.00	<b>Creative Campus continues</b> <ul style="list-style-type: none"> <li>• Developing the 2nd version of the solution</li> <li>• Preparing a pitch for the 3rd day</li> </ul>	<b>Creative Entrepreneurship Education work-shop continues</b> <ul style="list-style-type: none"> <li>• How the creative entrepreneurial mindset affects success of the company</li> <li>• Preparing the short (10min) presentation for the 3rd day</li> </ul>	<b>Students</b> – International School of Tallinn (IST), Keevise 2 <b>Lecturers</b> – Estonian Entrepreneurship University of Applied Sciences (EUAS), SuurSõjamäe 10a
18.00 – 19.00	<b>Free time</b> , preparation for the dinner		
19.00	<b>Networking dinner with companies' representatives</b> at Restaurant Viktoria		Viktoria, Keevise 6



3rd day, 18.01.2019		
9.00 – 10.30	<b>Creative Campus - students teams pitches</b> (the solutions)	Öpik Conference Centre, Valukoja 8, room Universum and Galaktika
10.30 – 10.45	<b>Coffee break</b>	Öpik Conference Centre, Valukoja 8, room Universum and Galaktika
10.45 – 11.45	<b>Creative Entrepreneurship Education work-shop – lecturers teams presentations</b>	Öpik Conference Centre, Valukoja 8, room Universum and Galaktika
11.45 – 12.15	<b>Study Tour conclusions</b> by the expert group and organizers	Öpik Conference Centre, Valukoja 8, room Universum and Galaktika
12.15 – 13.00	<b>Lunch</b>	Öpik Conference Centre, Valukoja 8, room Universum and Galaktika
13.00 – 15.30	<p><b>Open lecture</b> “Entrepreneurial mindset – natural or learned?” Register here:  <a href="https://www.facebook.com/events/2390713931208148/">https://www.facebook.com/events/2390713931208148/</a></p> <ul style="list-style-type: none"> <li>• <b>The Innovation Industry</b> (Everyone knows the fairy tale of Hans Christian Andersen about <i>the Emperor's new clothes – this describes the reality and appearance in the innovation industry</i>. Although the politicians are focused on the threat from the East and the need to re-invent Western society as a knowledge based society, we should focus on exactly what the Western narrative tells us to be our special talent for innovation. It is time to look at it and see where we are going.) <b>Hans Dorsch</b>, Aalborg University</li> <li>• <b>Entrepreneurial mindset – how to think like an entrepreneur</b>. (Learning to master your inner game is essential in developing an entrepreneurial mindset. It is always about growth mindset and being able to overcome a self doubt and limiting beliefs. You will understand how your success is stuck into the lack of enterprising mindset) <b>Daiva Pakalne</b>, Vilnius College</li> <li>• <b>Success through inspiring others</b> (A wise man once said, "if you help enough people get what they want, you can have whatever it is you want". How to give others what they want and through that achieve your own aims.) <b>Dan Ackers</b>, Buutti Oy and OAMK</li> </ul>	Öpik Conference Centre, Valukoja 8, room Supernoova

	<ul style="list-style-type: none"> <li>● <b>Panel-discussion: What we can do to be more enterprising and successful?</b></li> </ul>	
15.30	<b>Closing</b>	

## Appendices 3

### KEISS METHOD EXPLANATION

#### Keep-Improve-Start-Stop

Keep-Improve-Start-Stop (KEISS) is a simple process. It is about asking team members, departments, or the entire organisation to suggest what activities need to continue, be improved, started and/or stopped.

**KEEP** asks: "What are we doing well and need to keep doing as a leadership team/Governing Body in order to achieve our vision?"

**IMPROVE** asks: "What are we already doing that could be improved to make us as a team even more effective, efficient and better?"

**START** asks: "What do we need to start doing that we haven't been doing or that other leadership teams/Governing Bodies do to have a greater level of success?"

**STOP** asks: "What do we need to stop doing either because it no longer contributes to the overall school vision or is no longer effective?"

The KEISS process enables leadership teams to refocus their objectives on the things that have the greatest contribution to the overall strategy and vision of the organisation whilst supporting team building, collaboration and engagement throughout the organisation.