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OUTPUT SUMMARY	
PROJECT INFORMATION	
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Lead partner organisation:	University of Sarajevo, Faculty of Mechanical Engineering, Sarajevo, BiH
Project manager:	Prof. dr. Branko Vučijak
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1. INTRODUCTION

A REBUS competence inventory is an open catalogue of competences that are relevant for entrepreneurship education. The concept of an inventory implies that it is neither a closed repository nor a compulsory catalogue from which all items have to be selected.

As REBUS is a three years project we expect that more competences will be detected and described along our taxonomy which is based on the LEVEL5 system.

Content wise the REBUS Competence Inventory has been based on the results of a large-scale survey among stakeholders on the question of which competences are most relevant in the context of entrepreneurship education at (technical) Universities with more than 800 respondents in 7 European countries.

In the initial stage of the REBUS competence framework in June 2017, 20 transversal competences, which belong to the skill set of the European key competence “Sense of Initiative and Entrepreneurship” are of particular relevance in the context of entrepreneurship education in Higher Education, were described in general terms and in terms of the dimensions knowledge, skills and attitudes. Based on this, LEVEL5 reference systems were developed. These reference systems form the basis for the assessment and validation of the competences of students.

In order to ensure the connectivity of the results of the REBUS validation method to other European validation systems, in particular EQR, ECVET and EUROPASS, the REBUS competences are clustered according to the sub-competences in the section “personal skills and competences” of the EUROPASS system, such as:

- Personal competences,
- Social competences,
- Organisational competences.

The area of

- Field competences,

is normally covered by the “traditional” teaching and learning programmes of the universities.

In REBUS this refers to knowledge and skills related for instance to the fields of Mechanical Engineering and Computer Sciences.

2. LIST OF COMPETENCES

The REBUS competence set is a derived four field cluster based on different competence theories (e.g. Erpenbeck, Sauter 2014, REVEAL group 2016) in combination with the EntreCOMP model. The latter has been described thoroughly in the REBUS stocktaking phase. It consists of a set of 19 aspects:



Fig. 1: The EntreComp conceptual model

EntreComp describes Entrepreneurship as a combination of 15 “aspects” which describe the abilities of an entrepreneur along three main phases of the entrepreneurial process:

1. Developing ideas and opportunities
2. Mobilising resources
3. Putting everything into action

This approach has been largely supported by the European Commission and it is certainly one of the most elaborated models on the issue. However, even as the EntreComp consortium describes the 15 aspects as “competences” the REBUS partnership disagrees in

this regard since at least some of the points listed above are not competences along the following definition:

A competence is the ability to apply a synthesis of

- *Knowledge,*
- *Skills and*
- *Attitudes*

in a particular situation and in a particular quality¹.

The problem of aspects like “Vision” or “Looking for opportunities” (among others) is that these aspects cannot be operationalised in such a way that they can be measured for validation purposes or trained along a system of competence levels. This, however, is what the REBUS project is looking for. Apart from this, REBUS needs the operationalisation to connect its approach to EU Validation systems like ECVET or the European Qualification Framework.

Hence the workgroup in charge decided to blend the EntreComp with the LEVEL5 validation system which has been grounded on the aforementioned competence definition.



Fig: 2. REBUS Competence set

¹ The definition has been coined by a consortium led by Research voor Beleid (2006) in the EU publication „Key competences for Adult Education“.

In Fig. 2 the critical EntreCOMP aspects have been partly renamed or ordered under a fitting competence (like “Valuing Ideas” into “Evaluation”).

The derived REBUS competence set is a four field cluster² with 15 competences which can be listed as follows:

1. Field Competences
2. Entrepreneurship Competence (as general concept which can be applied in the Entrepreneurial practice project)
3. Problem solving
4. Leadership
5. Project Management
6. Planning and Resource Management
7. Intercultural Communication
8. Communication
9. Teamworking
10. Flexibility/Adaptability
11. Critical thinking
12. Networking
13. Creativity
14. Client orientation
15. Evaluating/Reflecting

As outlined before, “Field Competences” refer to the specific field of study, hence they will not be described in the following chapters

In the paper on hand, the remaining 14 competences will be thoroughly described by:

1. Descriptions consisting of a *competence summary* and aspects what a learner should *know, be able to do* and respective *attitudes* related to this competences.
2. A reference system which clusters knowledge, skills and attitudes along 5 competence levels.

² based on different competence theories and models (e.g. Research voor Beleid (2006), Erpenbeck, Sauter 2014, REVEAL group 2016) in combination with the EntreCOMP model.



3. COMPETENCE DESCRIPTIONS & REFERENCE SYSTEMS

3.1 Entrepreneurship

Entrepreneurship refers to a learner's competence to turn ideas into action. It includes a number of sub-competences such as creativity, innovation and risk-taking, as well as the ability to plan and manage projects in order to achieve the objectives. The learner is competent to apply different entrepreneurial skills and strategies in order to develop, organize, and manage an encounter he/she wants to achieve, be it private, professional or a contribution to civic society. The learner is able to discover opportunities, to realize innovation, to exploit and use resources and to identify and bear risks. He/she knows to judge and plan entrepreneurial activities in regard to the given economic conditions, and how to act and react in different professional/ business situations. The learner is able to assess and evaluate risks, to convince others of his/her vision and to work both individually and in a team. He/she is able to communicate in a goal oriented way and to delegate tasks to others. The learner is ready to take over risks and responsibility and appreciates development and innovation. He/she values pro-active behaviour, collaboration and independence and complies to ethical standards for doing business. He/she is determined to take the necessary steps to achieve his/her vision.

Knowledge: The learner...

- knows different entrepreneurial instruments and strategies, e.g. project management, controlling, marketing, etc. and how to apply them in different situations
- has knowledge about entrepreneurial competences (such as e.g. leadership, creativity, project management) and can apply them
- knows the principles of economics and the working of the contemporary economy
- knows how to identify opportunities for professional, personal or business activities
- knows how to select and involve collaboration partners





Skills: The learner...

- is able to apply different entrepreneurial instruments and strategies according to the situation and objectives to be met
- is able to identify or create new entrepreneurial activities and to promote his/her ideas towards others
- is able to assess and analyse chances and risks
- is able to lead others and to take over responsibilities
- is able to transfer knowledge and strategies into other contexts

Attitudes: The learner...

- is pro-active and motivated to take the initiative in order to reach a goal
- is willing to undertake risks to achieve his/her vision
- values autonomy and accepts the risk to fail
- has a positive attitude towards innovation and development
- appreciates collaboration and respects others
- has an ethical consciousness





REFERENCE SYSTEM – Entrepreneurship

KNOWLEDGE		SKILLS//CAPABILITIES		ATTITUDES/VALUES		
L	Level Titles	Level description	Level Titles	Level description	Level Titles	Level description
5	Knowing where else (strategic transfer)	Knowing how to transfer entrepreneurial skills and concepts into other contexts. Knowing how to help other people act successfully in different entrepreneurial structures.	Developing, constructing, transferring	Being able to transfer business strategies into new contexts. Actively planning and creating new entrepreneurial activities.	Incorporation	Having internalised entrepreneurship as a fundamental personal mindset. Being an inspiration for others in their entrepreneurial activities.
4	Knowing when (implicit understanding)	Knowing when to apply the right instrument from the portfolio of different entrepreneurial approaches and instruments. Knowing when to use certain entrepreneurial strategies.	Discovering acting independently	Deliberately seeking entrepreneurial opportunities. Searching for and selecting appropriate entrepreneurial techniques and instruments for the own business. Creating and executing an entrepreneurial strategy for the own context and professional domain.	Self-regulation, Commitment	Being determined and pro-active in using and improving own entrepreneurial competences. Finding it important to be creative in this respect.
3	Knowing how	Knowing different entrepreneurial approaches, techniques and instruments to develop business and value. Theoretically knowing how to act along an entrepreneurial concept.	Deciding/ selecting	Taking part in entrepreneurial activities as they are offered by others in known and undisturbed contexts. Choosing singular entrepreneurial tools from a known portfolio	Motivation/ appreciation	Valuing entrepreneurship in general. Being motivated to develop own entrepreneurial competences and visions.
2	Knowing why (distant understanding)	Knowing that through entrepreneurship one can develop an own business and become self-sustainable. Knowing that entrepreneurship includes social responsibility.	Using, imitating	Occasionally taking part in non structured entrepreneurial activities. Carrying out entrepreneurial actions when being instructed to.	Perspective taking	Being curious and interested in entrepreneurship and related concepts and opportunities.
1	Knowing what	Knowing that entrepreneurship is an essential concept that aims at developing a business.	Perceiving	Perceiving and recognising the concept of entrepreneurship without taking further steps.	Self-orientation	Perceiving the concept of entrepreneurship without relating it to oneself.

