



Co-funded by
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BIO-Save

Competence Catalogue

Part I

Background

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.





Result 1 accumulated findings

Bio-Save Competence Catalogue is grounded on the accumulated findings of Result 1: ***'Skills gap demands biotech expertise in climate change mitigation'*** in respect to:

- Alignment with national/EU HE priorities: existing education curricula integrating modern biotechnology tools / educational needs / gaps in the project subject area
 - Teaching strategies in Biotechnology and Education 4.0.
 - Modern Biotechnology in the educational programs in each partner country



Launched conclusions

- The national peculiarities and identified gaps in the existing educational curricula
- The need for use of a common for Europe descriptors of skills, competences, and occupations relevant for the EU labor market and education and training



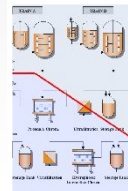
Mapping the R1 findings towards ESCO

- ESCO – European Standard Classification of Occupations
- Classification of European Skills, Competences, and Occupations, a part of the Europe 2020 strategy
- Determination of a common for the project career domains / occupations and professionals in compliance with EQF levels 6, 7 and 8

BIO-Save Career Domains



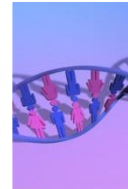
Environmental Science and Protection



Biomanufacturing / up- & down-stream processes



Environmental engineering



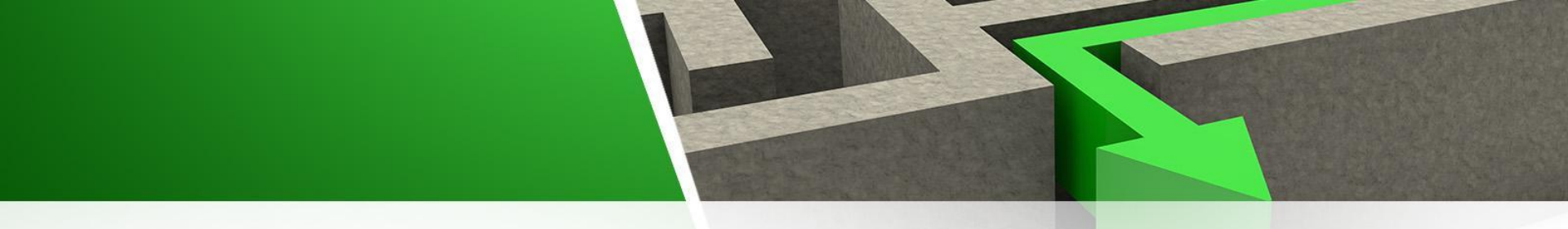
Genomics / Genetic Counselling



Agricultural science

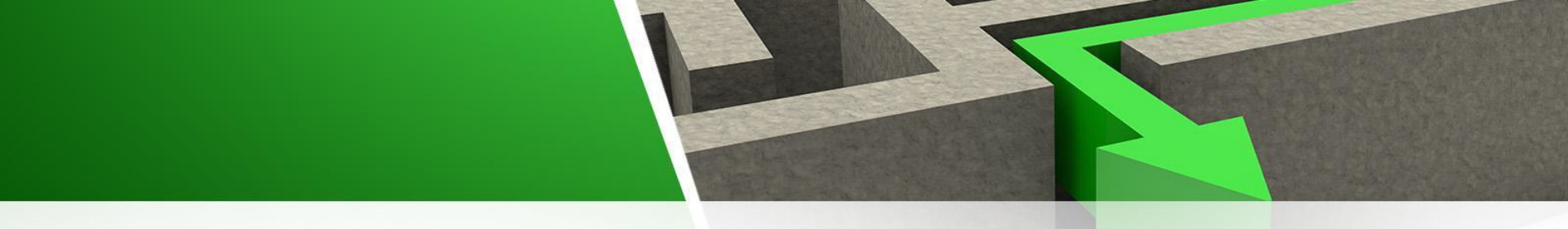
BIO-Save Career domains - assignment of occupations/professionals

EQF level	EQF 6		EQF 7				EQF 8	
Target group/ occupation Career domain	B.Sc. degree professional	Project manager	M.Sc. degree professional	Environmental Health & Safety Professional	Biotech SME Manager	In-company Training Professional	Ph.D. degree professional	Academic professional
Environmental Science and Protection	ESCO 2133.5 Ecologist	ESCO 1223.2 Research and development managers	ESCO 2133.3 Conservation scientist	ESCO 2132 Farming, Forestry and Fisheries Advisers	ESCO 1223.1 Research and development product managers	ESCO 2320 Vocational Education Teachers	ESCO 2133 Environmental Protection Professionals	ESCO 2310 University and Higher Education Teachers



EQF level	EQF 6		EQF 7				EQF 8	
<i>Target group/ occupation Career domain</i>	<i>B.Sc. degree professional</i>	<i>Project manager</i>	<i>M.Sc. degree professional</i>	<i>Environmental Health & Safety Professional</i>	<i>Biotech SME Manager</i>	<i>In-company Training Professional</i>	<i>Ph.D. degree professional</i>	<i>Academic professional</i>
<i>Biomanufacturing / up- & down-stream processes</i>	ESCO 2131.5 Food biotechnologist	ESCO 1223.2 Research and development managers	ESCO 2141.4.1 Manufacturing Engineer	ESCO 2133.6 Environmental programme coordinator	ESCO 1321.2.1.3 Food production managers	ESCO 2320 Vocational Education Teachers	ESCO 2131.4.10 Microbiologist	ESCO 2310 University and Higher Education Teachers

EQF level	EQF 6		EQF 7				EQF 8	
<i>Target group/ occupation Career domain</i>	<i>B.Sc. degree professional</i>	<i>Project manager</i>	<i>M.Sc. degree professional</i>	<i>Environmental Health & Safety Professional</i>	<i>Biotech SME Manager</i>	<i>In-company Training Professional</i>	<i>Ph.D. degree professional</i>	<i>Academic professional</i>
<i>Environmental engineering</i>	ESCO 2133.5 Ecologist	ESCO 2133.10 Pipeline environmental project manager	ESCO 2149.5 Bioengineer	ESCO 2143.2 Environmental expert	ESCO 1223.1 Research and development product managers	ESCO 2320 Vocational Education Teachers	ESCO 2143 Environmental engineers	ESCO 2310 University and Higher Education Teachers



EQF level	EQF 6		EQF 7				EQF 8	
<i>Target group/ occupation Career domain</i>	<i>B.Sc. degree professional</i>	<i>Project manager</i>	<i>M.Sc. degree professional</i>	<i>Environmental Health & Safety Professional</i>	<i>Biotech SME Manager</i>	<i>In-company Training Professional</i>	<i>Ph.D. degree professional</i>	<i>Academic professional</i>
Genomics / Genetic Counselling	ESCO 2131.4.8 Geneticists	ESCO 1330.4 ICT documentation managers	ESCO 2131.8 Biomedical scientist advanced	ESCO 2133.7 Environmental scientist	ESCO 1330.1.1 ICT information and knowledge manager	ESCO 2320 Vocational Education Teachers	ESCO 2131.3 Bioinformatics scientist	ESCO 2310 University and Higher Education Teachers

EQF level	EQF 6		EQF 7				EQF 8	
<i>Target group/ occupation Career domain</i>	<i>B.Sc. degree professional</i>	<i>Project manager</i>	<i>M.Sc. degree professional</i>	<i>Environmental Health & Safety Professional</i>	<i>Biotech SME Manager</i>	<i>In-company Training Professional</i>	<i>Ph.D. degree professional</i>	<i>Academic professional</i>
Agricultural science	ESCO 2132.2 Agronomist	ESCO 1223.2 Research and development managers	ESCO 2132.1 Agricultural scientist	ESCO 2132 Farming, Forestry and Fisheries Advisers	ESCO 1311 Agricultural and forestry production managers	ESCO 2320.1.1 Agriculture, forestry and fishery vocational teachers	ESCO 2131.5 Food biotechnologist	ESCO 2310 University and Higher Education Teachers

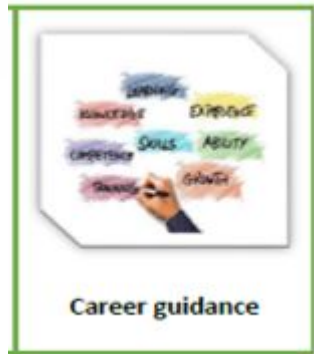


Application of the BIO-Save Competence Catalogue

- **In formal education** – mainstreams the MSc curriculum learning towards occupation/career advancement
- **In the Short intensive program for SMEs** – supports the assembly of personal portfolio for better positioning at the labor market
- **In CVET** – encourages the attendance of post-graduate courses for knowledge upgrading and up/re-skilling

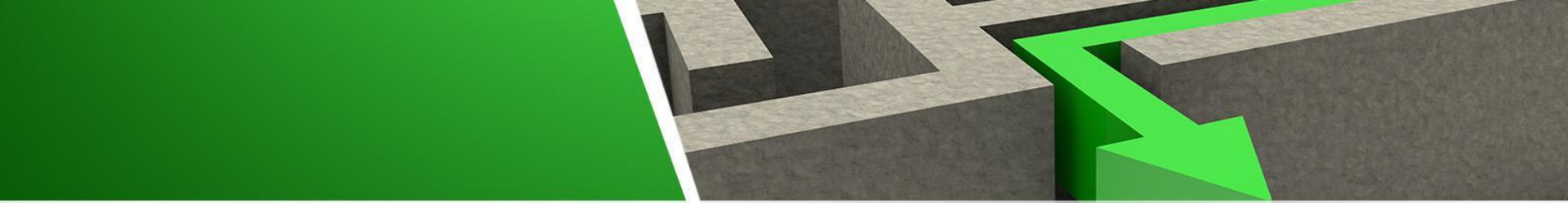
HE & VET together – beyond the present

- **In formal education** – mainstreams the MSc curriculum learning towards occupation/career advancement



- Environmental Science and Protection
- Biomanufacturing / up- & down-stream processes
- Environmental engineering
- Genomics / Genetic Counselling
- Agricultural science
- **Individual profiles**

Part II. Professional profiles
Part III. Competence records



- **In the Short intensive program for SMEs** – supports the assembly of personal portfolio for better positioning at the labor market

SIC 1



✓ Career domain 4 & 5

SIC 2



✓ Career domain 2 & 5

SIC 3



✓ Career domain 1 & 3

SIC 4



✓ Career domain 2 & 3



Interrelation of the BIO-Save Carrier Domains and SICs

Short Intensive Courses	Career domains
SIC 1: Climate change and the need for agricultural adaptation	<ul style="list-style-type: none">✓ Genomics / Genetic Counselling✓ Agricultural science
SIC 2: Biotech applications in agriculture to solve CC problems	<ul style="list-style-type: none">✓ Biomanufacturing / up- & down-stream processes✓ Agricultural science
SIC 3: Agro-ecosystem responses and adaptation to CC	<ul style="list-style-type: none">✓ Environmental Science and Protection✓ Environmental engineering
SIC 4: Climate change & bioeconomy	<ul style="list-style-type: none">✓ Biomanufacturing / up- & down-stream processes✓ Environmental engineering

- **In CVET** – encourages the attendance of post-graduate courses for knowledge upgrading and up/re-skilling



Individual profile guidance



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