

FINAL REVIEW MEETING
24 September 2021

INTERMIN Achievements

Towards enhanced training
programmes (Response)

Vitor Correia @vitor_eurgeol



EFG - The Voice of European Geologists



INTERMIN



WP 3: Towards enhanced training programmes

Duration:	26 (32) months
WP Leader:	European Federation of Geologists
Beneficiaries:	All
Structure:	3 Tasks, 5 Deliverables





Task 3.1: Definition of reference points and best practises

Context

- Trend towards interdisciplinary training programs
- Increasing importance of vocational training programs

Objective

- Definition of common metrics and reference points for comparison

Strategy

- Combination of the EU Qualifications Framework of the European Higher Education Area (QF-EHEA) and the Qualifications Framework for Lifelong Learning (QF-LLL)



Deliverables



**INTERNATIONAL QUALIFICATION
FRAMEWORK FOR THE RAW MATERIALS
SECTOR**

Deliverable 3.1



Horizon 2020

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 776642



**REPORT ON TAILORED METRICS AND
REFERENCE POINTS FOR QUALITY
ASSURANCE AND INTERNATIONAL
RECOGNITION OF TRAINING ON RAW
MATERIALS RELATED TOPICS**

Deliverable 3.2



Horizon 2020

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**BEST PRACTICE GUIDELINES FOR TRAINING
IN THE RAW MATERIALS SECTOR**

Deliverable 3.3



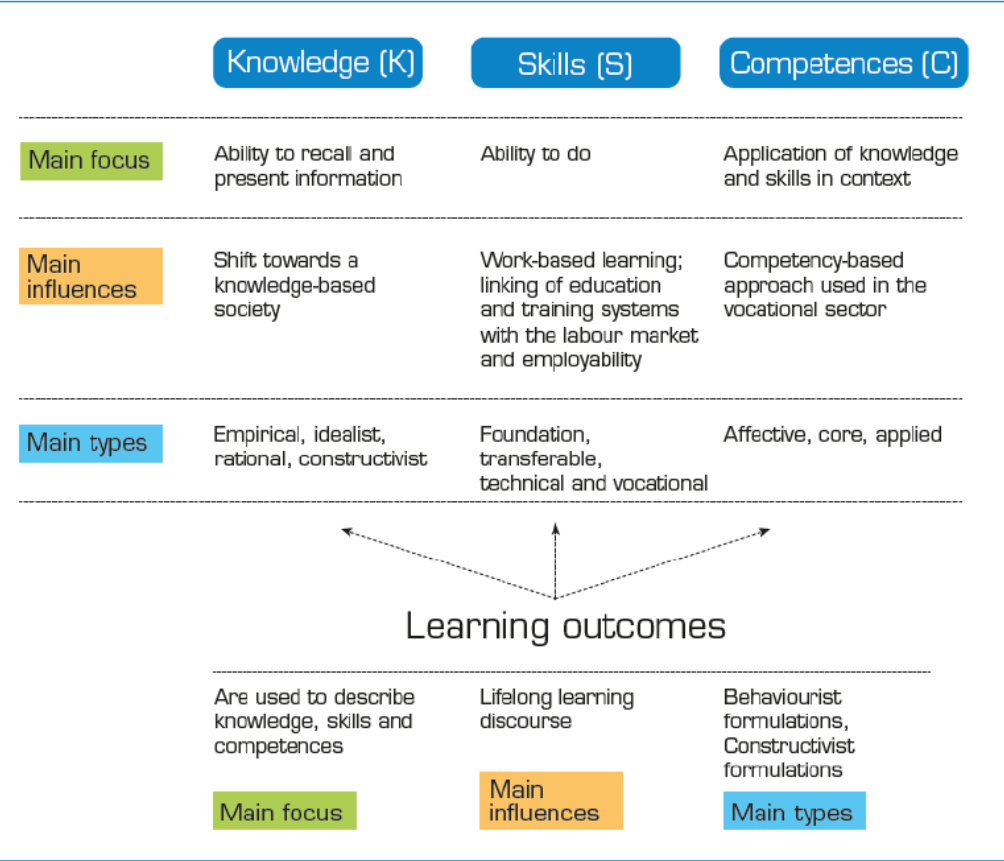
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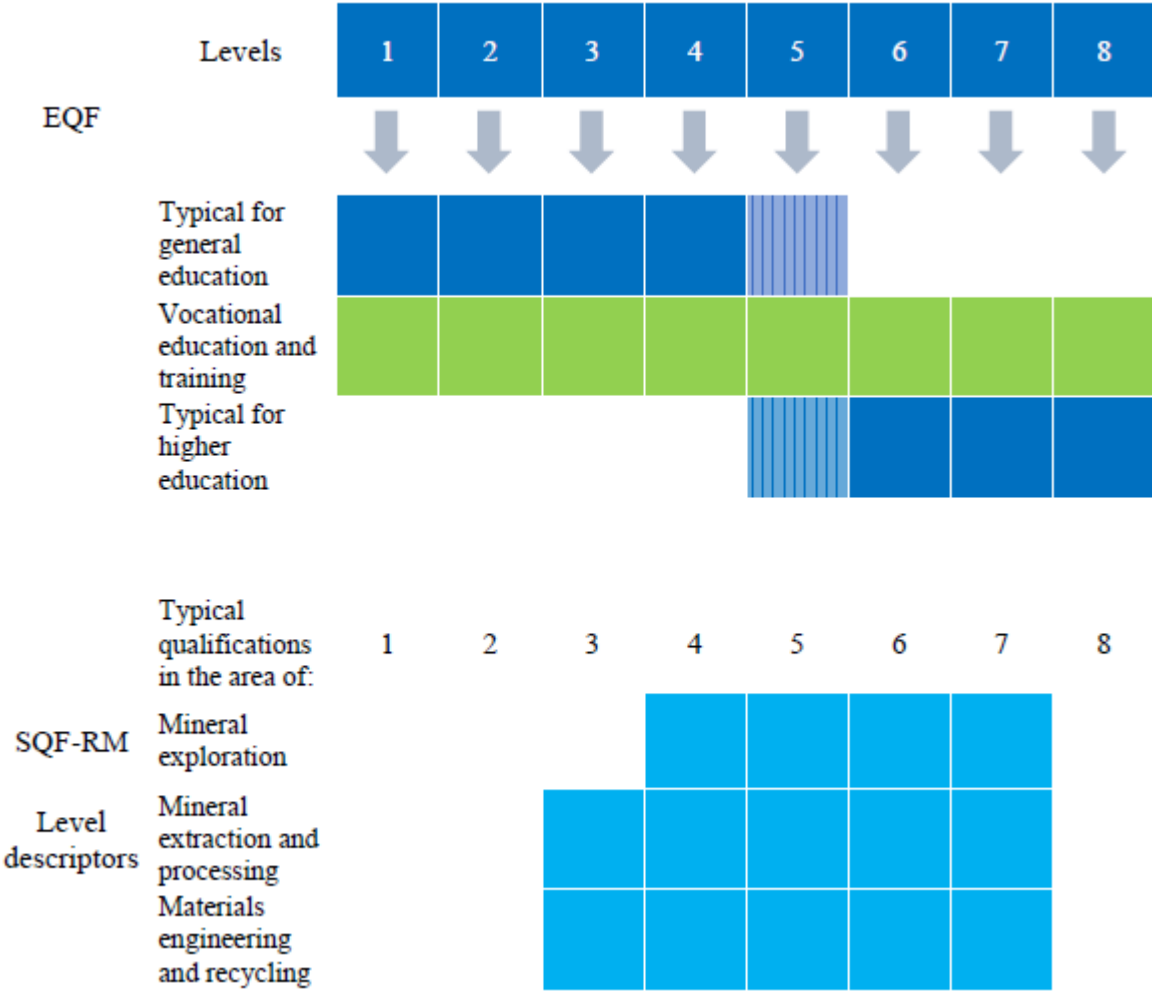




Architecture proposed for the SQF-RM

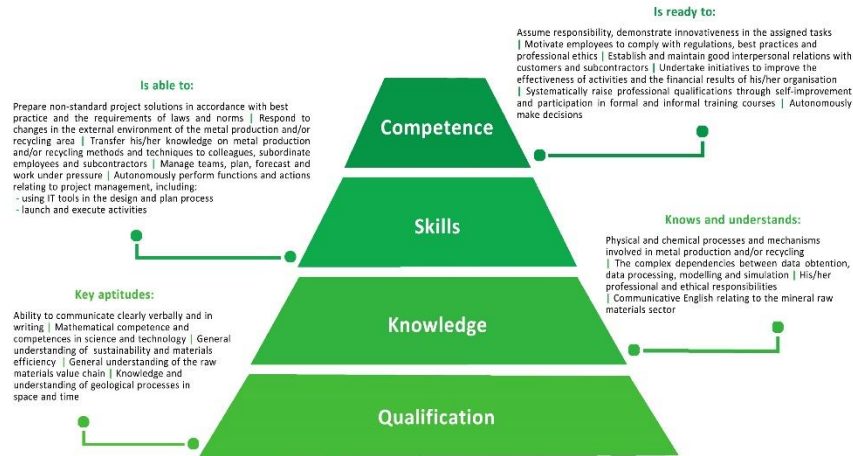


source: Keevy and Chakroun, 2015.





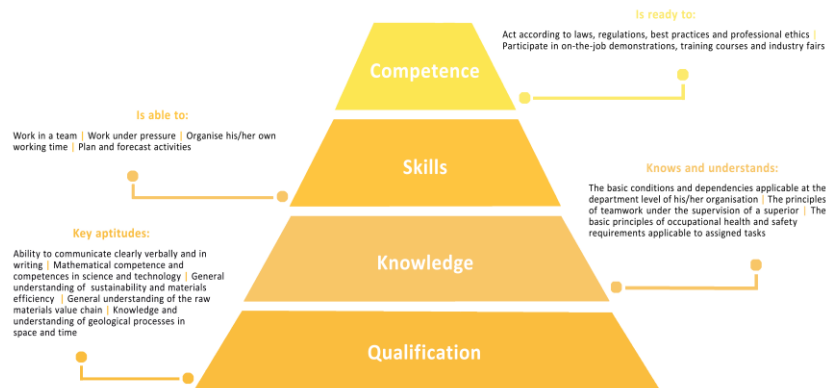
Level 6 - Materials engineering and Recycling



Level 5 - Mineral Exploration



Level 3 - Mineral Extraction and Processing



Supplementary Material to "Towards a common understanding of raw materials education worldwide -An international Qualification Framework for Raw Materials"

<https://doi.org/10.5281/zenodo.4736908>



QA system for education and training in the raw materials area



source: Tague, Nancy R. (2005). "Plan–Do–Study–Act cycle".

Component of the QA system	Excellence metrics/ Reference points	QA system
Accrediting agencies	The agency’s pool of assessors and auditors includes at least one expert on each of the main areas of activity of the raw materials sector: 1. mineral exploration; 2. mineral extraction and processing; and 3. material engineering and recycling.	9 standards and 28 guidelines applicable to accrediting agencies
Providers of education and training	Practical and fieldwork occupies at least 25% of the education and training programmes’ time (comprising all its components – e.g. courses, units, papers, modules).	13 standards and 33 guidelines applicable to providers of education and training
Education and training programmes	The outcome statement for a defined qualification is associated to a single level of the SQF-RM and its level descriptors.	10 standards and 25 guidelines applicable to education and training programmes





Guidelines for designing training programmes

Training delivery methods should be adapted to the types of skills and learning objectives for which they are more appropriate:

- Mechanical, machine operation, and tool-usage skills are best learned through the use of **equipment simulators**;
- Business decision-making skills (both day to day and strategic), planning, and complex problem solving can be effectively learned through the use of **business games**;
- The **in-basket technique** is best suited to the development of strategic knowledge used in making day-to-day decisions;
- **Case studies** are most appropriate for developing analytic skills, higher-level principles, and complex problem-solving strategies;
- **Role-plays** are a useful technique for creating attitude change, allowing trainees to experience their feelings about their behaviour and others' reactions to it.





Task 3.2: Driving knowledge transfer and adaptation of existing training program practises



Context

- Introduction of new topics into existing training programs required
- Based on the results of WP2

Objective

- Close skill-gaps and enhance existing education and training programs

Strategy

- Development of an action plan for the promotion and transfer of knowledge





Deliverables



ACTION PLAN TO CLOSE SKILL GAPS AND
ENHANCE EXISTING EDUCATION AND
TRAINING PROGRAMMES

Deliverable 3.4



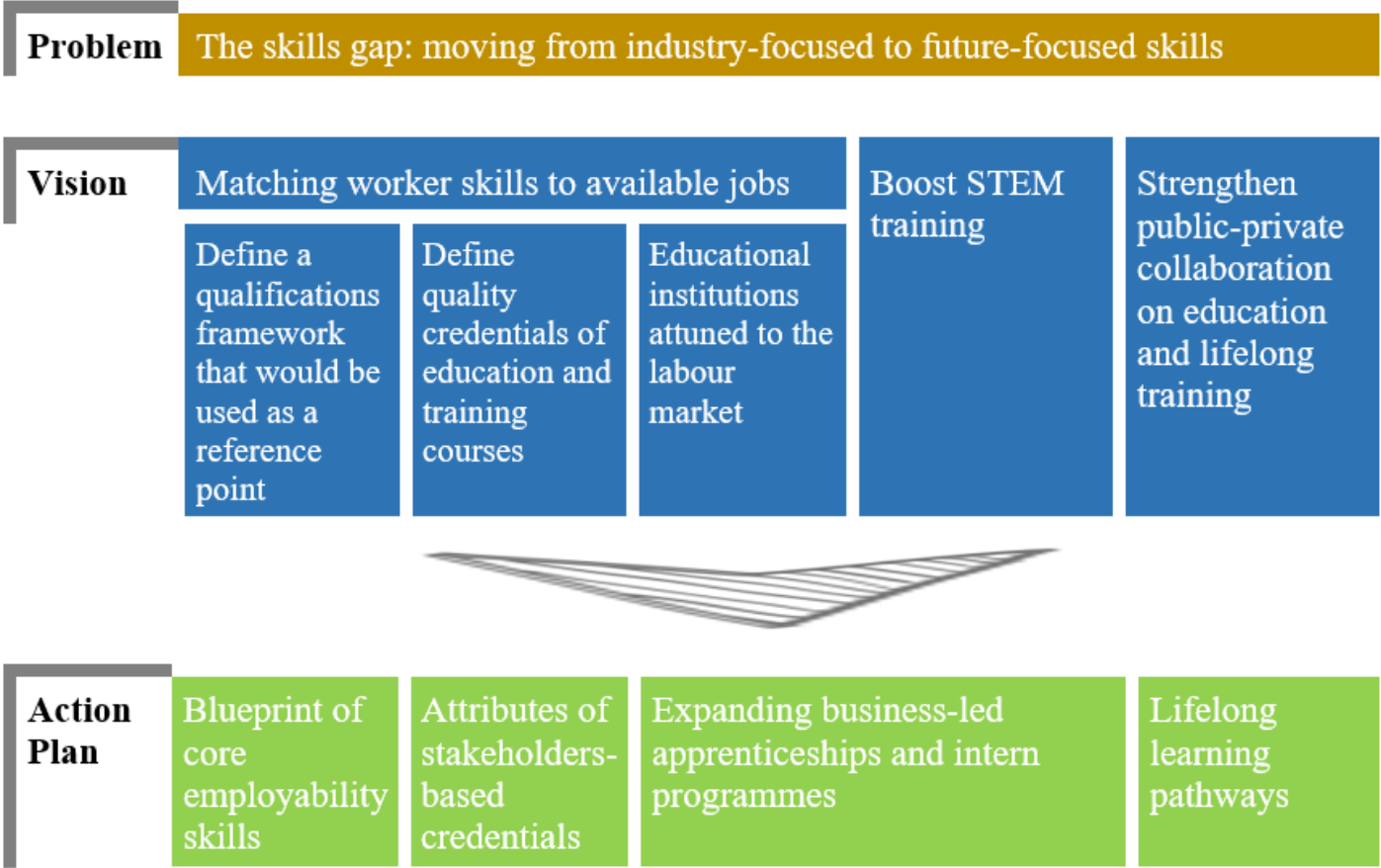
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Highlights from D3.4 ACTION PLAN TO CLOSE SKILL GAPS AND ENHANCE EXISTING EDUCATION AND TRAINING PROGRAMMES



Priority level: 2 Expanding business-led apprenticeships and intern programmes				
Timeframe for results	Stakeholders' acceptance	Number and diversity of stakeholders	Estimated cost (Euros)	Expected Benefits
24 months			3-5 M	+++
Summary	This initiative will establish a clearinghouse as part of the international network of raw materials training centres to provide information on internships and apprenticeships opportunities on at-need skills, supporting the placement process for both employers and learners.			
Key tasks	<ul style="list-style-type: none">Definition of the Terms of Reference of the internships and apprenticeships clearinghouse.Validation of the governance structure of the clearinghouse by the members of the International Network of Raw Materials Training Centres.Setting up of cooperation arrangements regarding the placement of interns and apprentices with industry and providers of education and training from different countries and regions.			
Outcomes	Streamlined placement processes for national and international internships and apprenticeships, leading to extensive employment opportunities.			
Synergies	This initiative has strong synergies with the initiatives on the blueprint of core employability skills and on the attributes of stakeholders-based credentials.			
Critical Factors for Success	The success of this initiative depends on the trust of the industry on the clearing house procedures and standards.			
Milestones	<ol style="list-style-type: none">Mapping of best practice on internships and apprenticeships in the raw materials sector completed.Definition of the clearing house organisational structure and procedures.Membership of the European Alliance for Apprenticeships.			
Responsible	International Network of Raw Materials Training Centres.			
Key Performance Indicators	<ul style="list-style-type: none">More than 20 industry stakeholders offering internships and apprenticeships opportunities through the clearinghouse.First batch of internships successfully completed.			





Task 3.3: Advancing joint international technical and vocational training programs



Objective

- Develop cooperation strategies between HEI and training centres

Strategy

- Clustering/organization of vocational training topics
- Use of specific strengths and local conditions
- Use definition of common reference points (T3.1)
- Use mutual recognition due to adapted training structure/practises (T3.2)





Deliverables



JOINT TRAINING PROGRAMMES FOR THE RAW MATERIALS SECTOR

Deliverable 3.5



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Prioritising themes and instruments

High-priority themes for education and training in the raw materials sector fall into two broad areas :

- Digital technologies (as a consequence of the adoption, by the industry, of increasing levels of automation, big data, the internet of things and artificial intelligence);
- Environmental and social governance, including community's engagement, communication and outreach.

Instruments to boost education and training in the raw materials sector :

- Use of massive open online courses (MOOCs), hosted in eLearning platforms (such as Coursera or edX);
- Provision of micro-credentials;
- Recognition of micro-credentials that could be stacked into a coherent HEI course curriculum, or aligned with into a coherent professional development path.





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Thank you for your attention

Vitor Correia @vitor_eurgeol



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