



INTERMIN

Review Meeting

24th September 2021

**WP4: Developing an international network
of Raw Materials training centres
(Leverage)**



WP4 General overview

Work package number	WP4	Lead beneficiary	6 - UPM
Work package title	Developing an international network of Raw Materials training centres (Leverage)		
Start month	12	End Month	42

Objective: This WP has defined the **scope**, created the **agenda** and investigated **sustainability options** for the long-term operation of a **network** dedicated to international cooperation and knowledge sharing by raw materials training centers.

The Network has capitalized on the work made in the other work packages (especially WP1, WP2 and WP3) to improve the framework conditions and competitiveness of raw materials training and education in the EU and globally.

The aim was to tackle longer-term challenges (as identified under WP2.1.2 and 2.1.3) by means of continued international cooperation and materializing a feasible, long-lasting international network of technical and vocational training centers for raw materials' professionals. This has required the definition of a clear mission, statutes, supporting infrastructure and procedures.



WP4: Description of the work and role of partners

WP4 - Developing an international network of raw materials training centres (Leverage) [Months: 12-42]

UPM, IGME, EGS , BRGM, ASGMI, LPRC, EFG, MUL, CCOP, AGI, UQ, YES Network

- **Task 4.1:** Mission design & positioning (EFG, EGS, BRGM, ASGMI, LPRC, UPM, MUL, CCOP, AGI, UQ, YES)
- **Task 4.2:** Creating and implementing the Network infrastructure (UPM, EGS, BRGM, EFG, MUL)
 - **Task 4.2.1:** Creating the IT infrastructure
 - **Task 4.2.2:** Sustainability Plans
- **Task 4.3:** Setting up and launching the network (EGS, IGME, BRGM, ASGMI, UPM, EFG, MUL, CCOP, AGI, UQ, YES)



T4.1 Mission design & positioning

(EFG, EGS, BRGM, ASGMI, LPRC, UPM, MUL, CCOP, AGI, UQ, YES)

The European Commission has set up bilateral agreements between the [European Union](#) and some industrialized countries outside Europe focused on academic cooperation and student mobility. The programmes under these agreements give support to consortia of higher education and training institutions working together to improve their educational services, to compare and modernize curricula and to develop joint study programmes with recognition of credits and qualifications.

Tacking advantage from this opportunity the INTERMIN consortium has established contact with [relevant non EU institutions](#) in order to define common modalities of cooperation mainly directed towards exchange of courses and trainees.

This task started with the definition of a [mission statement](#) of the Network that will act as a permanent professional body dedicated to raw materials education and training, carefully positioned to complement and work in synergy with other international training programmes in the raw materials sector.



This task has produced the **Strategic Plan of the International Network** of raw materials training centres (D4.1), that address:

- Definition of an **overall strategy** for the implementation and operation of the Network, considering its long term view and potentially emerging scenarios that can affect raw materials priorities and professional education;
- Definition of the **Network's mission and goals** (short, medium, long-term), taking into account the overall strategy;
- Definition of the **Network's competitive advantage** compared with other initiatives and training programmes;
- Definition of **collaborative networking strategies**, complementarities and possible shared actions with other international training programmes as identified under WPI.



Ref. Ares(2020)1278487 - 29/02/2020



STRATEGIC PLAN OF THE
INTERNATIONAL NETWORK OF RAW
MATERIALS TRAINING CENTRES

Deliverable 4.1



Membership in the international network of raw materials education and training centres should be open to all institutions (e.g. educational, professional, not for profit, industry, industry associations) with a significant commitment to education and training in the raw materials sector, and willing to participate in the activities of the network.

The implementation of this solution requires the identification of INTERMIN's partner(s) interested in the setup of the network and the choice of the network broker.

This decision precedes the advance of the implementation agenda, that is focused on **two priority domains**:

- 1) **tackling future skills mismatches and promoting excellence in skills development; and**
- 2) **building inclusive and connected higher education and vocational systems.**



Task 4.2 Creating and implementing the Network infrastructure

(UPM, EGS, BRGM, EFG, MUL)

Task 4.2.1 Creating the IT infrastructure

Parallel with the implementation of Task 4.1, the necessary IT infrastructure was created for the Network, and the user requirements will be specified along with the definition of the Network's mission and goals. Work then proceed with the detailed analyses of the specifications and user requirements for the development of user friendly Apps/webtools to be used by the public and the professional communities.

The Repository produced in **WPI** was integrated and constitutes the basis for the **Network's Online Educational Platform (D4.3)** that is easily accessible using a range of different interfaces (e.g. HTTP GET, OGC WFS) and using appropriate semantics such as INSPIRE Data Specifications.





INTERMIN

MINING STUDIES NETWORK

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Intermin is a Database about Mining Training. We collect knowledge about Mining Teaching all around the world and rank the best programs.

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Select if look for specific degrees

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Found  54 Institutions offering  216 Programs in this selection.

Select study areas that fit best your interests

(click areas for filter an add to ranking below)

BUSINESS MANAGEMENT

- 1.1 Mining in a global environment
- 1.2 Production analysis and mine optimisation
- 1.3 Organisational structures
- 1.4 Financial operations and production costs
- 1.5 Managing mining operations - Monitoring and compliance

GEOLOGY EXPLORATION RESOURCES & RESERVES

- 2.1 General Geology / Geography
- 2.2 Applied Geology
- 2.3 Exploration and sampling
- 2.4 Mineral deposit modelling
- 2.5 Mine feasibility studies

MINING GEOMECHANICS & TECHNICAL MINE DESIGN

- 3.1 Modelling, analysis and design
- 3.2 Implementing designs and plans
- 3.3 Integrated mine design
- 3.4 Mine rehabilitation and closure
- 3.5 Monitoring ground stability

Select study areas that fit best your interests

(click areas for filter an add to ranking below)

BUSINESS MANAGEMENT

- 1.1 Mining in a global environment
- 1.2 Production analysis and mine optimisation
- 1.3 Organisational structures
- 1.4 Financial operations and production costs
- 1.5 Managing mining operations – Monitoring and compliance
- 1.6 Management
- 1.7 Risk management

MINING METHODS

- 4.1 General mining methods
- 4.2 Surface mining methods
- 4.3 Underground mining methods
- 4.4 Fill systems
- 4.5 Reclamation

MINERAL PRODUCTION & PROCESSING

- 7.1 Feed systems and planning
- 7.2 Grade control
- 7.3 Comminution and sizing
- 7.4 Concentrator processes
- 7.5 Further treatment
- 7.6 Recycling and secondary mineral raw materials. Circular Economy

GEOLOGY EXPLORATION RESOURCES & RESERVES

- 2.1 General Geology / Geography
- 2.2 Applied Geology
- 2.3 Exploration and sampling
- 2.4 Mineral deposit modelling
- 2.5 Mine feasibility studies

MINING EQUIPMENT & SYSTEMS

- 5.1 General Mining equipment and systems
- 5.2 Electrical systems
- 5.3 Loading systems
- 5.4 Haulage systems
- 5.5 Mining software

SOFT SKILLS, HEALTH AND SOCIAL TASKS

- 8.1 Environment
- 8.2 Workplace health and safety
- 8.3 Communication
- 8.4 Creative thinking, problem solving and research
- 8.5 Sustainability
- 8.6 Self-management
- 8.7 Working with people

MINING GEOMECHANICS & TECHNICAL MINE DESIGN

- 3.1 Modelling, analysis and design
- 3.2 Implementing designs and plans
- 3.3 Integrated mine design
- 3.4 Mine rehabilitation and closure
- 3.5 Monitoring ground stability
- 3.6 Drilling, blasting and rock cutting explosives

MINING SERVICES

- 6.1 General services and planning
- 6.2 Dewatering and Mine drainage and storage systems
- 6.3 Water treatment
- 6.4 Ventilation
- 6.5 Power supply systems
- 6.6 Communications systems
- 6.7 Surveying

SOCIAL PERFORMANCE

- 9.1 Acquiring and using social data and baseline information
- 9.2 Monitoring and evaluating social projects
- 9.3 Engagement with Indigenous peoples
- 9.4 Grievance management, Prevention & management of conflict
- 9.5 Cultural heritage management
- 9.6 Community engagement
- 9.7 Agreements & implementation
- 9.8 Resettlement & influx management
- 9.9 Regional development
- 9.10 Local employment and workforce development
- 9.11 Community enterprise development

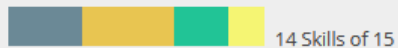


216 Programs best matching areas



📍 **Open Pit Mines** -PROFESSIONAL

Faculty of Mining and Geoengineering
AGH University of Science and Technology
Kraków Poland



📍 **Mineral Processing** -PROFESSIONAL

Faculty of Mining and Geoengineering
AGH University of Science and Technology
Kraków Poland



📍 **Blasting Techniques** -PROFESSIONAL

Faculty of Mining and Geoengineering
AGH University of Science and Technology
Kraków Poland



📍 **2 Weeks: Mining, Environmental, Civil Engineering-** **OTHER**

Faculty of Mining and Geoengineering
AGH University of Science and Technology
Kraków Poland



📍 **Underground Mining** -PHD

Faculty of Geosciences, Geoengineering and Mining, TU
Bergakademie Freiberg
Freiberg Germany



📍 **Mining Project Evaluation** -PHD

Faculty of Geosciences, Geoengineering and Mining, TU
Bergakademie Freiberg
Freiberg Germany



📍 **Sustainable Supply and Primary Sourcing of Raw Materials** -PHD

Faculty of Geosciences, Geoengineering and Mining, TU
Bergakademie Freiberg
Freiberg Germany



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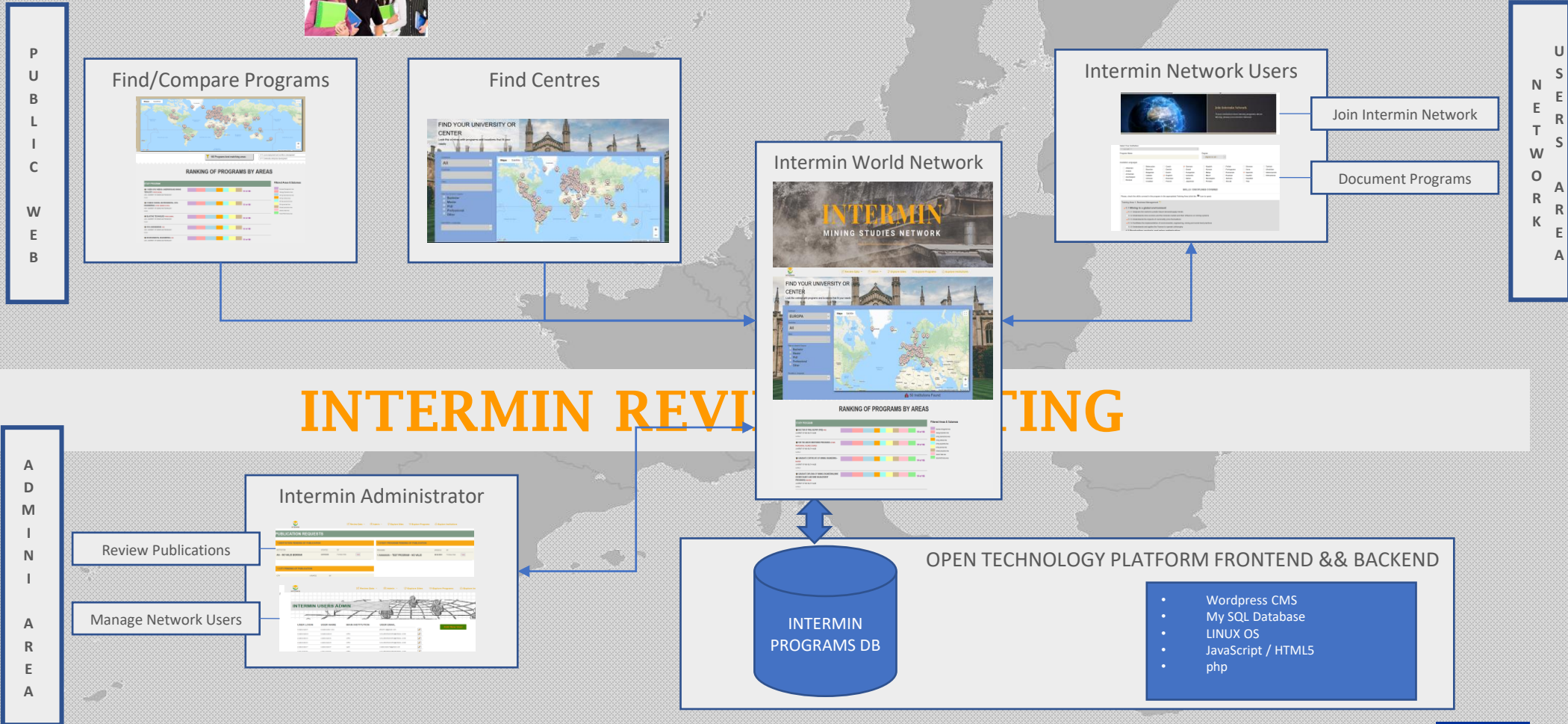


5 Institutions Found

Click on the map to select and see the institution details below.



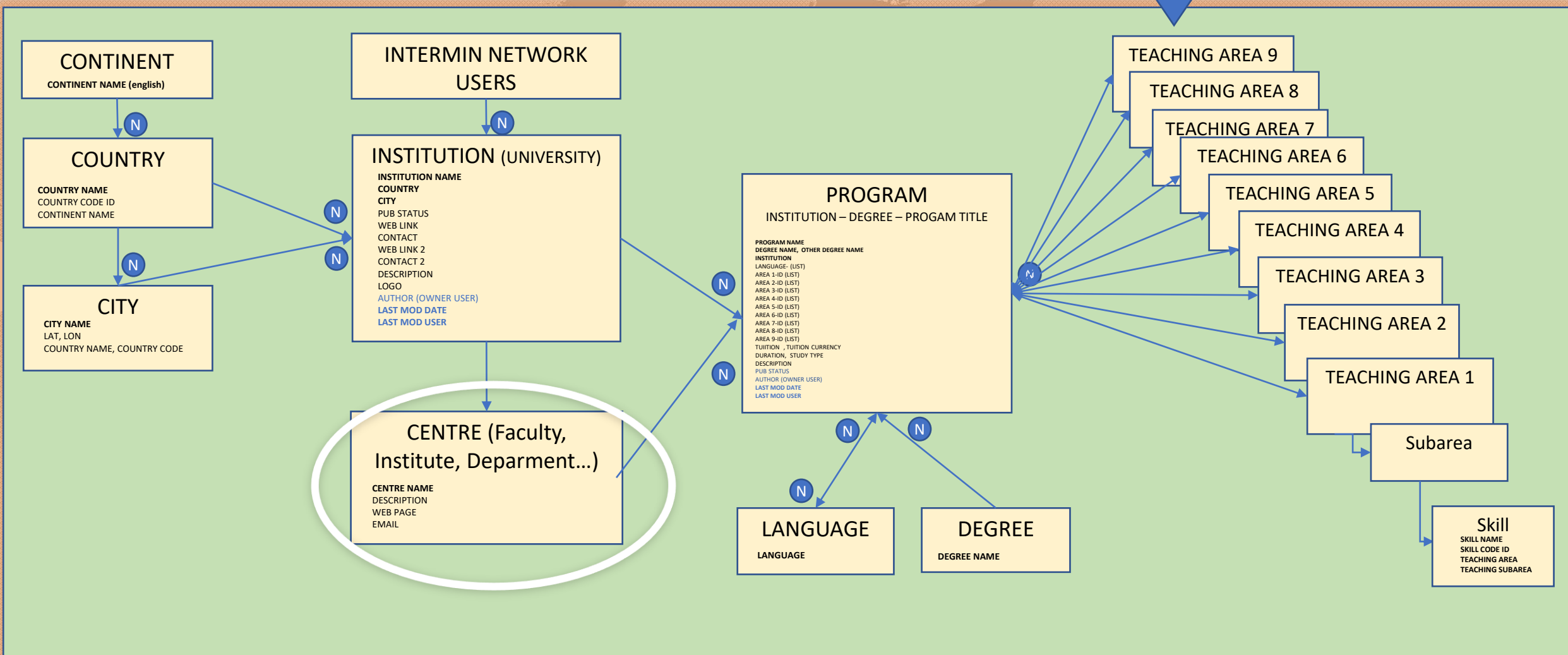
Intermin Web Platform



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



Intermin Database





Intermin Network User REQUESTS

Please, use this page to manage request from people representing an University or Institution and asking an User to Login into the Intermin Network to document their programs.

Request Status Filter

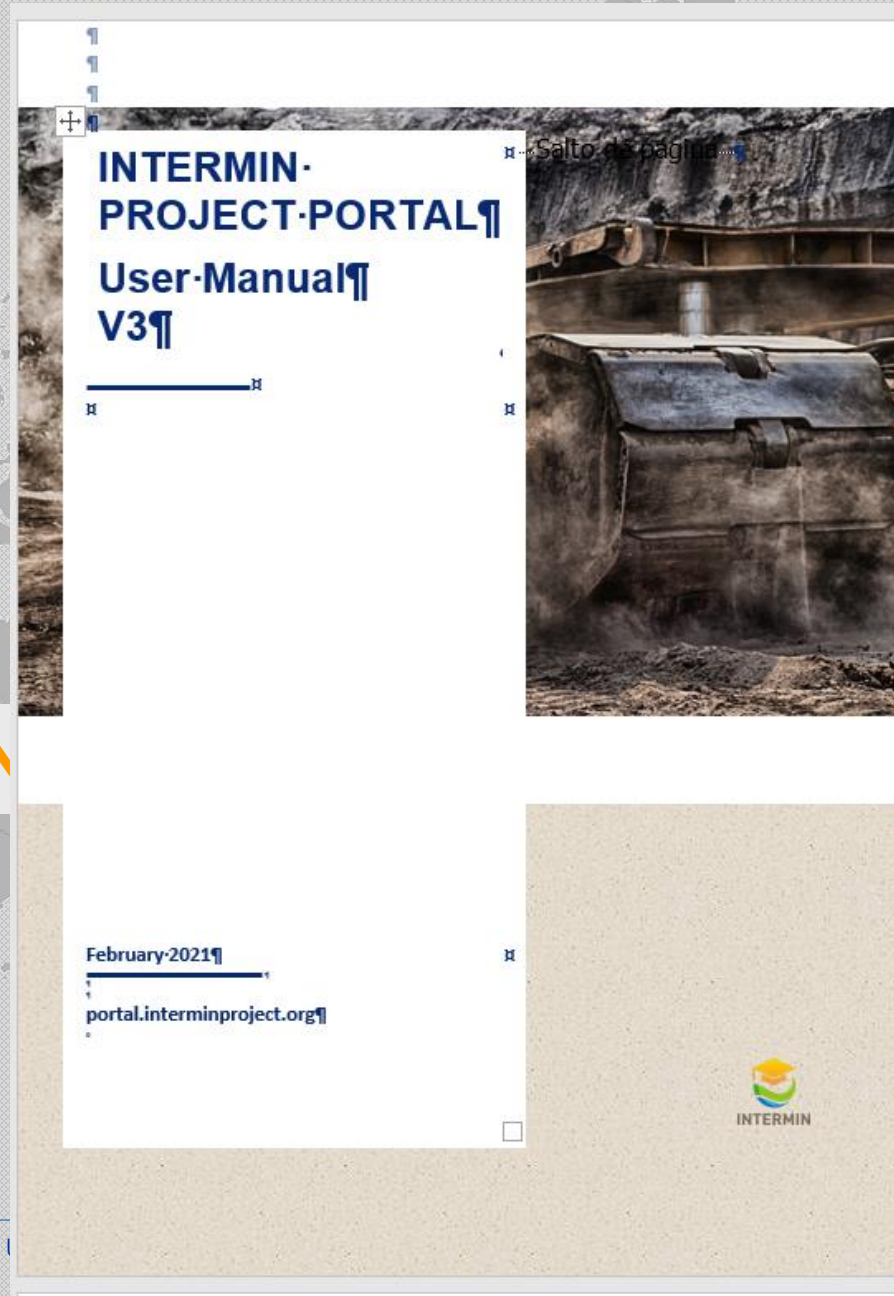
All ▾

Date	Name	Email	Institution from	Country	Status		
22/06/2021	Brittany Jennings	✉ brittany.jennings@queensu.ca	Queen's University	Canada	Created		
22/06/2021	Sunjay Sunjay	✉ sunjaytellus@gmail.com	Geophysicist	India	Created		
22/06/2021	Rosalia Fiorentino	✉ emerald@uliege.be	University of Liège	Belgium	Created		
14/06/2021	Maria Elisa	✉ mgomes@utad.pt	UTAD	Portugal	Created		
14/06/2021	Tiany Guedes Cota	✉ eng.minas@crateus.ufc.br	Federal University of Ceará	Brazil	Created		
25/05/2021	Prof. Dr. Ulrich Anton Glasmacher	✉ ulrich.a.glasmacher@geow.uni-heidelberg.de	Institute of Earth Sciences/Heidelberg University	Germany	Created		
25/05/2021	JOSÉ FRANCISCO SUÁREZ FINO	✉ f.suarez-fino@consultec-ingenieros.com	INSTITUTO DE INGENIERIA DE LA UNAM	México	Created		
25/05/2021	Jorge Pedro	✉ jpedro@uevora.pt	Universidade de Évora	Portugal	Created		

New versión of the portal manual



INTERMIN



This project has received funding from the European Union

Contract No 776642



Task 4.2 Creating and implementing the Network infrastructure

Task 4.2.1 Creating the IT infrastructure (Cont.)

The next step was the establishment of an **Information Catalogue** that allows for searching, consulting and downloading the deliverables and the individual components of project deliverables, as well as information produced by external training providers.

Furthermore, the platform provides **access to all deliverables** of the INTERMIN project.

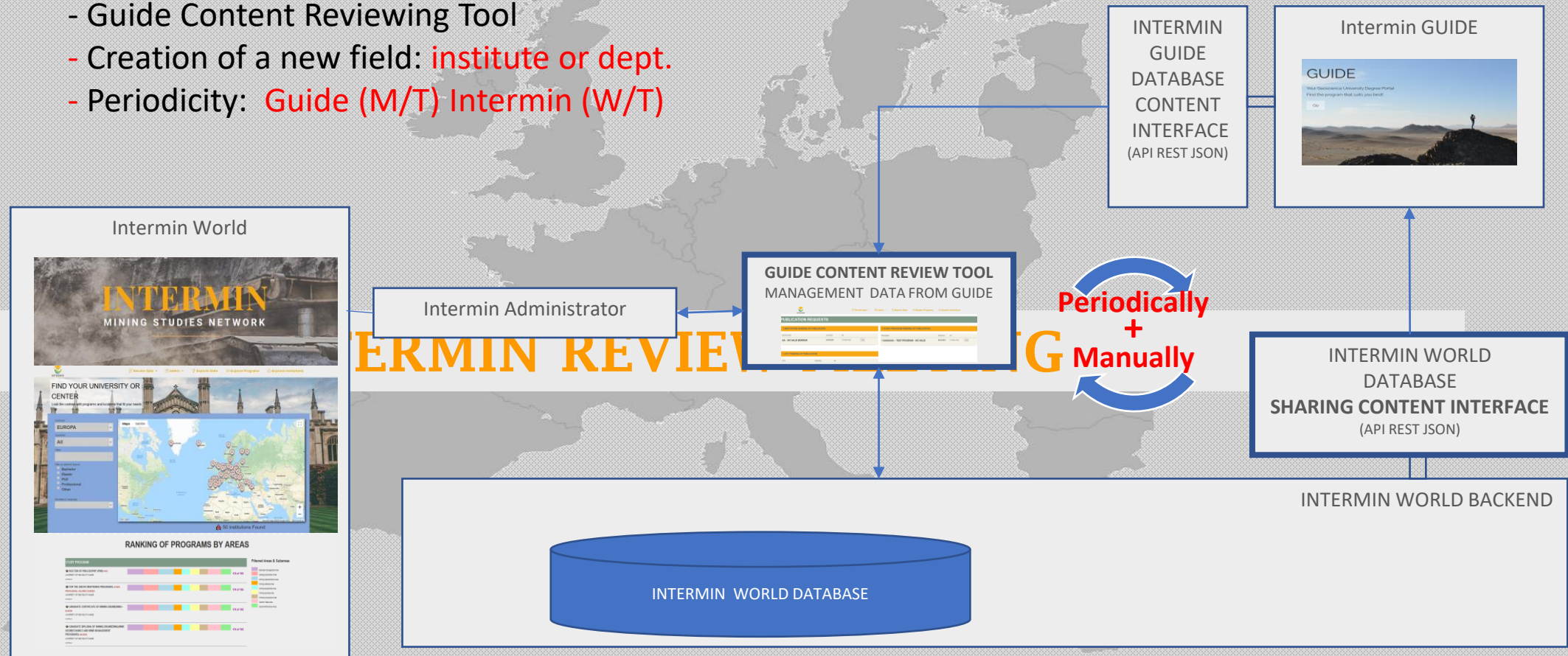
It also contains an external **Geosciences University Program Portal (GUIDE)**, developed and provided to the INTERMIN project and maintained afterwards by the EFG/BDG, which contains standardized in-depth information about curricula of geoscientific BSc and MSc programs relevant for the primary and secondary raw materials sector.



Intermin World Wide – Guide Database Sharing – May 2021

Integration Tool:

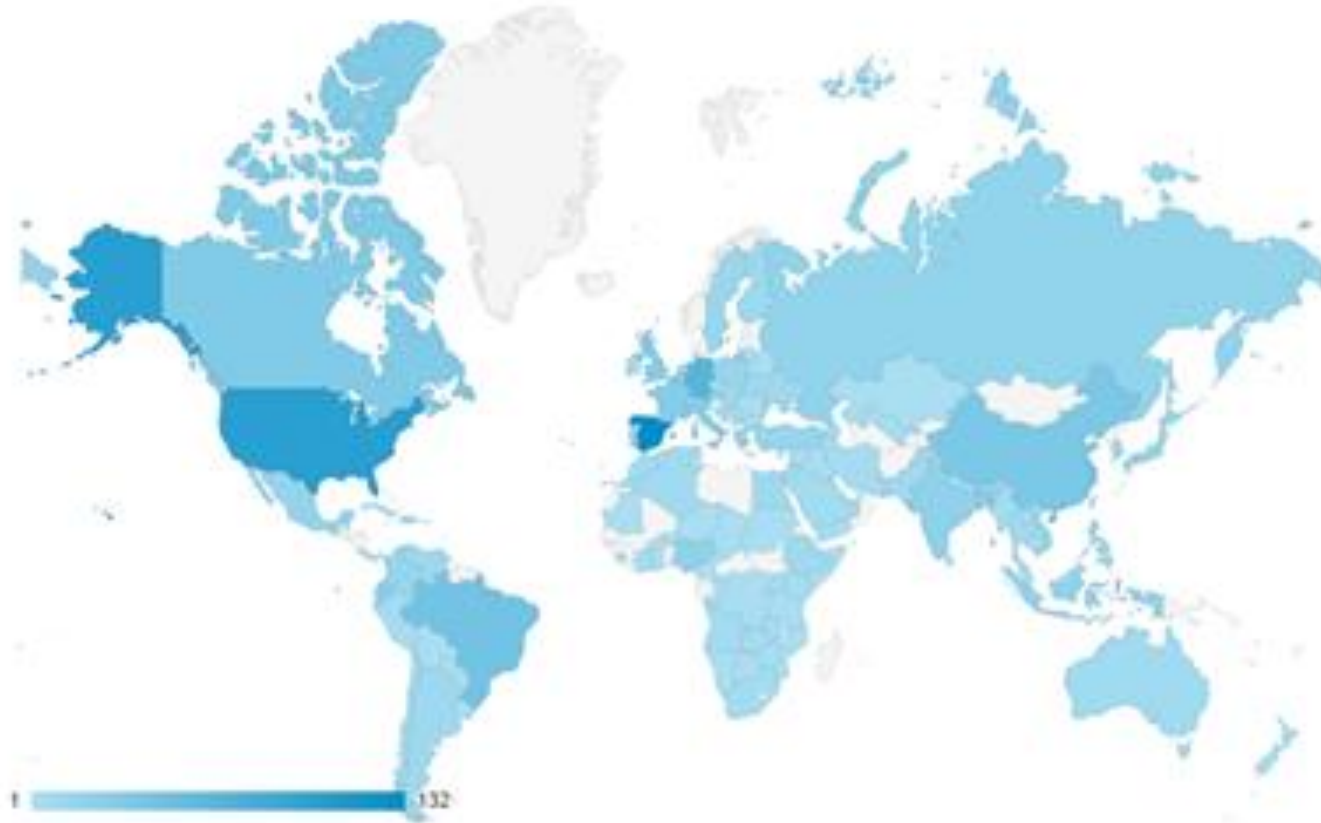
- Sharing Content Interface
- Guide Content Reviewing Tool
- Creation of a new field: **institute or dept.**
- Periodicity: **Guide (M/T) Intermin (W/T)**



Task 4.2 Creating and implementing the Network infrastructure

Task 4.2.1 Creating the IT infrastructure (Cont.)

Visitors by Country (from 1 January to 28 september 2021) after Google Analytics report.



Desktop: 76,8%
Mobile: 23,2%

Task 4.2 Creating and implementing the Network infrastructure

Task 4.2.2 Sustainability Plans

This Task has elaborated on sustainability pathways that could be used to keep the international network operational after the EC funded period. The aim was to define a range of financing scenarios and then use the Intermin Project monthly meetings to discuss these scenarios with members of the Network and the Advisory Board and to create a **Sustainability Plan (D4.2)** of the training network that would define:

- Scope and membership structure;
- Scope of cooperation strategies/agreements between partner training centres;
- Legal & financial base of cooperation;
- Design of the network structure and roadmap for implementation.



Task 4.2 Creating and implementing the Network infrastructure

Task 4.2.2 Sustainability Plans



SUSTAINABILITY PLAN
FOR THE INTERNATIONAL NETWORK OF
RAW MATERIALS TRAINING CENTERS
(INTERMIN)

Deliverable 4.2, Version 1.6



Task 4.2 Creating and implementing the Network infrastructure

D4.2 Annexe I - Concept Note

REGISTRATION OF A NON FOR PROFIT ENTITIY: INTERNATIONAL NETWORK OF RAW MATERIALS TRAINING CENTERS

Mission and strategic goals

The mission of the international network of raw materials education and training centres is to foster the international exchange of information and knowledge between raw materials education and training centres, thereby encouraging and supporting value-creation, innovation and good practice. Its **strategic goals are:**

- 1) to promote international cooperation and the dissemination of good practice;**
- 2) to explore synergies between raw materials' stakeholders for knowledge-sharing;**
- 3) to build mutual trust and enable the mutual recognition of credits and qualifications provided by network members;**
- 4) to enable innovations to evolve more quickly; and**
- 5) to identify opportunities arising from cooperation between diverse education systems and general education requirements.**



Task 4.3 Setting up and launching the network

(EGS, IGME, BRGM, ASGMI, UPM, EFG, MUL, CCOF, AGI, UQ, YES)

Task 4.3 has focused on the establishment of **cooperation agreements** (D4.4) among training stakeholders to expand the network of training centres, and on the development of a governance model and organizational structure for the Network, considering:

- A **Board of Administration**, responsible for ensuring that the Network's mission and vision are respected, and for adapting the Network's strategy as required in response to changes in the macro environment;
- An **Executive Director** supported by a small administrative staff, responsible for the implementation of the actions needed to deliver the Network's strategy, and for collecting and analyzing data related to the Network's performance indicators;
- A **Council of Experts** that will provide insights relevant to the Network's strategy implementation and outcomes, working to terms of reference and work plans agreed with the Board of Administration and the Executive Director.

The governance principles were already defined in the **Sustainability Plan of the International Network** (D4.2).



Task 4.3 Setting up and launching the network

Task 4.3 has focused on the establishment of **cooperation agreements** (D4.4) among training stakeholders to expand the network of training centres, and on the development of a governance model and organizational structure for the Network, considering:



Cooperation agreements

(INTERMIN)

Deliverable 4.4, Version 1.0





INTERMIN Review Meeting 24th September 2021

WP4: Thank you!



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