



"MINE.THE.GAP" OPEN CALL #2 GUIDE FOR APPLICANTS



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Topic: H2020-INNOSUP-01-2018-2020

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1. ABOUT MINE.THE.GAP

MINE.THE.GAP is an innovation project funded by the European Commission as part of the INNOSUP programme.

The main ambition of MINE.THE.GAP project is to provide SMEs from the raw materials and mining sectors with the necessary tools to improve their competitiveness, boost their growth and implement new services, solutions and/or products through cross-sectorial and cross-regional collaboration. MINE.THE.GAP aims at establishing new collaboration between SMEs from the raw materials and mining sector with SMEs working on ICT, resource efficiency, circular economy, and advanced manufacturing.

The MINE.THE.GAP initiative is a fund based on the attribution of vouchers to reinforce synergies between raw materials mining SMEs and providers from the existing fields of ICT, Circular Economy, Resources Efficiency and Advanced Manufacturing.

MINE.THE.GAP provides direct financial support to SMEs through innovation vouchers. In two competitive calls, the best projects to carry out a strategic plan preparation, validation of ideas, proof of concept and demonstration activities are selected to be funded through these vouchers. The expected TRLs for activities funded under the calls lie between TRL6-7 for design and implementation of a prototype/proof-of-concept and TRL7-8 for demo activities.

Additionally, MINE.THE.GAP offers business support services for the selected projects to enhance innovation capacities, to promote technology transfer and commercialisation, and to boost SMEs internationalisation.

The following image represents the main innovation support offered to the selected SMEs through MINE.THE.GAP open calls:

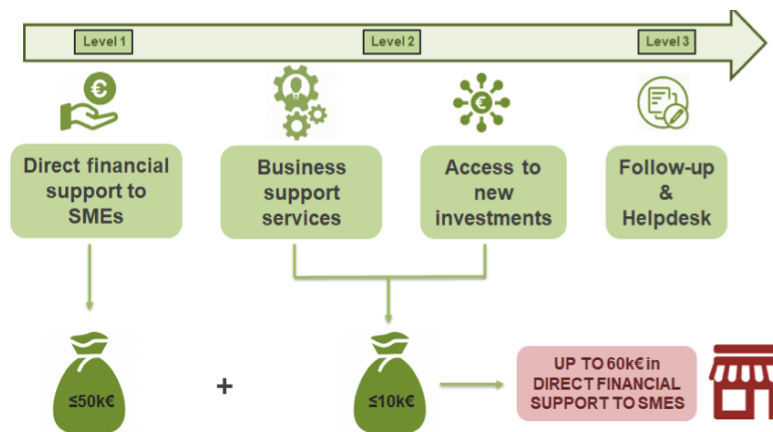


FIGURE 1-MAIN SCHEME OF MINE.THE.GAP CALL. SOURCE: ICAMCYL

The total amount of direct financial support for SMEs in this call is up to 1.5 million EUR.

The applications must be submitted digitally through the MINE.THE.GAP platform, available at <https://h2020-minethegap.eu>

This document contains the information related to the second MINE.THE.GAP competitive open call. Please also refer to the Appendixes and the Frequently Asked Questions, which are part of the Open Call Documents.



2. SECTORS, VALUE CHAIN AND TOPICS TO BE FUNDED



The aim of the MINE.THE.GAP Open Call is to provide an opportunity to European SMEs in the target raw materials and mining sectors to develop products, technologies, solutions, and services in collaboration with SMEs from emerging and advanced sectors, and to provide direct financial support to SMEs through innovation vouchers.

The MINE.THE.GAP vouchers will support projects that are aligned with the major challenges and needs of the raw materials and mining sectors, according to the image below:



FIGURE 2-TOP 10 – CHALLENGES AND NEEDS – RAW MATERIALS AND MINING.
SOURCE: ICAMCYL

SMEs from the following sectors are eligible to apply for MINE.THE.GAP vouchers:

| ADOPTERS: | RAW MATERIALS AND MINING SECTORS | | | |
|--|---|-------------------------|---------------|--|
|  | Any SME implementing technology and innovation value across the whole raw materials value-chain, including, but not limited to: mining operation and exploitation companies, exploration, prospection, extraction, processing, design, production, remanufacturing, use, re-use, reparation, recycling. | | | |
| PROVIDERS: | ICT, CIRCULAR ECONOMY, AND | RESOURCE EFFICIENCY AND | MANUFACTURING | |
|  | Any SME providing technology and innovation value to be applied into the raw materials and mining value chain from the following sectors: ICT, Circular Economy, Resource Efficiency/Sustainability, Green Technology and Advanced Manufacturing. (Please see the Key Technologies in Appendix II) | | | |

The MINE.THE.GAP call is for innovation vouchers with two different direct funding schemes:

| TYPE OF PROJECT | TRL COVERED | PROJECT DURATION | PROJECT START |
|---|-------------|------------------|------------------------------|
| <p>MINE-PoC: design and implementation of a prototype/proof-of-concept to demonstrate the viability of the proposed solution</p> | TRL6-7 | 8-9 Months | By June 1 st 2022 |
| <p>MINE-Demo: developing and testing in a production environment of a simple functional demo/pilot with all the major features of the product/service/solution</p> | TRL7-8 | 9-12 Months | By June 1 st 2022 |

a. TYPE OF VOUCHERS

The MINE.THE.GAP Call will support two types of vouchers:

The **MINE-PoC Voucher** provides financial support of up to 25,000 EUR per SME for the design and implementation of a prototype/proof of concept to demonstrate its feasibility. This voucher has to address any of the top 10 challenges and needs identified in the raw materials and mining value chain while focussing on at least one of the 'Key Actions' to be funded (see section 2.c).

The **MINE-Demo Voucher** provides financial support of up to 50,000 EUR per SME for the development and testing in a production environment of a simple functional pilot or demonstration with all the major features of the product/service/solution. This voucher has to address any of the top 10 challenges and needs identified in the raw materials and mining value chain while focussing on at least one of the 'Key Actions' to be funded (see section 2.c).

One SME can apply to multiple vouchers, but the total funding available through vouchers per SME is up to 50,000 EUR.

In addition to the innovation voucher, awarded SMEs have access to the MINE.THE.GAP business hub services, a collection of services with a direct financial support from 3,000 EUR up to 7,000 EUR. Furthermore, the SMEs funded under MINE.THE.GAP and participating in the Business Hub Services can win additional prizes. Thus, an SME can receive vouchers and direct financial support for business services up **to the maximum limit of 60,000 EUR**. Services and work exceeding the granted voucher amount will not be covered and must be paid for by the SMEs themselves. **In conclusion, the total financial support to SMEs can reach up to 60,000 EUR, which is the maximum amount of funding available per SME under MINE.THE.GAP. In case that one SME participates in several funded projects, exceeding the total limit of 60,000 EUR (business services included – see 2.b), such company will have to commit to cover the work and expenses at their own cost.**

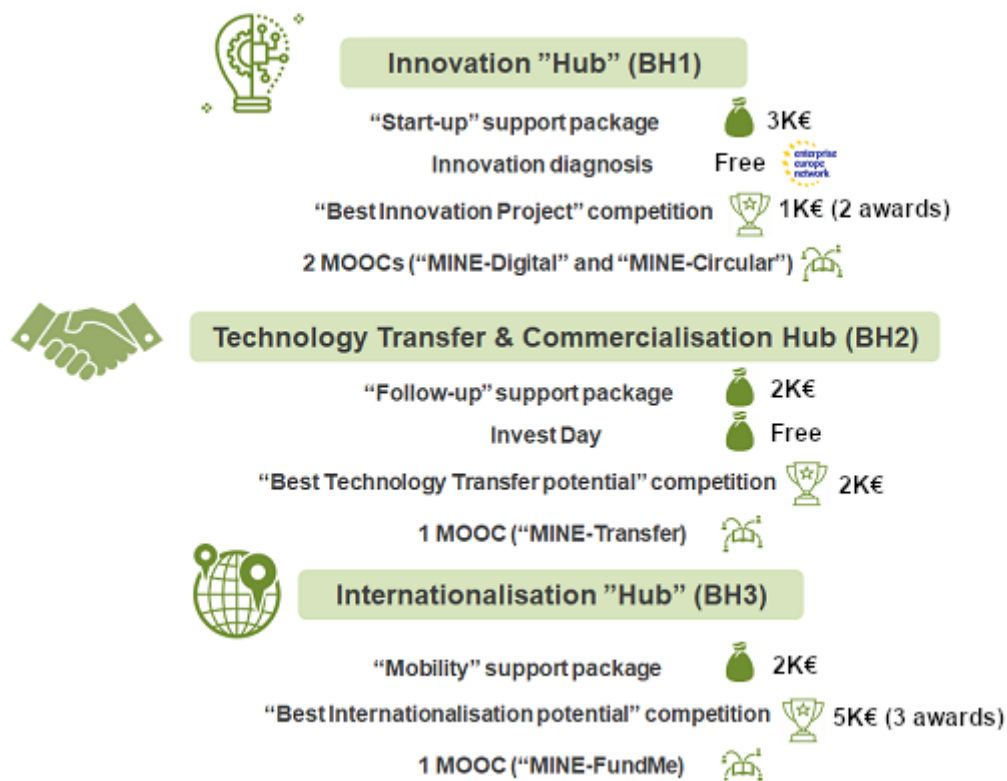
b. BUSINESS SUPPORT SERVICES

MINE.THE.GAP will provide a number of business support services to the selected projects in order to enhance their innovation capacities, to promote technology transfer and commercialisation, and to boost their internationalisation. These services will support the creation of new businesses opportunities promoting growth and competitiveness of European SMEs.

There are three different Business Hubs (BHs), each with a series of specific services to strengthen the market position of the SMEs funded under MINE.THE.GAP: Innovation Hub (BH1), Technology Transfer & Commercialisation Hub (BH2) and Internationalisation Hub (BH3).

SMEs awarded with financial support under the Open Calls receive a summary of the support services. The services will be organised and communicated accordingly

after the publication of the selected projects. Support services are summarized in the following scheme:



c. TOPICS TO BE FUNDED

MINE.THE.GAP focuses on actions to be implemented in SMEs at any stage of the whole RAW MATERIALS AND MINING value chain.

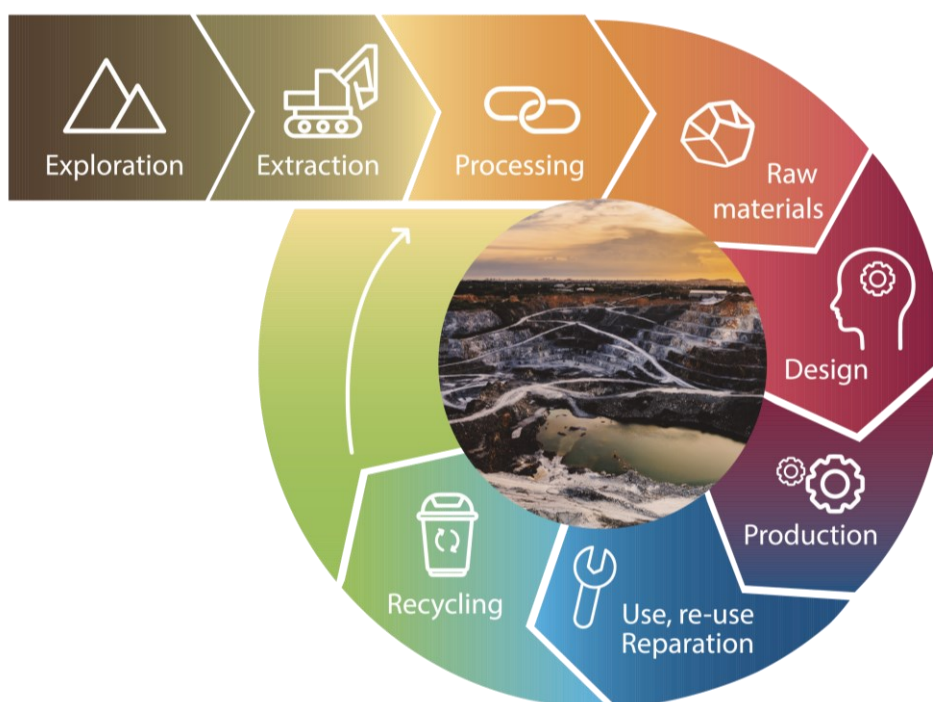


FIGURE 3-RAW MATERIALS AND MINING VALUE CHAIN

MINE.THE.GAP is aligned with the priorities outlined in the European plan of resilience in raw materials COM (2020) 474 – *Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability*¹, resulting from the European Innovation Partnership in raw materials and the implementation of its roadmap (SIP – Strategic Implementation Plan²). MINE.THE.GAP aims to improve the competitiveness of SMEs by meeting the top 10 challenges for sustainable mining (see figure 2), and to increase the resilience of EU industrial value chains by providing a sustainable supply of raw materials and contributing to the implementation of circular economy in the mining and raw materials sector.

Based on these aims and policies, **MINE.THE.GAP innovation vouchers will fund ideas leading to a proof of concept or simple functional demo/pilot in the following key areas (KA):**

¹ [COM \(2020\) 474 - Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability](#)

² https://ec.europa.eu/growth/sectors/raw-materials/eip/strategic-implementation-plan_en

CORE OF MINE.THE.GAP TOPICS & PROJECT IDEAS



KA1- Adoption and implementation of innovative technologies oriented to improve the sustainable supply of raw materials from mineral resources and anthropogenic deposits, including innovative exploration technologies or technologies that will boost competitiveness in mining life cycle.

KA2- Eco-friendly technologies and environmental actions to achieve a sustainable mining approach, technologies to mitigate the impact of mining or to reclaim post-operation mining land and/or revitalise the economy of the region.

KA3- Circular economy plans, technologies, methods, analysis and business model (i.e. industrial symbiosis) to be applied at any stage of the operation cycle of raw materials value chain, ensuring an eco-efficient operation of a mining exploitation or related to the circular supply of raw materials.

KA4- Process technologies, advanced manufacturing technologies, robotics, oriented to improve productivity and the efficient use of resources, recovery of raw materials (including co and by-product), recycling technologies or other approaches increasing eco-efficiency in the sector of raw materials.

KA5- Towards the digitalisation of the raw materials sector. Innovative technologies to be applied into mining, processing, smelting operations that improve SMEs competitiveness, contribute to an efficient use of resources, reduction of emissions, or ensure safe operations.

KA6- Advanced training skills, methods, technologies and occupational safety innovative measures for the workers oriented to improve the operations and attract or recover jobs in a new transformed sector essential for the Just Transition.

KA7- Cross-cutting topics, highlighting the importance of new business models, new financial and investment methodologies for the raw materials sector, forefront methods or exploration data bases for low environmental impact exploration, and methods to improve public perception of mining and processing/metallurgy in addition to legislative obligations in order to better gain the social acceptance (Social License to operate – SLO.)



KA1- Adoption and implementation of innovative technologies oriented to improve the sustainable supply of raw materials from mineral resources and anthropogenic deposits, including innovative exploration technologies or technologies that will boost competitiveness in mining life cycle.

This Key Action will fund project ideas under the following topics:

- Exploration technologies, including forefront geophysical or geochemical methods, advanced modelling of resources, innovative technology aided approaches such as satellite information, advanced sensing, or drone prototypes for resource mapping, identification, or discovery.
- Innovative tools and methods for resource pre-/characterisation.
- Concepts and methodologies for assessing mineral resources supply risks
- Long-term monitoring systems of mining operations.
- Generation of databases and inventories of raw materials, from geology (mineral deposits) to tailings.
- Classification methods of interest for the supply and recovery of critical raw materials. Map and 3D inventories.
- Advanced methods for detection and identification of resources (i.e., sensing technologies, analytics, geomagnetism).



KA2- Eco-friendly technologies and environmental actions to achieve a sustainable mining approach, technologies to mitigate the impact of mining or to reclaim post-operation mining land and/or revitalise the economy of the region.

This Key Action will fund project ideas under the following topics:

- Water treatment and water purification technologies.
- Advanced design methodologies, methods to ensure sustainable and circular operation in a mine, a processing plant, or a smelter.
- Recovery of raw materials from contaminated soil and water.
- Innovative remediation methods, applying advanced research from nanotechnologies or biotechnology. Innovative solutions for soil recovery based on technosole approaches.
- Cost efficient concepts and methodologies for remediation after mine closure with field demonstration.
- Restauration ideas, plans, pre-projects, methods and technologies for recovery or reuse of abandoned mines, including (but not restricted to) the revitalization of a mining site, i.e., by construction of bio parks, actions for preserving palaeontologic heritage, the installation of innovative production mechanisms for renewable energies (solar energy, hydrogen,

geothermal energy), use of infrastructures for the installation of systems oriented to generate renewable energy.



KA3- Circular economy plans, technologies, methods, analysis and business model (i.e., industrial symbiosis) to be applied at any stage of the operation cycle of raw materials value chain, ensuring an eco-efficient operation of a mining exploitation or related to the circular supply of raw materials.

This Key Action will fund project ideas under the following topics:

- Any innovative smart and eco-efficient technologies for mining, processing, or smelting reducing the environmental impact at any stage of the operation value chain.
- Any technology applied at any stage of the operations in a mine, a processing plant or a smelter oriented to reduce emissions, water, and energy consumption.
- Advanced methods to be implanted to ensure the efficient use of resources (i.e., water use, energy use, better use or recovery of raw materials) such as the adoption of digital technologies (i.e., digital twins) and new workflows.
- Advanced recovery or separation methods, reducing the generated waste, processes or products giving a new fate to waste, or recovering raw materials from mining tailings or scraps.
- Efficient characterization and separation of products and components for re-use or recycling.
- Ideas to recover metals and rare earth elements from urban mines via innovative, clean, and environmental-friendly processes. The low environmental impact must be demonstrated (i.e., by environmental impact assessment methods).
- Modelling circular economy, methods for assessing the circular operation.



KA4- Process technologies, advanced manufacturing technologies, robotics, oriented to improve productivity and the efficient use of resources, recovery of raw materials (including co and by-product), recycling technologies or other approaches increasing eco-efficiency in the sector of raw materials.

This Key Action will fund project ideas under the following topics:

- Advanced processing methods leading to more efficient operation, automating stages of the production (i.e., new advanced manufacturing processes, methods, mechanisms, or robotics) or contributing to a more efficient separation and classification of the mineral (i.e., integrating ore-sorting technologies for waste minimization).

- Advanced recovery methods, reducing the generated waste, or recovering raw materials from mining water, mining waste, tailings, or scraps
- Innovative methods, pilots, field studies, processing approaches (i.e., ionic liquids, hydro/pyro-metallurgy), to recover valuable critical raw materials (i.e., rare earths, PGMs and other by-products) from the smelt and from mining tailings, in mining processing stages (i.e., recovering PGMs at ppms from mining waste and demonstrate the efficient reuse in catalyst) or secondary raw materials processing stages.
- Innovation and benchmarking of environmental-friendly processes, separation, and recovery techniques.
- Any process proven efficient and sustainable oriented to open a valorisation of any mining and processing waste or waste from smelting processes into a valuable raw material, industrial symbiotic value chain or a product (i.e., recovering specific raw materials from mining tailings and reuse them to manufacture advanced geopolymers applicable to construction).
- Ideas implementing industry 4.0 solutions at the level of processing plants, or manufacturing or smelting stages, including automated systems/robotics for hand-free operations (i.e., automated drilling systems, remoted explosive operations, gunite robots).



KA5- Towards the digitalisation of the raw materials sector. Innovative technologies to be applied into mining, processing, smelting operations that improve SMEs competitiveness, contribute to an efficient use of resources, reduction of emissions, or ensure safe operations.

This Key Action will fund project ideas under the following topics:

- Integration of methods, tools, software, IoT (Internet of Things) solutions in automation and robotics in mining environments and processes across mine operations or smelting processes.
- Enhanced connected mobility for the digital mine, like augmented reality and virtual reality tools and systems for the workers
- Analytics and decision support tools for prediction and planning operations leading to an OPEX reduction or environmental footprint reduction (i.e., Artificial Intelligence, Machine Learning, simulation tools).
- Improving communication protocols, interoperability, cybersecurity, block chain at any stage of the mining operation and raw materials value chain.
- Tracking and wearable devices for enhanced safe operations in mining.
- Drones or any kind of unmanned vehicles linked to a digital platform allowing mapping, maintenance, or risky operations.
- Sensing technologies, digital twins oriented to improve sustainability, design, safety, operation costs of a raw materials exploitation.



KA6- Advanced training skills, methods, technologies and occupational safety innovative measures for the workers oriented to improve the operations and attract or recover jobs in a new transformed sector essential for the Just Transition.

This Key Action will fund project ideas under the following topics:

- Integration of methods, tools, software, virtual platforms, and devices (i.e., simulators) to train the workers to safely operate.
- Innovative learning and teaching methods oriented to educate the workers to operate forefront production technologies, to adapt to new safety certifications or sustainable mining, to work under an industry 4.0 environment or to operate with digital platforms.
- Solutions for improving mining, processing, or smelting operation safety, including the reduction of labour risk exposure to hazardous elements, products, or dust.
- Interactive education methods or systems (i.e., by means of virtual learning, augmented reality training) oriented to train or improve the skills of the workers, with particular focus on risky operations (i.e., explosives) or complex use of machinery or heavy vehicles.
- Innovative gadgets or wearables bringing a safety advantage in risky operations to the workers.



KA7- Cross-cutting topics, highlighting the importance of new business models, new financial and investment methodologies for the raw materials sector, forefront methods or exploration data bases for low environmental impact exploration, and methods to improve public perception of mining and processing/metallurgy in addition to legislative obligations in order to better gain the social acceptance (Social License to operate – SLO.)

This Key Action will fund project ideas under the following topics:

- Ideas oriented to improve the social acceptance and trust/public perception of raw materials sector (i.e., international transparency portal of the mining industry).
- New business models (implementing circular economy aspects) (i.e., new business models for resource recovery, remanufactured products, product life extension, sharing platforms).
- Tools, applications, and services that enable circular economy business models with a particular focus on raw materials mining.
- Development of digital tools for enabling new collaborations within the product life cycle.
- Measures to raise the public perception for activities associated with the sustainable supply of raw materials.
- Standardized social science methodologies for gathering/analysing data in different countries on improving raw materials awareness and public acceptance.
- Improvement of methods or data for increasing the efficiency of an environmental impact assessment or a LCA – life-cycle analysis. Studies on flows of mineral resources (i.e., MFA – material-flow analysis)
- Valuable data bases with information on social perception, environmental protection, responsible actions, social projects, and best lessons learnt related to sustainable mining.



3. WHO MAY APPLY & ELIGIBILITY CRITERIA FOR APPLICANTS

MINE.THE.GAP will fund collaborative activities of consortia consisting of two to three SMEs, according to the following rules:

- a. Applicants must be a SME (Small and Medium-size Enterprise) according to the EU definition³ (including Public SMEs and start-ups).
- b. Applicants must be established in one of the following nine MINE.THE.GAP target countries: Bulgaria, Finland, France, Germany, Greece, Poland, Portugal, Spain, and Sweden⁴.
- c. The members of the consortium must be from at least two of the countries named under point b.
- d. Applications must be submitted by a consortium consisting of min. 2 SMEs and max. 3 SMEs
- e. At least one SME in the consortium must belong to a “provider sector” (ICT, circular economy, resource efficiency and advanced manufacturing), and at least one of the participating SMEs must be an “adopter” of the technology belonging to any step of the raw materials value chain (as the example in Figure 5).
- f. A SME is considered eligible for MINE.THE.GAP open calls if it complies with ALL the following rules:
 - has not been declared bankrupt or have initiated bankruptcy procedures.
 - has no convictions for fraudulent behaviour, other financial irregularities, unethical or illegal business practices.
 - is not under liquidation or an enterprise under difficulty accordingly to the Commission Regulation No 651/2014 art. 2.18.

Companies revealing economic issues due to the pandemic situation will be analysed and considered even if they provide a negative balance for the years 2020 and 2021.

At least one of the SMEs in a single project must come from a different country than the other(s), established in one of the following nine MINE.THE.GAP target

³ https://ec.europa.eu/growth/smes/sme-definition_en

⁴ Eligible countries have been selected paying attention to the importance of the Industrial modernisation partnership S3P “mining and global value chains”

countries: Bulgaria, Greece, Finland, France, Germany, Greece, Poland, Portugal, Spain, and Sweden.



FIGURE 4-MAP REPRESENTING COUNTRIES OF THE CALL. SOURCE – ADAPTED FROM TOM-TOM SERVICES

EXAMPLES OF A POSSIBLE CONSORTIUM CONSTITUTION:

The MINE.THE.GAP vouchers will support projects that bring together technology providers and businesses in the mining industry to create new and improved value chains. Through MINE.THE.GAP, European SMEs can enter new collaborations to develop products, technologies, solutions, and services for the raw materials and mining sectors. The diagram below demonstrates possible consortium structures:

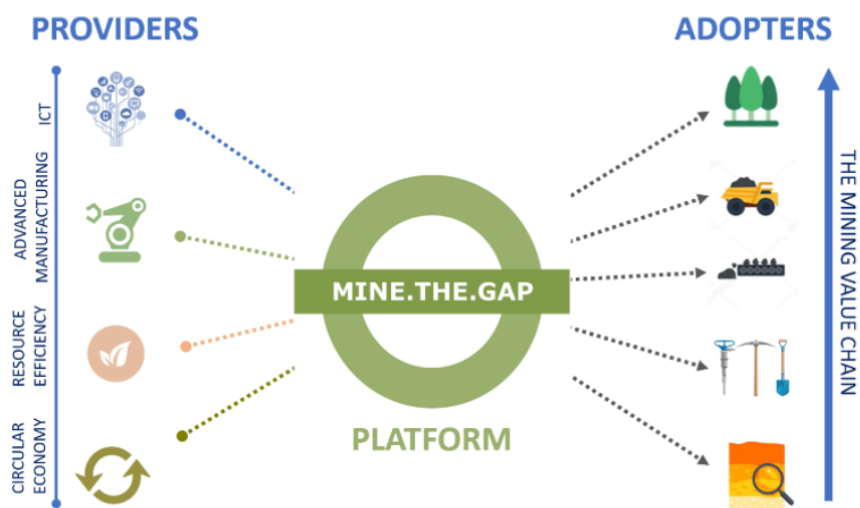


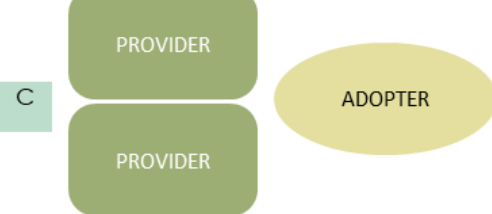


FIGURE 5-MINE.THE.GAP COLLABORATIONS

MINE.THE.GAP will fund collaborative activities of these possible project consortia. The SMEs need to be from at least two different countries:

| | | |
|---|---|--|
| a | One SME from the target sectors and one SME from the provider sectors |  |
| b | One SME from the provider sector and two from target sectors |  |
| c | Two from provider sector and one for the target sector |  |

Please, see below, examples of the consortium structure:

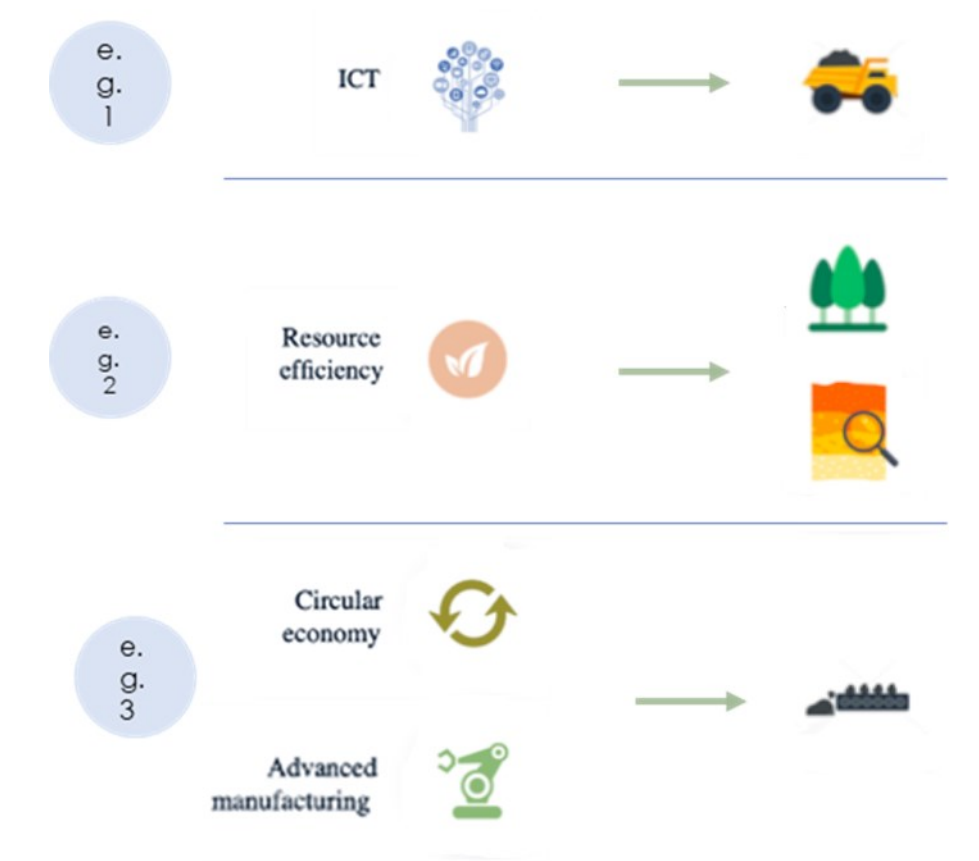


FIGURE 6-POSSIBLE STRUCTURES OF PROJECT CONSORTIA - EXAMPLES



4. FUNDING CONDITIONS

The applicants will receive a funding decision by the MINE.THE.GAP consortium in May 2022.

SMEs have the possibility to participate in different MINE.THE.GAP open calls during the course of the MINE.THE.GAP project. However, the maximum possible financial support for any SME in all calls is **limited to 50,000 EUR** for vouchers and another 10,000 EUR for other business services.

| | | |
|--|-------------------------------|--------------|
| Maximum funding per SME/project | MINE-PoC | 25,000.00 € |
| | MINE-Demo | 50,000.00 € |
| Maximum funding per project: | MINE-PoC | 75,000.00 € |
| | MINE-Demo | 150,000.00 € |
| Type of financial support: | Lump sum | |
| Payments | 50% pre-funding | |
| | 25% after intermediate report | |
| | 25% after final report | |
| MINE.THE.GAP consortium may request evidence/documents to assess SME status, including independence/ownership. | | |
| The total amount of direct financial support for SMEs in this Call is up to 1.5 million EUR. | | |

a. ELIGIBLE COSTS

Successful proposals shall receive the requested financial contribution in the form of a lump sum.

A lump sum is a fixed amount of money which can be used by beneficiaries for several purposes related to the achievement of the project objectives. It is necessary to provide an explanation in the application on how the lump sum will be used including a clear budget proposal (personnel, subcontracting, travels, equipment and consumables). Since the granting of a lump sum does not foresee the delivery of a detailed financial reporting and timesheets, the use of the project budget will be controlled considering the technical advancements by the technical reviewers. The final technical evaluation will assess the fulfilment of work packages, tasks, deliverables and achievement of milestones and outcomes, previously described in the project application.

Only costs generated during the lifetime of the project can be eligible. Since each project is funded in the form of a lump sum, costs described in the submitted budget must be determined in accordance with the usual accounting and management principles and practices of the beneficiary. The categories of eligible costs are:

1. **Direct staff costs** (personnel) hours cost of the staff of the beneficiary that is dedicated to actual work under the development of the project
2. **Subcontracting costs** (external expertise): work carried out by an external provider which has entered into an agreement on business conditions with the beneficiary. This external provider cannot be one of the consortium partners.
3. **Other costs:** further direct incurred costs can be claimed, like travel expenses, equipment (only depreciation costs), consumables, etc. Purchases or provision of paid services between consortium partners would not be eligible.

b. PAYMENT SCHEME

| | |
|---|---|
| ⇒ | 50% upon the signature of grant agreement. |
| ⇒ | 25% after intermediate report, upon the successful evaluation by MINE.THE.GAP consortium. |
| ⇒ | 25% after final report and upon the successful evaluation by MINE.THE.GAP consortium. |

5.

MANDATORY DOCUMENTS FOR THE PROPOSALS TO BE ELIGIBLE



| | |
|------------------------------|--|
| PROPOSAL SUBMISSION DEADLINE | 14 th March, 2022; 17:00 CET |
| CONSORTIUM COMPOSITION | <ul style="list-style-type: none"> • SMEs from the countries of the MINE.THE.GAP target countries (the ones included in Mining Industry Smart Specialisation platform) are eligible to participate. These countries are Bulgaria, Finland, France, Germany, Greece, Poland, Portugal, Spain, and Sweden. The consortium partners need to be from at least two different countries. • 1 SME from target sectors and 2 SMEs from the provider sectors or 2 SMEs from target sectors and 1 from the provider sectors or 1 SME from provider Sector and 1 from Target Sector. • Minimum: 2 countries. |
| PROJECT DURATION | <p>MINE-PoC: 8-9 Months</p> <p>MINE-Demo: 9-12 Months</p> |
| MANDATORY DOCUMENTS | <p>Full complete application package consisting of: Application form, and from each SME: commitment declaration, ethics issues declaration, financial declaration and documents, and partner profile.</p> <p>Applications that doesn't provide <u>ALL</u> the requested documents will not be considered.</p> <p>All templates are available at https://h2020-minethegap.eu/open-calls/</p> <p>Appendix III to this Guide explains the online application process.</p> |
| APPLICANT REQUESTING FUNDING | All applicants requesting funding must provide a statement of commitment duly signed by the legal representative of the organisation or the Lead Researcher. |

LANGUAGE

English is the official language for MINE.THE.GAP open calls. Submissions done in any other language will not be evaluated. English is also the only official language during the whole execution of the MINE.THE.GAP project. This means any requested submission of deliverable must be done in English in order to be eligible.



6. EVALUATION CRITERIA AND PROCEDURES

The evaluation procedures are designed to identify the best proposals in terms of excellence, impact, and quality and efficiency of the implementation, as thoroughly and accurately as possible; and to undertake the assessment in a fair, transparent, and homogeneous way for all proposals submitted under the call.

a. EVALUATION CRITERIA

Proposals will be evaluated based on three main evaluation criteria:

- 1) Excellence (10 points / 30% Weight).
- 2) Impact (10 points / 40% Weight).
- 3) Quality and Efficiency of the Implementation (10 points; 30% Weight).

Evaluation scores will be awarded accordingly to the three main evaluation criteria giving as a result a weighted score over 10 points, with a threshold of **7/10**:

| CRITERIA | Weight | Threshold |
|--|--------|-----------|
| Excellence <ul style="list-style-type: none"> Innovation potential idea that it is aligned with a barrier/challenge related to raw materials and mining sector. The solution will contribute for the challenge or to overcoming the barriers identified and to meet the top ten challenges identified by MINE.THE.GAP in sustainable raw materials supply. Innovative solution that goes beyond the state of the art in comparison with existing or competing/ existing solutions. | 30% | 3/10 |
| Impact <ul style="list-style-type: none"> Realistic and relevant description of how the innovation will have impact on the different participating companies. Alignment of proposal with the MINE.THE.GAP topics (Key areas). Convincing description of how the innovation will have impact in the field/ thematic of the proposal. Convincing description of how the proposal will have EU and National impact. | 40% | 4/10 |

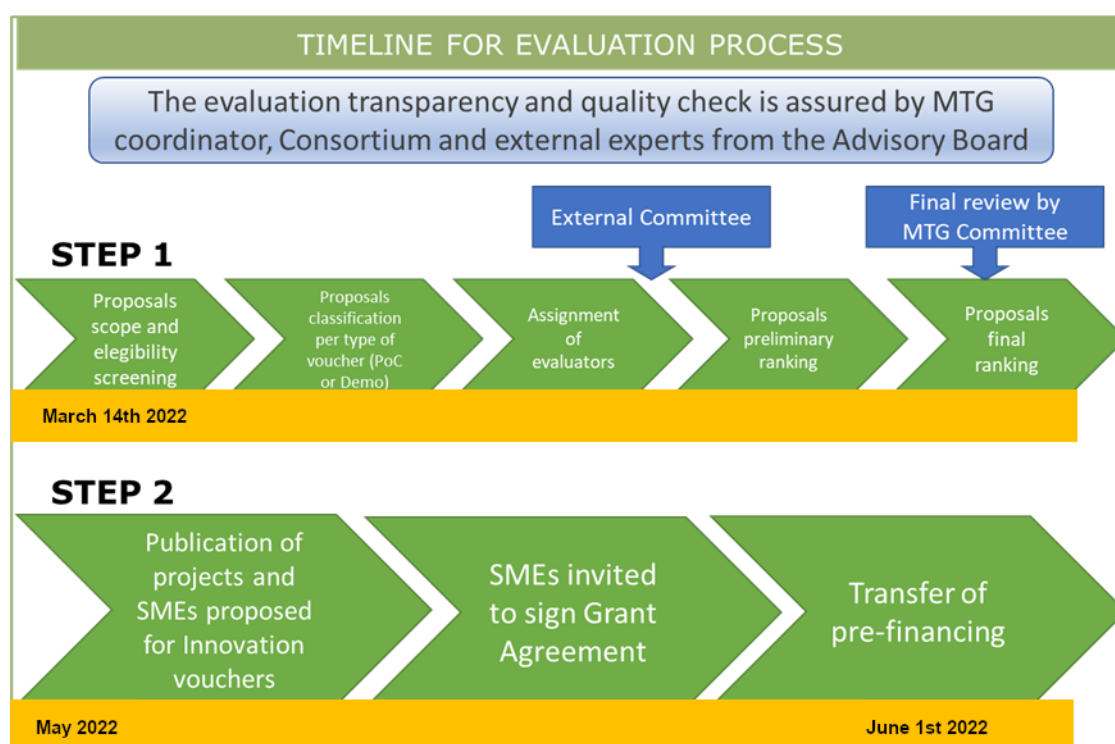
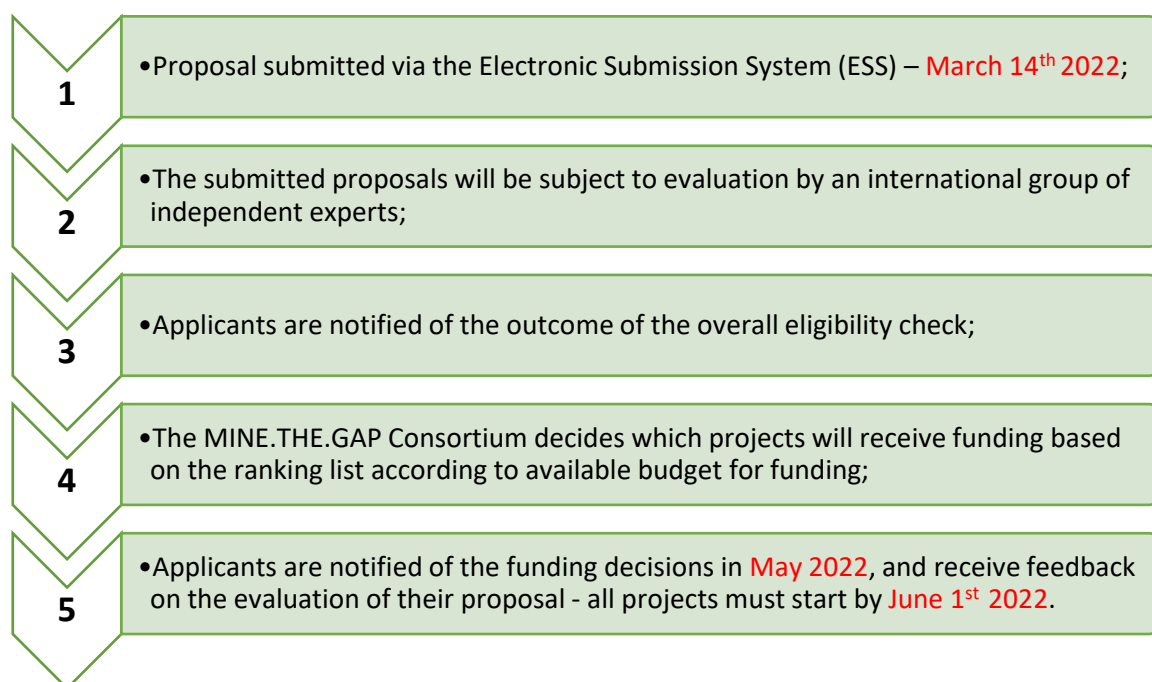
| | | |
|---|-----|------|
| <ul style="list-style-type: none"> • Potential of the proposal for cross-cutting and its contribution for Environmental and Societal impacts. • Real up-scaling potential including a clear exploitation and business plan for the solution. In the case of Demo projects, a commercialisation plan of the product or service, and realising implementation and set up in operation plan is required. | | |
| <p>Quality and efficiency of the implementation</p> <ul style="list-style-type: none"> • Quality and complementarity of the participants and extent to which the consortium as whole brings together the necessary expertise. • Quality and effectiveness of the work plan. • Balance of the allocation of tasks and resources, ensuring that all participants have a valid role and adequate resources in the project to fulfil that role. | 30% | 3/10 |

In the case that different proposals achieve the same score, the Evaluation Committee ranks the proposals by the following priorities:

- a. multiregional scope – proposals that have more countries collaborating will prevail.
- b. number of key actions addressed – proposals that respond to more key actions will prevail.
- c. diversity of topics – proposals that present innovative ideas in areas that are not yet awarded will prevail.
- d. gender dimension – proposals that provide a gender balance with regards to the people involved in the action will prevail.

b. EVALUATION PROCESS

The following is a schematic representation of the evaluation and decision-making process:



c. MINE-PoC and MINE-DEMO RANKINGS

Proposals will compete for funding first within separate rankings for each type of project. Half of the budget available to fund the proposals is assigned to MINE-PoC and the other half to MINE-DEMO projects. When all eligible proposals scoring above thresholds are selected for funding in one of the two rankings, the remaining funds will be transferred to finance projects of the other type. MINE.THE.GAP consortium shall endeavour to implement all available funds in accordance with the rules of participation set out in the Open Call documents.

d. TIMELINE AND DEADLINES

| | |
|---|--|
| Opening Date | 10 th January 2022 |
| Deadline Date | 14 th March 2022, 17:00 CET |
| Evaluation and selection | March and April 2022 |
| Communication of the decision to applicants | May 2022 |
| Start of projects | 1 st June, 2022 |

7. HOW TO APPLY AND HOW TO FIND CONSORTIUM PARTNERS

The icon shows three stylized human figures in green, with a lightbulb above them, all enclosed within a dashed green circle.

Voucher applications are submitted through the MINE.THE.GAP collaborative platform. Interested SMEs have to create a MINE.THE.GAP account to access the platform. Once having created an account, SMEs can complete a partner search indicating which ideas, technologies, solutions, and fields they offer, and which partners they are looking for to apply to the call. All searches are published in the collaboration platform so that SMEs can contact each other and form consortia for the project proposals.

a. HOW TO APPLY

The applicant SME submits the voucher application through a web form on the website of the project that can be found at: <https://h2020-minethegap.eu>. Full guide of submission is provided in APPENDIX III.

- The submission language is English.
- Applicants are expected to provide complete, accurate data and contact details.
- The application reception **will close on 14th March 2022, at 17:00H CET**
- It is highly recommended to submit the application before the deadline to avoid any failures in applications because of technical issues.
- Only full and correct applications submitted will be considered.

The following documents are all needed to be properly completed and submitted electronically through MINE.THE.GAP platform to answer the call:

1. Application form
2. Statement of Commitment for each partner
3. Ethics issues declaration for each partner
4. Financial declaration for each partner and additional document/s to ensure sufficient financial solvency for the execution of the project (see Appendix V)
5. Participating partner profile for each partner

Applications that do not provide all the requested documents will not be considered.

b. HOW TO FIND CONSORTIUM PARTNERS

Voucher applications are submitted through the MINE.THE.GAP collaborative platform. Interested SMEs can create a MINE.THE.GAP account to access the platform. A full guide of partner search is provided in APPENDIX IV.

Once having created an account, SMEs can complete a partner search indicating which ideas, technologies, solutions, and fields they offer, and which partners they are looking for to apply to the call. All searches are published in the collaboration platform so that SMEs can contact each other and form consortia for the project proposals.

8. MONITORING PROCEDURES

In order to receive the lump sum, each project must complete and submit both an intermediate and final report. The assessment reports and any related/attached documents will be submitted in English.

INTERMEDIATE REPORT:

A progress report must be submitted at an intermediate point in the project timetable. This will be specified within the innovation voucher grant agreement signed between MINE.THE.GAP and each SME selected for funding.

The intermediate report must include:

- Progress of the project with a short description of the work done by all partners.
- Any problems or delays in the project and the measures to solve it.
- Deliverables pending submission at the closing date of the first justification period (to be defined in the proposals).

FINAL REPORT:

The final report must be submitted within one month after the finish date of the project.

The final report must include:

- Summary of results of the project.
- Comparison of what was planned in the proposal with achieved results/objectives.
- Impact of the project for each beneficiary.
- Deliverables pending submission at the closing date of the second reporting period (to be defined in the proposals).



9. TERMS AND CONDITIONS FOR THE GRANT AGREEMENT

a. FUNDING DECISIONS

Depending on the declarations made in the application, the MINE.THE.GAP consortium might ask applicants for additional documentation. Besides, the grant agreement preparation, signature and redress periods will be very short. Therefore, it's recommended that the consortium leader contact email is checked daily.

The list of funded projects will be published on the MINE.THE.GAP website.

Changes to the budget in the application cannot occur once the project is selected for funding or during the preparation of the innovation voucher grant agreement.

The selected projects must start by 1st June 2022. It is expected that grant agreement be fully signed before the start of the project.

b. COMPLIANCE

Each beneficiary will have a separate funding contract/grant agreement with MINE.THE.GAP. To sign it, the selected SMEs will need either an official digital signature or a scanned hand-written signature and enterprise stamp.

Awarded SMEs must keep detailed records and other supporting documents to prove that the action tasks described in the accepted project application have been carried out in accordance with the voucher grant agreement and in line with the accepted standards in the respective scientific or technical field. Photos or other audio-visual material listed with adequate explanations/descriptions are essential to provide documentary evidence of the sequence of activities that have affected the project and the work of each partner. Besides, covering deliverables/outcomes and compliance with reporting exigences are a must to comply with the agreement.

Breaching the agreement obligations may result in the cancelation or reduction of the grant.

c. REDRESS PROCEDURE

All applicants have a right to a redress procedure if they feel that there has been a shortcoming in the way their proposal was evaluated, or if they believe that the results of the eligibility checks are incorrect. Applications that do not meet the eligibility criteria will be rejected, indeed applicants will receive an email stating the reason for rejection.

Eligibility criteria for each proposal are checked by the MINE.THE.GAP consortium (internal reviewers) before the evaluation begins. Proposals which do not fulfil eligibility criteria are not included in the evaluation. The redress procedure is only concerned with how the application was handled in the evaluation and eligibility-checking process. It is not an automatic re-evaluation; the judgement of appropriately qualified experts is not called into question.

Any redress request must be addressed to MINE.THE.GAP consortium through the online platform. Specific formularies will be accessible once the results of the call will have been published.

Together with MINE.THE.GAP internal reviewers, the MINE.THE.GAP coordinator will review the complaint and will recommend an appropriate course of action. This ensures a coherent interpretation of such requests, and equal treatment of all applicants.

Requests must:

- Be related to the evaluation process, or eligibility criteria.
- Include the title of the application, voucher type, any relevant other information (such as application ID) and a clear description of the grounds for complaint.
- Be received within the time limit specified, i.e., 3 days from the receipt of evaluation verdict/rejection letter.

Please note: The redress procedure is concerned only with the evaluation and/or eligibility checking process. This will not call into question the scientific or technical judgement of appropriately qualified experts.

Only one request for redress per proposal will be considered. All requests for redress will be treated in confidence.

The evaluation of redress requests may take up to four weeks. The final verdict will be communicated via email to the applicant.

d. DATA PROTECTION

In order to process and evaluate applications, MINE.THE.GAP will need to collect Personal and Industrial Data. All applications and related data must be submitted through the MINE.THE.GAP platform. The MINE.THE.GAP platform's design and operational procedures ensure that data is managed in compliance with The General Data Protection Regulation (EU) 2016/679 (GDPR)⁵.

⁵ <https://eur-lex.europa.eu/eli/reg/2016/679/oj>

Please check the MINE.THE.GAP platform privacy policy. Before registering, each applicant will accept the MINE.THE.GAP platform privacy policy to ensure coverage.

Please note that MINE.THE.GAP requests the minimum information needed for respective voucher application to deliver the evaluation procedures. Additional information (such as bank account details, information for sub-grant agreements) will only be requested if the SMEs' voucher application is selected for funding within the MINE.THE.GAP voucher framework.

e. RESPONSABILITIES OF VOUCHER BENEFICIARIES

The selected SMEs are indirectly beneficiaries of European Commission funding. As such, they are responsible for the proper use of the funding and ensure that the recipients comply with obligations under H2020 specific requirements as described in Horizon 2020 - the EU Framework Programme for Research and Innovation⁶. The obligations that are applicable to the recipients include:

Conflict of Interest

The beneficiary SMEs must take all measures to prevent any situation where the impartial and objective implementation of the sub-project is compromised for reasons involving economic interest, political or national affinity, family or emotional ties or any other shared interest ('conflict of interests').

Confidentiality

The EC and the MINE.THE.GAP consortium will be authorised to publish, in whatever form and on or by whatever medium, the following information:

- the name of the beneficiary SME.
- contact address of the beneficiary SME.
- the general purpose of the project.
- the amount of the financial contribution foreseen for the project; after the final payment, and the amount of the financial contribution actually received.
- the geographic location of the activities carried out.
- the publishable reports submitted to MINE.THE.GAP.
- any publishable diagram, workflow, picture or any audio-visual or web material provided to the EC and MINE.THE.GAP in the framework of the project. The beneficiary SME will ensure that all necessary authorisations for such publication have been obtained and that the publication of the information by the EC and MTG does not infringe any rights of third parties. Upon a duly

⁶ <https://ec.europa.eu/programmes/horizon2020/en>

substantiated request by the sub-project coordinator on behalf of any sub-project member, the MINE.THE.GAP, if such permission is provided by the EC, may agree to forego such publicity if disclosure of the information indicated above would risk compromising the beneficiary's security and/or commercial interests.

Promoting the action and giving visibility to the EU funding

The beneficiary SMEs must promote the sub-project, the MINE.THE.GAP project and its results, by providing targeted information to multiple audiences (including the media and the public) in a strategic and effective manner and to highlight the financial support of the EC.

Unless the European Commission or the MINE.THE.GAP coordinator requests or agrees otherwise or unless it is impossible, any communication activity related to the action (including in electronic form, via social media, etc.), any publicity, including at a conference or seminar or any type of information or promotional material (brochure, leaflet, poster, presentation etc.), and any infrastructure, equipment and major results funded by the grant must:

- . (a) display the EU emblem.
- . (b) display the MINE.THE.GAP and
- . (c) include the following text:

For communication activities: *"This project has indirectly received funding from the European Union's Horizon 2020 Research and Innovation programme, via an Open Call issued and executed under project MINE.THE.GAP (Grant Agreement No 824920)".*

For infrastructure, equipment and major results: *"This [infrastructure][equipment] [insert type of result] is part of a sub-project that has indirectly received funding from the European Union's Horizon 2020 Research and Innovation programme, via an Open Call issued and executed under project MINE.THE.GAP (Grant Agreement No 824920)".*

Any publicity made by the beneficiary SME in respect of the project, in whatever form and on or by whatever medium, must specify that it reflects only the author's views and that the EC or MINE.THE.GAP project is not liable for any use that may be made of the information contained therein.

When displayed in association with a logo, the EU emblem should be given appropriate prominence. This obligation to use the EU emblem in respect of projects to which the EC contributes implies no right of exclusive use. It is subject to general third-party use restrictions which do not permit the appropriation of the emblem, or of any similar trademark or logo, whether by registration or by any other means. Under these conditions, the Beneficiary is exempted from the obligation to obtain prior permission from the EC to use the emblem. Further detailed information on the EU emblem can be found at: https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/grant-management/communication_en.htm

10. ADDITIONAL INFORMATION

a. DATA MANAGEMENT

Personal data and information are provided in the application form for the immediate purpose of allowing a full and successful evaluation of applicants. This includes:

- Name of the applicant and contact details of the applicant (telephone number, postal address, country, internet site)
- Name and details of the contact person (e-mail, telephone number)
- VAT Registration Number of the company
- Financial information of the company (number of employees, annual turnover or balance)

In case that a project is funded, the following additional information of the voucher recipient is required:

- Bank account reference (IBAN and BIC codes).
- Information about the voucher recipient's representative: Name and Surname, Position, Telephone number, Mail address, Signature.

Data concerning the service provider is delivered in the application form and in the final reports with the purpose of permitting the evaluation of the action.

Personal data will be processed in compliance with applicable EU and national law on data protection⁷.

The beneficiaries must accept the use of data with the purpose of evaluation.

b. FINAL AUDITS AND CONTROL

The selected SMEs are indirectly beneficiaries of European Commission funding. As such, they are responsible for the proper use of the funding and ensure that the recipients comply with obligations under H2020 specific requirements as described in Horizon 2020 - the EU Framework Programme for Research and Innovation⁸.

⁷ [Protection of personal data](#)

⁸ [EU Framework Program](#)

The Coordinator or the Commission will — during the implementation of the action or afterwards — check the proper implementation of the action and compliance with the obligations under the Agreement, including assessing reports. The Coordinator or the Commission may also request additional information. Information provided must be accurate, precise and complete and in the format requested.

The Coordinator or the Commission may — during the implementation of the action or afterwards — carry out reviews and audits on the proper implementation of the action. This will be formally notified to the voucher recipient and will be considered to have started on the date of the formal notification.

Under Regulations No 883/2013 and No 2185/96 (and in accordance with their provisions and procedures), the European Anti-Fraud Office (OLAF) may — at any moment during implementation of the action or afterwards — carry out investigations, including on-the-spot checks and inspections, to establish whether there has been fraud, corruption or any other illegal activity affecting the financial interests of the EU.

c. CONTACT POINTS

For any enquires regarding the MINE.THE.GAP project please contact:

| | | |
|--|--|---|
|  South-node  |  Central-node  |  East/North-node  |
| IDiA Nina Hoppmann nina.hoppmann@idia.es | AXELERA Aline Richir aline.richir@axelera.org | DIGIPOLIS Hannu Salmela hannu.salmela@digipolis.fi |
| ACPMR Marta Peres marta.peres@clustermineralresources.pt | GKZ Meng Chun Lee mengchun.lee@gkz-ev.de | WMRC Agnieszka Zdanowicz a.zdanowicz@klasterodpadowy.com |

APPENDIXES

I. EXAMPLES OF PROJECTS

II. KEY TECHNOLOGIES TO APPLY AS 'PROVIDERS'

III. HOW TO APPLY FOR MINE.THE.GAP FUNDING

IV. HOW TO REGISTER ON THE MTG COLLABORATION PLATFORM

V. ADDITIONAL FINANCIAL DOCUMENTS FOR THE APPLICATION

APPENDIX I: EXAMPLES OF PROJECTS

The case studies presented below are examples of (hypothetical) identified business opportunities. They are based on the project partners knowledge and background and have the purpose of illustrating the potential impact of MINE.THE.GAP across the participant regions and sectors. These examples highlight the potential matching opportunities in the areas represented by the project partners and, far from being unique, they are just a sneak peek of a vast number of opportunities.

CASE STUDY 1: LINKING ICT AND MINING – A REINFORCED VALUE CHAIN

SME1 is a junior mining company with 10-15 employees established in a province of North western Spain. Recently, the company has been granted the exploration rights of a land where first evidence shows the presence of what could be a profitable deposit of tungsten. This is a strategic mining project both for the region and Europe, as tungsten is a key element in high-temperature components for high value-added industries. The mine could have a production life of 15-20 years, but all evidence has been obtained through ground-based operations in an area of difficult access. Lack of accuracy could delay the exploration phase for years and put the whole project at risk due to lack of financing for subsequent phases.

SME2 is a German company created 5 years ago. They are experts in remote sensing technology, satellite imagery and geospatial services. Their main customers come from the agricultural sector, where they provide services for land management, production yield assessment and crop condition monitoring. They provide highly tailored solutions for their customers, but their client base is still very limited. They are looking for opportunities to open their high-tech solutions to new market segments.

The opportunity: The use of satellite imagery and remote sensing technology may provide a way to drastically reduce the time of the exploration phase and the costs associated with field inspection at mine site. The detailed data acquired will be a very efficient way to reduce uncertainty and gain geological understanding about the nature of the rock, the resource quality, the depth of the deposit and the means needed for the exploitation phase.

The project: Through one of the MINE.THE.GAP calls, SME1 and SME2 work together in adapting the satellite and remote sensing technologies previously used in agriculture to the needs of the future Tungsten mine. As a result:

Impact on SME1: Less staff needed in the field; exploration phase speeds up; financing comes earlier; they will incorporate techniques that can be extended to the next phases of the mine production life.

Impact on SME2: Enters a new market; gains new knowledge; offers new service; strengthen international presence.

Medium-, long-term impact: Local community grows in employment and well-being, improving public acceptance of mining activities. The value chain is reinforced by drastically reducing the time of the exploration phase. Both SMEs become actors of a wider cross-regional, cross-sectoral ecosystem that promotes innovation, offering market gains and positioning to their members.

Case study 1: Linking ICT and mining – A reinforced value chain

A junior mining company in Spain incorporates cutting-edge remote sensing and satellite technology from a German SME, replacing traditional, ground-based exploration methods on the field in a new Tungsten mine.

01



The problem

The mine is in an area of difficult access, where ground-based exploration is challenging. This exploration phase is taking longer than expected, hindering access to finance and jeopardising the whole project.

02



The technology

Satellite imagery and remote sensing previously used in agriculture can highlight ore bodies, their mineralisation or alteration, variability through the mine site and associated structural features.

03



The project

A Spanish mining company and a German ICT company receive funding through MINE.THE.GAP, resulting in a cross-regional, cross-sectoral project for adapting satellite technology to the mining industry needs.

THE IMPACT

The mining company

- Accelerate exploration phase
- Improve access to finance
- Reduce operational costs
- Can use the technology in subsequent phases



The ICT company

- Access a new market
- Gain new knowledge
- Offer a new service
- Strengthen international presence



THE BIG PICTURE



SHORTER, REINFORCED
VALUE CHAIN



ECONOMY THRIVES AT
LOCAL MINE SITE



INTERREGIONAL LINKS
STRENGTHEN



SOCIAL ACCEPTANCE
IMPROVES

FIGURE 6-CASE STUDY 1

CASE STUDY 2: LINKING ADVANCED MINERALS PROCESSING AND CIRCULAR ECONOMY – A NEW VALUE CHAIN ECONOMY – A NEW VALUE CHAIN

SME1 is a Polish company that offers WEEE management services to small and medium companies. They comply with Directive 2012/19/EU by collecting, recycling and securing disposal of a wide variety of E&E waste. They are aware that many of this electronic waste contains valuable materials such as rare earth elements (REE) and other critical raw materials (CRM), but they lack the knowledge and the technology to get this value. The resulting mixed alloy is sold to the metallurgical industry for further reuse as raw material in lower value applications.

SME2 is a Finnish company expert in the implementation of advanced, highly customised and environmentally friendly hydrometallurgical processes for the mining industry. Their main customers are junior mining companies exploring tailings for the recovery of high added value metals. They are looking for opportunities to apply their specialised know-how to new market segments within the circular economy principles.

The opportunity: Applying advanced hydrometallurgical processes used in the mining industry for the recovery of valuable, scarce metals from WEEE a new value chain can arise where previously dismissed metal waste finds new value for high-tech applications.

The project: Through one of the MINE.THE.GAP Open Calls, SME1 and SME2 work together in adapting hydrometallurgical technologies applied in mining to the recovery of critical elements from WEEE. As a result:

Impact on SME1: Add new value to their products, expand their customer base from metallurgical companies to high-tech companies. They also improve their knowledge on materials recovery leading to a higher skilled workforce.

Impact on SME2: Access new market, gain new knowledge, offer a new service and strengthen internationalisation.

Medium-, long-term impact: A new value chain is created, reinforcing the circular economy both at local and EU level, reducing the dependence on imports of REE and other CRM from third countries. SME1 and SME2 become actors of a wider cross-regional, cross-sectoral ecosystem that promotes innovation across the raw materials sector.

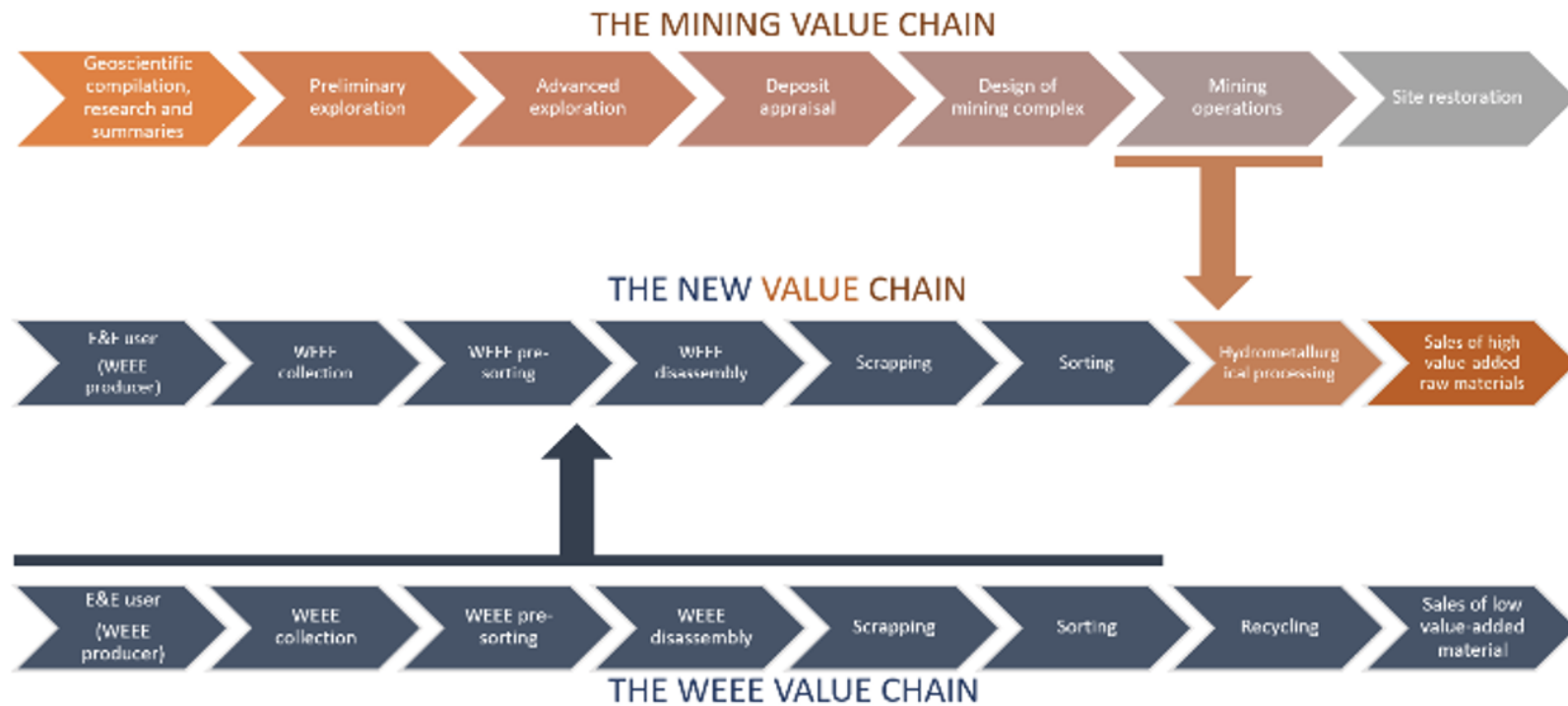


FIGURE 7-CASE 2 VALUE CHAIN

Case study 2: Linking advanced minerals processing and circular economy – A new value chain

A WEEE management company in Poland incorporates advanced, tailored-made hydrometallurgical processes from a Finnish company for recovery and reuse of high added value rare earth elements (REE) and other critical raw materials (CRM).

01



The missed opportunity

Metal scrap is recovered from electronic waste and sold to metallurgical companies as a mixed alloy for lower value applications. However, it contains significant amounts of highly valuable elements (REE & other CRM).

02



The advanced technology

Recently developed hydrometallurgical technologies allow tailored-made solutions for the recovery of REE and other CRM in a cost-effective, environmentally-friendly and sustainable process.

03



The project

MINE.THE.GAP Open Calls provide a hub where a Finnish company specialised in advanced processing technologies joins a Polish WEEE company for the recovery of products of higher added value.

THE IMPACT

The recycling company

- Add new value to its products
- Contribute to the circular economy
- Extend its customer base
- Improve its knowledge on materials recovery



The AM company

- Access a new market
- Gain new knowledge
- Offer a new service
- Strengthen international presence



THE BIG PICTURE



A NEW VALUE CHAIN IS
CREATED



THE CIRCULAR ECONOMY
IS REINFORCED



INTERREGIONAL LINKS
STRENGTHEN



DEPENDENCE ON
IMPORTS LESSENS

FIGURE 8-CASE OF STUDY 2

CASE STUDY 3: LINKING CLEAN ENERGY GENERATION AND MINE SITE REHABILITATION – A SYMBIOTIC VALUE CHAIN

SME1 is a French solar energy company with 15-20 employees offering cost-effective solutions for the installation of high-efficiency solar panels. Most of their projects are limited to their region, Rhone-Alpes, and located in land previously dedicated to crop growing.

SME2 is a mining company responsible for the exploitation of a recently closed coal mine of around 200ha in the central region of Portugal. Hoping for a good business opportunity, they are exploring different ways of setting up a profitable rehabilitation project.

The opportunity: In most cases, although this can vary depending on each country's legislation, exploitation mining companies must assume liability for cleaning up the mine site once the extraction activities stop and then repurpose the mined land. In recent years, renewable energy has emerged as a possible solution to rehabilitate closed mines contributing, at the same time, to reducing GHG emissions. After EU Council Decision 2010/787/EU to promote the closure of uncompetitive coal mines across Europe, renewable energy generation can become an untapped opportunity for mining companies to transform liabilities into revenue-generating assets and for local communities to overcome loss of wealth and employment derived from the transition to a low-carbon economy.

The project: SME1 and SME2 collaborate, through a MINE.THE.GAP Open Call, in a pilot project to cover 37ha of disused land in a closed coal mine with high-performance solar arrays, transforming part of the coal mining field into a renewable energy power production site of up to 12,3 MW. Thus, rehabilitation become a way of generating high value to post-mining land.

Impact on SME1: Access a new market by offering post-mining solutions to junior mining companies; gain new knowledge and expand their territorial scope, contributing to creating a new, symbiotic value chain.

Impact on SME2: Add new value to post-mining site; start a new profitable business by operating the solar farm; can expand and replicate the project in other post-mining lands.

Medium-, long-term impact: Local community finds benefits in the form of new job opportunities in the solar farm. Renewable energy generation help reduce global emissions and carbon footprint and stimulate innovation in the area. Moreover, using mined land as a clean energy generator relieves green field areas that can still be used for agriculture. The solar farm becomes a demonstrator of how post-closure of mines can be effectively and profitably handled, and the good management improves social license to operate not only in the area, but EU wide, thanks to effective dissemination and communication actions.

Case study 3: Linking clean energy generation and mined land rehabilitation

– A symbiotic value chain –

A solar energy company in France and a junior mining company in Portugal develop a pilot project to create a solar farm in a recently closed coal mine in central Portugal.

01



A closed coal mine site

Closed coal mines are proliferating across EU due to Council Decision 2010/787/EU to stop supporting uncompetitive mines. This has become a liability for mine owners, who look for innovative and profitable solutions.

02



Clean energy generation

The energy solar company offers cost-effective solutions for the installation of large, high-performance solar farms. They look for challenging projects in which to apply their expertise and innovative product.

03



The project

MINE.THE.GAP Open Calls trigger collaboration between the solar energy company in France and the mining company in Portugal to start a pilot solar farm that will add high value to the post-mining site.

THE IMPACT

The mining company

- Add value to an abandoned mined land
- Contribute to clean energy provisioning
- Obtain benefits from solar farm operation
- Can replicate project in other mines



The solar energy company

- Access a new market
- Gain expertise in mines-related projects
- Offer a new service
- Strengthen international presence



THE BIG PICTURE



A SYMBIOTIC VALUE
CHAIN IS CREATED



CLEAN ENERGY TRANSITION
IS REINFORCED



STIMULATES ECONOMY
IN POST-MINING SITES



SOCIAL ACCEPTANCE
IMPROVES

FIGURE 9-CASE STUDY 3

APPENDIX II: KEY TECHNOLOGIES TO APPLY AS 'PROVIDERS'



Information & Communication Technologies (ICT)



Integration of automation & robotics in mining environments: sensors, devices, robots



Enhanced connected mobility for the digital mine (VR, AR)



Analytics & decision support tools for prediction and planning (AI, Machine Learning)



Big Data solutions for data collection, storage, analysis & integration



Development of communication protocols, interoperability & cybersecurity



Integration of earth-observation technologies & services



Tracking and wearable devices for enhanced safety



Portable gadgets for in-situ analysis



Drone technologies for mapping, maintenance and operations



Advanced Manufacturing



Towards the concept of Industry 4.0 in the mining and raw materials scenario



Application of additive manufacturing and 3D printing technologies to mining operations



Advanced production processes: automation & robotics



New electric/electronic components & systems



Integration of future and emerging technologies in the mining & raw materials environment



State-of-the-art drilling rigs for hands-free operations



Integrated ore-sorting technologies for waste minimization



Environment & Resource Efficiency



Resource-efficient processing, production & remanufacturing



Mining in challenging environments



Alternative & renewable energy sources in raw materials extraction & processing



Reduction in carbon dioxide emissions & other harmful gases



Novel geological models and 3D mapping technologies



Ventilation and climate control "on-demand"



Development and implementation of new business models & impact assessment tools



Product design for better efficiency & durability of components



Circular Economy



Smart mining and raw materials technologies: exploration, extraction & closure/post-closure



Minimization and waste valorisation of residues



Substitution of (critical) raw materials



Recycling and re-use of end-of-life products



Energy consumption reduction



Tailings management



Responsible sourcing and sustainable raw materials supply chains

APPENDIX III: HOW TO APPLY FOR MINE.THE.GAP FUNDING

1. Apply to MINE.THE.GAP funding

The application is done through an online form on the MINE.THE.GAP website. To apply, a person needs to have created a MINE.THE.GAP user account (see annex how to register).

The project application is submitted in two forms: through the upload of the templates in PDF format and in filling in the same information in the online application form. All documents that are part of the application are available as templates under <https://h2020-minethegap.eu/open-calls/>

It is mandatory to use these templates for the application.

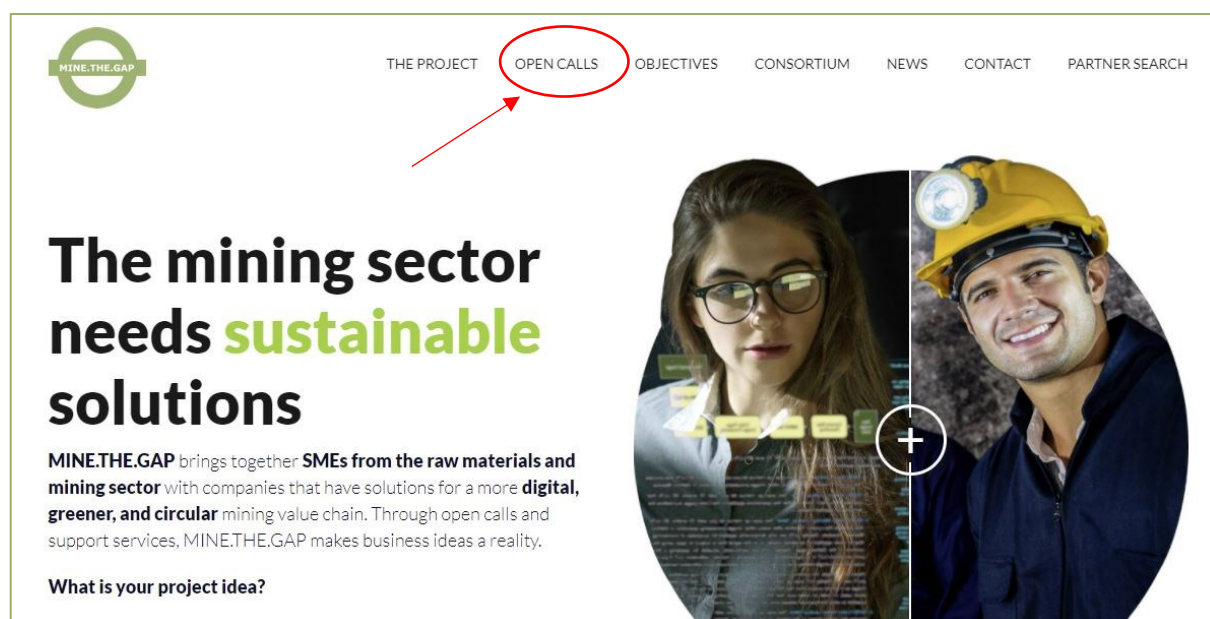
The following descriptions guide you through the application process, how you fill in the form, and how you send your application.

2. Application process

STEP 1

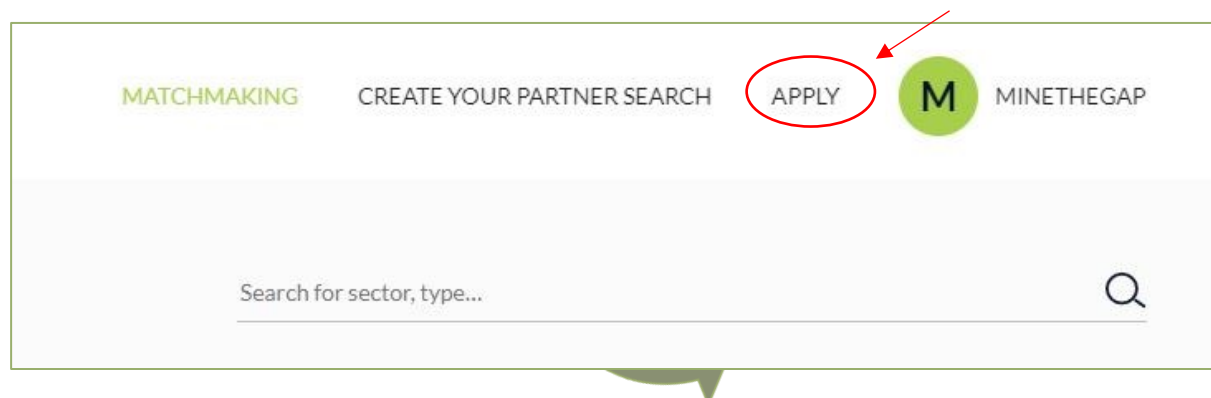
There are two ways how to access the application form: under the page “open calls” or the internal collaboration space under “partner search”.

If you are on the MINE.THE.GAP home page and click on “open calls”, you receive the current information on open calls and the corresponding templates.

FIGURE A2.1 – MENU TAB “OPEN CALLS”

Click on the button “Apply” to access the online form. If you are not logged in, you will be first redirected to the log-in page.

You can also access the form from the internal collaboration space where you might have found your project partners, available by clicking on “Partner Search” in the menu. Click on “Apply” in the internal top menu.

FIGURE A2.2 – MENU TAB “APPLY” IN INTERNAL COLLABORATION SPACE

STEP 2

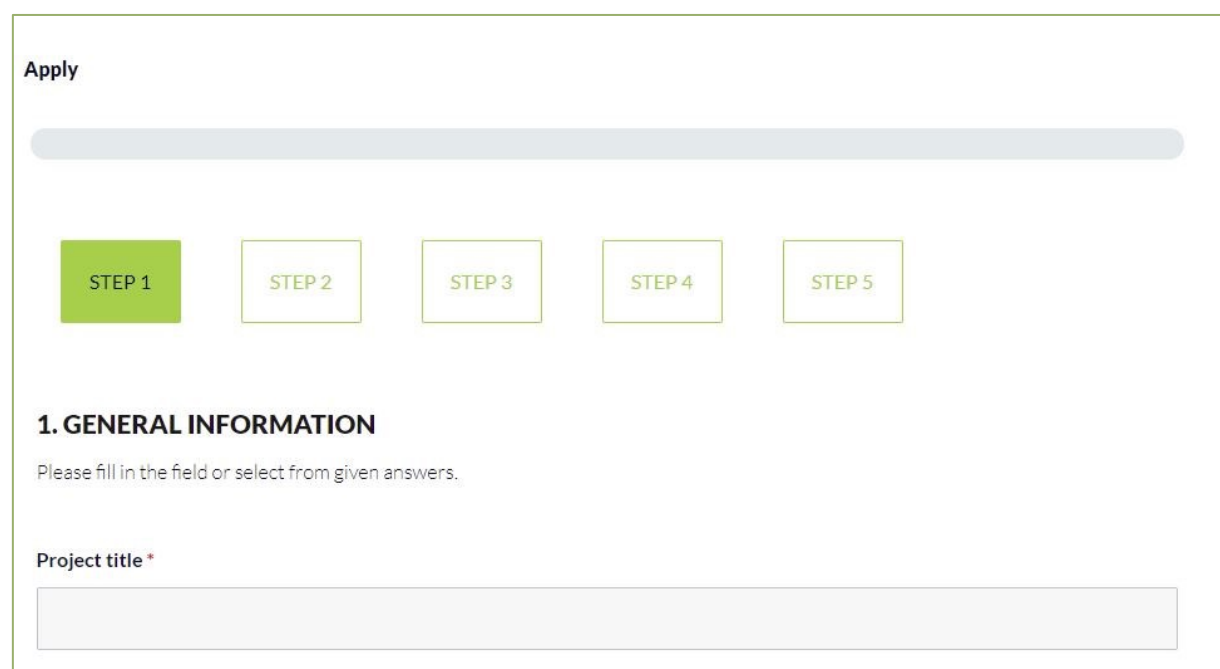
On accessing the application page, you are welcomed by an introductory text summarising the MINE.THE.GAP voucher scheme.

FIGURE A2.3 – INTRODUCTION TO THE APPLICATION

The screenshot shows a white rectangular box with a thin green border. At the top left, the text "APPLICATION FOR" is in green, followed by "MINE.THE.GAP funding" in large, bold black font. Below this, a paragraph of text describes the scheme's aim: "MINE.THE.GAP aims to provide support for the reinforcement of existing value chain and the development of new industrial value chains in the raw materials and mining sector by means of cross-regional innovation and support service in cluster-related SMEs through synergies and interactions with providers and facilitators from the existing and emerging fields of ICT, circular economy, resource efficiency and advanced manufacturing." At the bottom, a smaller line of text states: "This is the application form of the MINE.THE.GAP financial support following two innovation voucher schemes."

When scrolling down, you see the online application form. It is divided into five steps according to the MINE.THE.GAP application template.

FIGURE A2.4 – APPLICATION FORM

The screenshot shows a web interface for an application form. At the top left, the word "Apply" is in bold. Below it is a light blue horizontal bar. Underneath the bar are five square buttons labeled "STEP 1" through "STEP 5". The "STEP 1" button is highlighted in green, while the others are white with green borders. Below the buttons, the section "1. GENERAL INFORMATION" is displayed in bold. A sub-instruction reads: "Please fill in the field or select from given answers." Below this, the label "Project title*" is followed by a large, empty white text input box with a thin grey border.

Please fill in all the fields with the same information with which you have filled out the application template and upload the completed templates as PDF. All fields required are marked with an asterisk *. Furthermore, the open text fields have a character limit, which includes spaces into the characters count.

FIGURE A2.5 – FIELDS TO BE FILLED OUT

Please fill in the short project summary (max. 1,500 characters) *

Please describe the specific objectives for the project action (max. 1,500 characters) *

Please describe the main idea, models or assumptions involved. Specify the methodology that you intend to use (max. 10,000 characters) *

FIGURE A2.6 – PDF UPLOAD

2 PROPOSAL DESCRIPTION

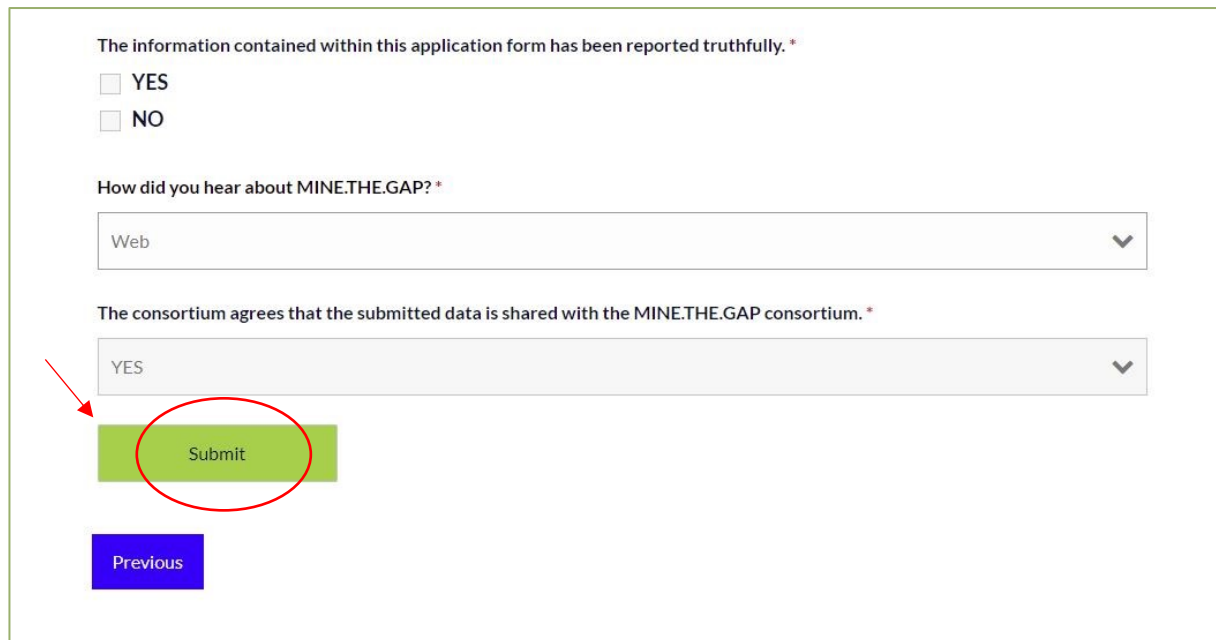
Please upload your project proposal in Portable Document Format (PDF). Use the official template available at: [link](#)
Applicants using other kinds of templates or documents are not eligible. *

Select Files

STEP 3

After filling out all the required fields of the online application and uploading all required document, submit your application by clicking on “Submit” at the end of the form.

FIGURE A2.7 – SUBMIT THE APPLICATION

A screenshot of the final step of an online application form. The form contains three sections: a truthfulness declaration with 'YES' and 'NO' radio buttons, a dropdown menu for 'How did you hear about MINE.THE.GAP?' with 'Web' selected, and another dropdown menu for 'The consortium agrees that the submitted data is shared with the MINE.THE.GAP consortium.' with 'YES' selected. At the bottom, there is a green 'Submit' button circled in red with a red arrow pointing to it, and a blue 'Previous' button below it.

The information contained within this application form has been reported truthfully. *

☐ YES
☐ NO

How did you hear about MINE.THE.GAP? *

Web

The consortium agrees that the submitted data is shared with the MINE.THE.GAP consortium. *

YES

Submit

Previous

You will receive a confirmation notification on the website once your application is submitted successfully. The date and time of your submission will be registered.

APPENDIX IV: HOW TO REGISTER ON THE MTG COLLABORATION PLATFORM

1. Find partners on MINE.THE.GAP

MINE.THE.GAP aims to bring together companies across Europe to create new, more digital, and more sustainable value chains in the mining and raw materials sector. The idea is to join businesses with technological solutions, that can be applied to meet the challenges of the mining sector, and the mining companies which need those technologies.

That's why MINE.THE.GAP offers a collaborative space to look for potential partners to apply to the open calls and receive funding through the MINE.THE.GAP project.

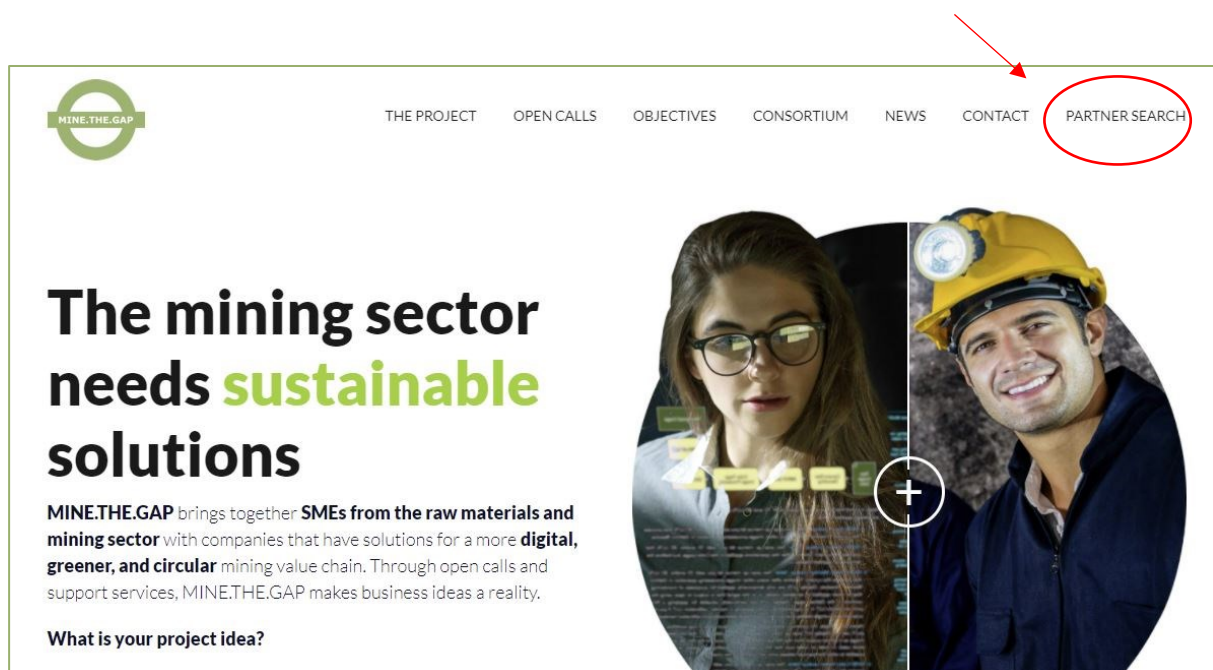
The following descriptions guide you through the registration process and explain how you can present yourself and look for partners.

2. Registration process

STEP 1

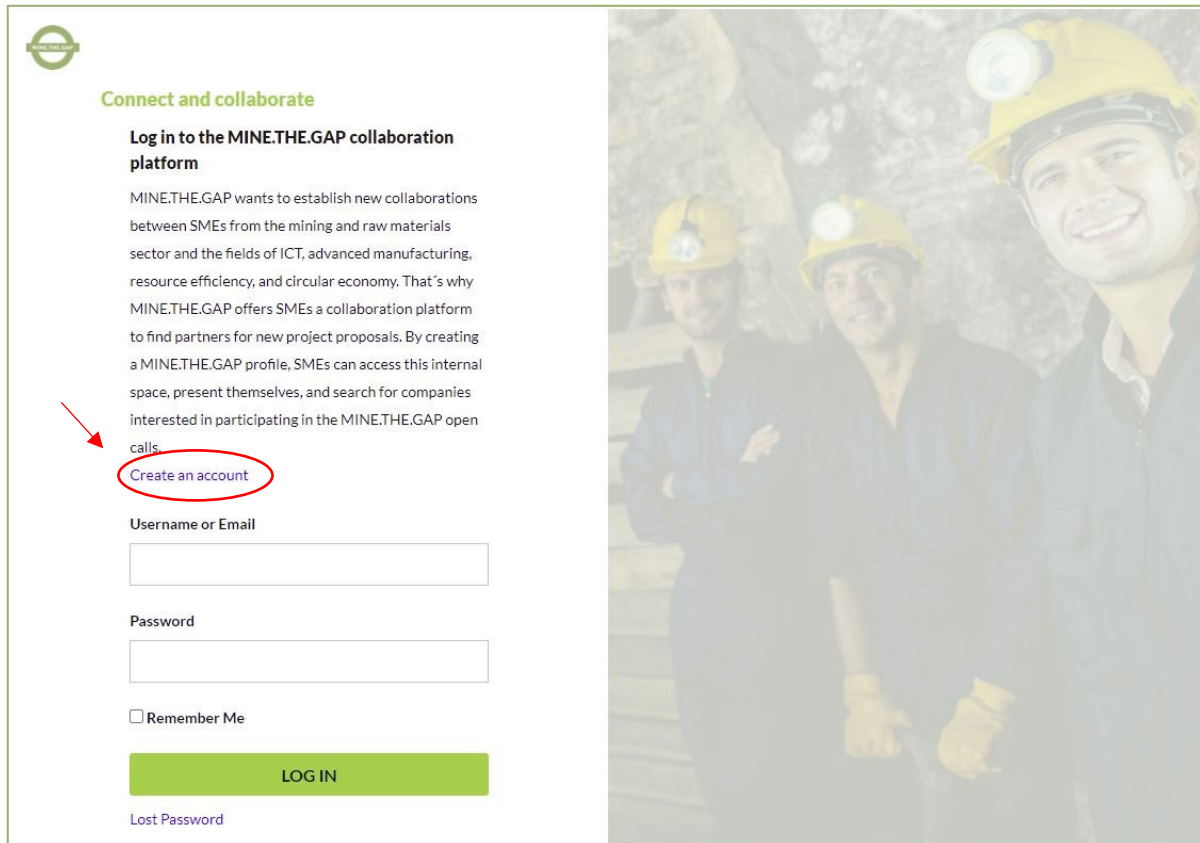
In the top menu of the website, go to "Partner search".

FIGURE A1.1 – MENU TAB "PARTNER SEARCH"



STEP 2

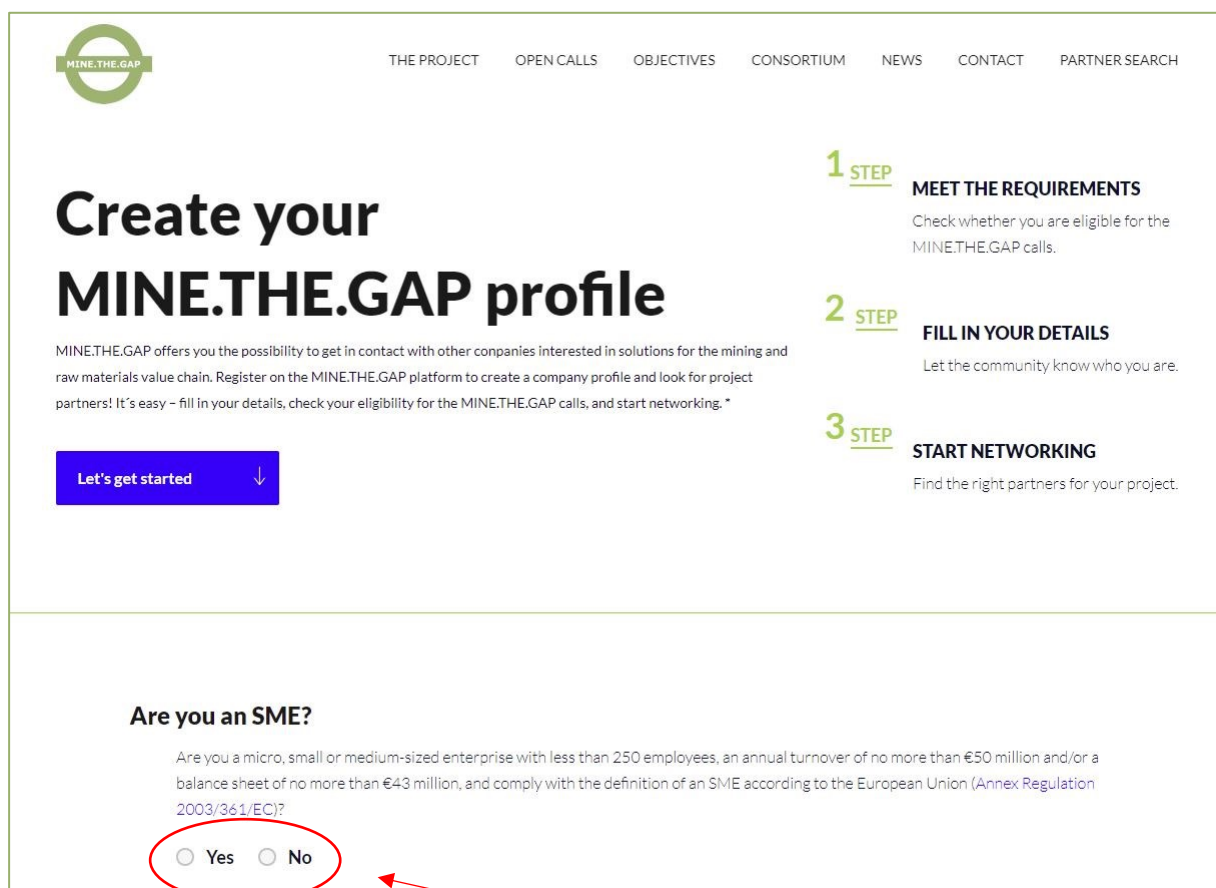
By clicking on the “Partner search”, you are directed to a log-in page for the internal collaboration space where you can create your account. Once the account is created, you can log in with your account details.

FIGURE A1.2 – CREATE AN ACCOUNT

The screenshot shows the MINE.THE.GAP login page. On the left, there is a white sidebar with the MINE.THE.GAP logo at the top. Below the logo, the text "Connect and collaborate" is displayed. Underneath, the heading "Log in to the MINE.THE.GAP collaboration platform" is followed by a paragraph explaining the platform's purpose. At the bottom of this section, the link "Create an account" is circled in red, with a red arrow pointing to it from the left. Below the link are input fields for "Username or Email" and "Password", a "Remember Me" checkbox, a green "LOG IN" button, and a "Lost Password" link. On the right side of the page, there is a large, faded background image of three men wearing yellow hard hats and blue work clothes, standing in a mining environment.

STEP 3

If you want to create a new account, you are directed to a short self-assessment as a service to you to check whether you are eligible for the MINE.THE.GAP funding. Answer the four questions that will appear to create the account.

FIGURE A1.3 – CREATE AN ACCOUNT


Create your MINE.THE.GAP profile

MINE.THE.GAP offers you the possibility to get in contact with other companies interested in solutions for the mining and raw materials value chain. Register on the MINE.THE.GAP platform to create a company profile and look for project partners! It's easy – fill in your details, check your eligibility for the MINE.THE.GAP calls, and start networking. *

Let's get started ↓

1 STEP MEET THE REQUIREMENTS
Check whether you are eligible for the MINE.THE.GAP calls.

2 STEP FILL IN YOUR DETAILS
Let the community know who you are.

3 STEP START NETWORKING
Find the right partners for your project.

Are you an SME?

Are you a micro, small or medium-sized enterprise with less than 250 employees, an annual turnover of no more than €50 million and/or a balance sheet of no more than €43 million, and comply with the definition of an SME according to the European Union (Annex Regulation 2003/361/EC)?

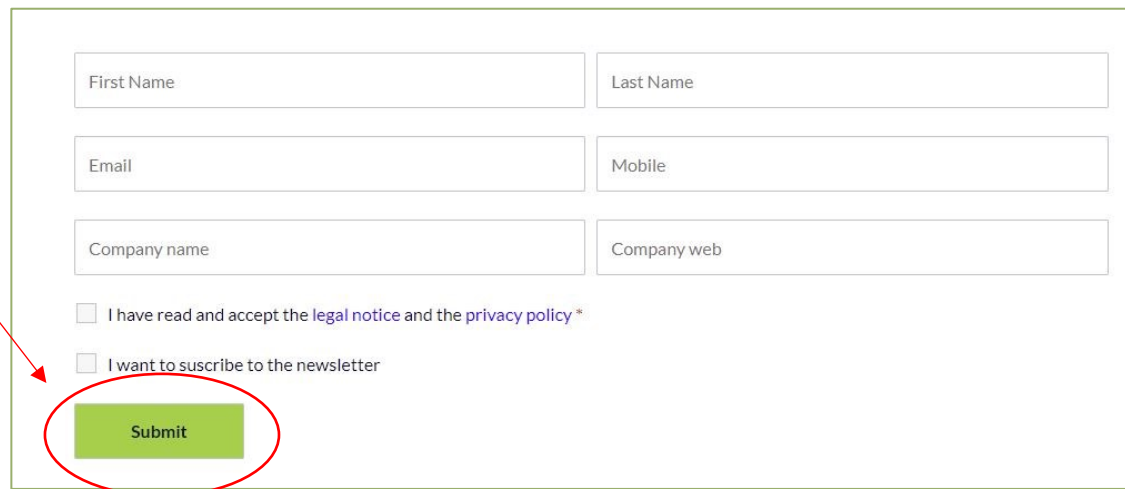
☐ Yes ☐ No

Fill in the answers to four questions step by step.



After you have filled in the required information, hit “submit”.

FIGURE A1.4 – SUBMISSION OF ACCOUNT REQUEST

The form is a rectangular box with a light gray border. It contains several input fields: "First Name", "Last Name", "Email", "Mobile", "Company name", and "Company web". Below these fields are two checkboxes. The first checkbox is labeled "I have read and accept the legal notice and the privacy policy *". The second checkbox is labeled "I want to suscribe to the newsletter". At the bottom of the form is a green "Submit" button. A red arrow points to the "Submit" button, and a red circle highlights it.

If you are eligible, you will receive a confirmation that the MINE.THE.GAP team is reviewing your request and send you shortly the log-in details of your user account. You can change these details later.

FIGURE A1.5 – CONFIRMATION OF ACCOUNT REQUEST

Your form has been submitted successfully. We are reviewing your request. You will shortly receive an e-mail notification with a password for your user account.

In case you are not eligible for the MINE.THE.GAP funding, you will receive an automatic notification of your ineligibility.

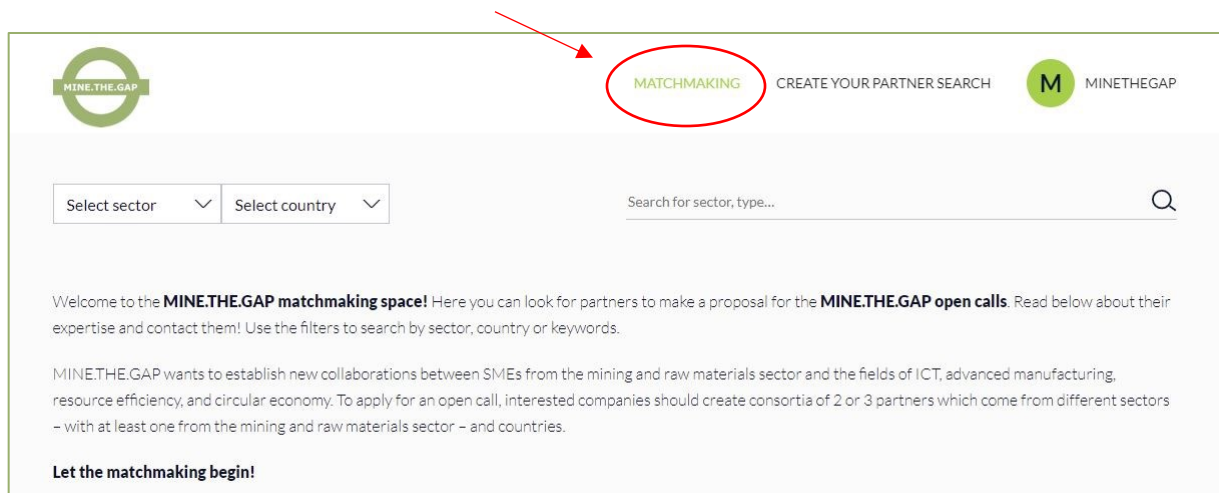
3. Matchmaking

STEP 4

Log in to the collaboration space. You see a feed with the partner searches that have already been published by companies interested in the MINE.THE.GAP funding schemes. This is under the menu tab “Matchmaking”.

You can read about what the companies are offering and which partner(s) they are looking for. You can contact them via email or telephone.

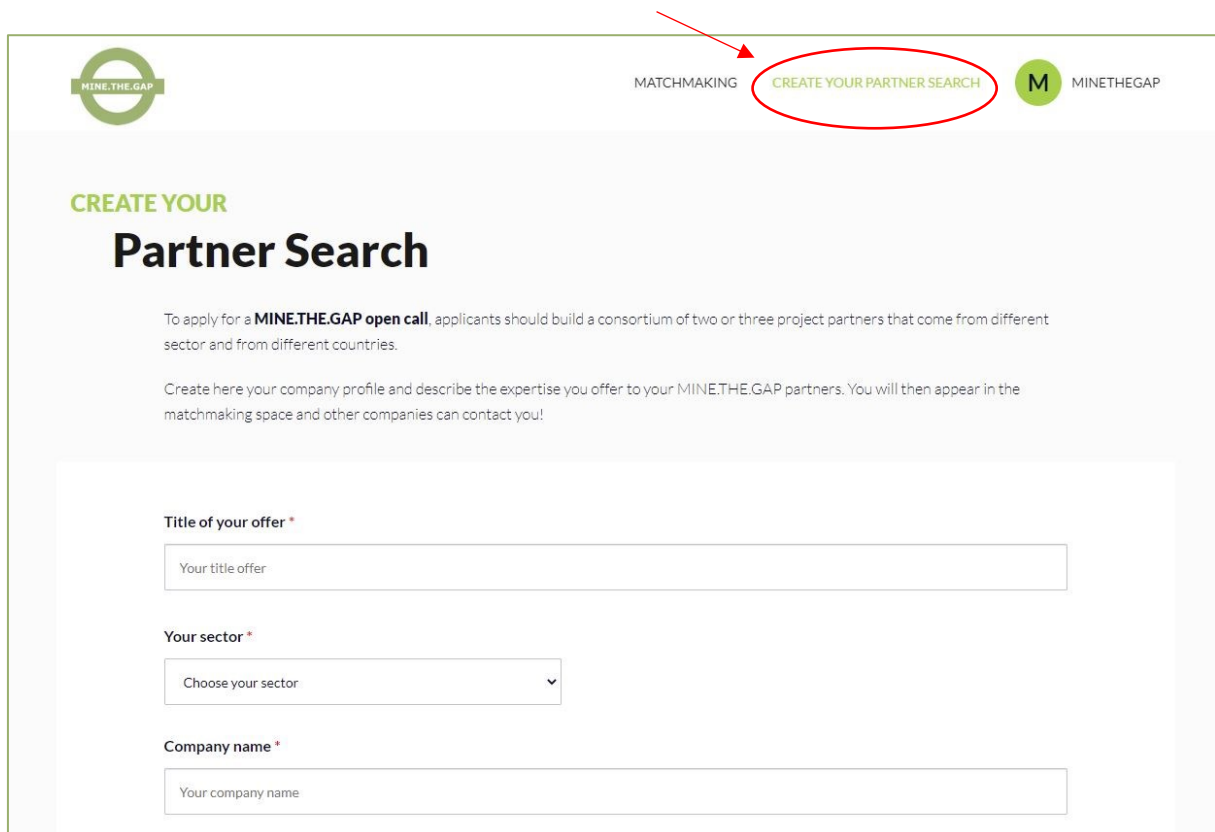
FIGURE A1.6 – MATCHMAKING FEED



STEP 5

Create your own partner search if you have an idea in mind and want to publish what you are offering and what you are looking for. Go to the menu tab “Create your partner search” and fill in the fields. After having filled in all your information, hit “submit”.

Your search for a partner will be published in the matchmaking feed for other registered users to see.

FIGURE A1.7 – CREATE YOUR PARTNER SEARCH

CREATE YOUR
Partner Search

To apply for a **MINE.THE.GAP open call**, applicants should build a consortium of two or three project partners that come from different sector and from different countries.

Create here your company profile and describe the expertise you offer to your MINE.THE.GAP partners. You will then appear in the matchmaking space and other companies can contact you!

Title of your offer *

Your title offer

Your sector *

Choose your sector

Company name *

Your company name

STEP 6

You can manage your account data in the menu tab with your username. You can:

- Edit your published partner searches by updating information or deleting them
- Change your user information
- Change your password

These options are always available to keep your profile updated.

FIGURE A1.8 – MANAGE YOUR ACCOUNT

The screenshot shows the MineTheGap dashboard. At the top right, there is a menu tab labeled 'M MINETHEGAP' which is circled in red. Below this, the dashboard title 'MineTheGap's Dashboard' is followed by the text 'You have created 4 (Open calls)'. A table lists four partner searches with columns for Title, Status, and Options. Below the table, there is a section titled 'Here you can edit your profile.' with input fields for 'First Name *' and 'Last Name *'. Red arrows point to the 'M MINETHEGAP' menu, the 'Update your partner searches' link, and the 'First Name' field.

Update your partner searches

MineTheGap's Dashboard
You have created 4 (Open calls)

| Title | Status | Options |
|--|--------|-------------|
| Cluster IDiA answers questions about MINE.THE.GAP | Live | Edit Delete |
| Solutions in circular economy | Live | Edit Delete |
| Digital tools to save resources | Live | Edit Delete |
| Apply advanced manufacturing techniques to material processing | Live | Edit Delete |

Here you can edit your profile.

First Name * Last Name *

Your name * Your lastname *

Update your account info

APPENDIX V: ADDITIONAL FINANCIAL DOCUMENTS FOR THE APPLICATION

The applicant SME must have the financial capacity to carry out the actions described in its proposal and to properly manage the financial support granted to it. Each SME must sign the Financial Declaration for SMEs innovation vouchers declaring that is in alignment with all the following situations:

- Is considered a SME (Small and Medium-size Enterprise) according to the EU definition.
- Has not been declared bankrupt, has initiated bankruptcy procedures or being wound up, has not entered into an arrangement with creditors, has not suspended business activities, is not the subject of proceedings concerning those matters or is not any analogous situation arising from a similar procedure provided for in national legislation or regulations.
- Is in compliance with its obligation relating to the payment of social security contributions and the payment of taxes, in accordance with the legal provisions of the country in which it is established.
- Has not convictions for fraudulent behaviour, other financial irregularities, unethical or illegal business practices.
- Is not under liquidation or an enterprise under difficulty accordingly to the Commission Regulation No 651/2014 art. 2.18.

Each applicant SME must have the financial capacity to carry out the actions described in its proposal and to properly manage the financial support granted to it. Applicants must attest their financial solvency providing documents under at least one of the following options:

- A.** Official copy of the profit and loss account, and balance sheet for the last two years for which accounts have been closed, demonstrating financial capability greater or equal to the amount of the grant requested by the applicant.
- B.** Official declaration of invested capital greater or equal to 25,000 EUR.
- C.** Detailed declaration specifying awarded funding and describing the participation of the company in National or International (i.e. EU funds) grants or funded actions/projects for a value greater or equal to the amount of the grant requested by the applicant. Attachment of the official grant agreements is compulsory (non-relevant phrases/figures can be redacted).
- D.** One of the following bonding documents that ensures the fulfilment of the voucher grant agreement and its annexes or compensation:
 1. Dedicated escrow account holding a balance greater or equal to the grant requested by the applicant.
 2. Notarised guarantee between parties greater or equal to the amount of the grant requested by the applicant, plus a bank statement/s proving that the guarantor holds more than that amount in its account/s balance.

Applicants not attaching the additional financial documents will be considered not eligible and therefore their applications rejected. Exceptionally, MINE.THE.GAP consortium may consider evidence/documents other than those mentioned above

as acceptable, if they provide greater guarantees, or on a temporary basis, while the required documents are being processed or corrected. In the latter case, it may extend the deadlines for issuing its decision on eligibility. MINE.THE.GAP reserves the right to request any other document for verification of the applicant's financial capacity and SME status.





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