Report and results of stakeholder interaction activities - final

Deliverable 8.5



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ABBREVIATIONS AND ACRONYMS

BGS	British Geological Survey
CLC	Cobre Las Cruces
CRM	Critical Raw Materials
EIP	European Innovation Partnership on Raw Materials
ETP SMR	European Technology Platform on Sustainable Mineral Resources
Euromines	European Association of Mining Industries, Metal Ores & Industrial Minerals
IPR	Intellectual Property Rights
M2M	Mine to Metal
NGO	Non-Governmental Organisation
RMSG	Raw Materials Supply Group
RSS	Rich Site Summary (summary of website content)
SIP	Strategic Implementation Plan (of the EIP)
UNEP	United Nations Environment Programme
USGS	United States Geological Survey



I. PURPOSE

Deliverable 8.5 "Report and results of stakeholder interaction activities - final" refers to objective O8.3 "Initiate, develop and maintain a dialogue between the main stakeholder groups involved: end-users (metal industry), governmental bodies and civil society (including NGOs and the community)". Reporting on stakeholder interaction activities for the INTMET project was considered in two partial reports, consisting of INTMET deliverable D8.3 as interim report after project months 12, which was setting the scene for the stakeholder interaction activities and described the concept and the implementation of communication tools in the initial phase, and this document D8.5, the final report about the issue.

The purpose of this document is to report about and show the results of stakeholder interaction activities, which should ensure that reliable and objective information about processing technology and the potential effects on ecosystems, populations and societies etc., will be available for stakeholders in all partner countries and beyond in order to provide the basis for an open dialogue. Using the communication strategy established in Task 8.1 (see also INTMET deliverable D8.1), Task 8.3 was to initiate and develop these dialogues at various workshops, presentations and seminars. Results are expected to contribute to the technology to be developed in the frame of this project as well as to the reconciliation of interests in order to reach common agreement upon actions to mitigate the environmental and social impacts of processing activities. In addition, this dialogue should provide feedback to the INTMET project concept, progress and results and confirm its potential.

Stakeholder interaction activities were to ensure that all stakeholders interested in the INTMET project are kept informed about any new developments and relevant events and encouraged to take part.

2. GENERAL ISSUES

The term "stakeholder mobilization / engagement" is emerging as a means of describing a broader, more inclusive, and continuous process between INTMET and potentially impacted stakeholders. This reflects broader changes in the business and financial worlds, which increasingly recognize the business and reputational risks that come from poor stakeholder relations, and place a growing emphasis on corporate social responsibility, transparency and reporting. In this context, good stakeholder relations are a prerequisite for good risk management.

2.1 SUCCESSFUL ENGAGEMENT

The value of high-quality stakeholder engagement/mobilization is crucial in order to achieve good project outcomes. Many of the hallmarks of good relationships – trust, mutual respect and understanding – are intangibles that develop and evolve over time, based on individual engagement. INTMET should design engagement strategies in line with the needs of the respective project goals.

Engaging with stakeholders from the start – as part of our core strategy – enables a proactive cultivation of relationships that can serve as "capital" during challenging times.

In turn, a long-term view establishing and maintaining good relationships requires a long time-horizon.

INTMET should scale stakeholder engagement strategies relative to the (risks and) impacts the project. There is no one-size-fits-all approach when it comes to engagement. The type of relationship INTMET should try to develop with its stakeholders, and the resources and level of effort that it should invest, will differ according to the nature, location, and scale of the project, the phase of its development, and the interests of the stakeholders themselves. This is also depending on the scale of a project. Small projects with minimal impacts may only need to focus on the information disclosure and communication side of the engagement spectrum, whereas larger projects with greater degrees of complexity and wide-ranging impacts on multiple stakeholder groups will need to adopt a more strategic and sophisticated approach in order to effectively manage the process.

INTMET was prepared for the fact that we were entering into a pre-existing yet dynamic context, with established histories and cultures, and often complex political, social, and economic relations between groups that can be thrown into flux by the advent of a project and the development process that accompanies it.

2.2 MANAGE IT AS A BUSINESS FUNCTION

Like any other business function, stakeholder engagement needs to be managed. It should be driven by a welldefined strategy and have a clear set of objectives, timetable and allocation of responsibilities. All project members were aware of the strategy and understood why was undertaken and what implications it might have for project outcomes. It is recommended to take a systematic (rather than ad-hoc) approach that is grounded in business operations, likely to expect better results in terms of the time and resources. In this way



we were able to track and manage stakeholder issues and risks more effectively. Allocating responsibilities for stakeholder engagement to INTMET's business plan also increases the chances that it will serve the purposes of the project.

2.3 KEY CONCEPTS AND PRINCIPLES OF STAKEHOLDER ENGAGEMENT

Who are stakeholders? Stakeholders are persons or groups who are directly or indirectly affected by a project, as well as those who may have interests in a project and/or the ability to influence its outcome, either positively or negatively. Stakeholders may include locally affected communities or individuals and their formal and informal representatives, national or local government authorities, politicians, civil society organizations and groups with special interests, the academic community, or other businesses. INTMET stakeholders were defined in deliverable D8.1 (communication strategy).

The "stake" that each of these different individuals or groups has will vary. For example, there may be people directly affected by the potential environmental or social impacts of a project. Others may be resident in another country altogether but wish to communicate their concerns or suggestions to the project coordinator. Then there are those who might have great influence over the project, such as government regulators, political leaders or even the research community. There are also stakeholders who, because of their knowledge or stature, can contribute positively to the project, for example, by acting as an honest broker in mediating relationships. All this should be reflected in the INTMET stakeholder strategy discussed in chapter 3.

2.4 WHAT ARE THE BUILDING BLOCKS OF STAKEHOLDER ENGAGEMENT/MOBILIZATION?

Stakeholder engagement is an umbrella term encompassing a range of activities and interactions over the life of a project. The first step in the process of stakeholder engagement is stakeholder identification –determining who our project stakeholders are and their key groupings and sub-groupings (D8.1). Certain stakeholder groups might be pre-determined through regulatory requirements. Stakeholder analysis, a more in-depth look at stakeholder group interests, can be performed then. Here it is important to keep in mind that not all stakeholders in a particular group or sub-group will necessarily share the same concerns or have unified opinions or priorities.

We needed to identify those stakeholders directly and indirectly affected by INTMET. When identifying affected stakeholders, we will take a systematic approach into account, starting with delineating INTMETS's geographic sphere of influence (for instance, determined by the mineral deposit potential in connect with MINATURA2020). Important is to establish and articulate INTMET's area of influence and to determine who might be affected and in what way.

This process will begin to reveal those most directly affected by INTMET, whether from the socio-economic effects of job creation throughout the supply chain (connect with SCRREEN project)) or the effects of air and water emissions, from off-site transportation of hazardous materials (connect with specific INTMET discussions e.g. determining the environmental and social impact potential). A quick and practical technique for undertaking this type of stakeholder mapping exercise is "impact zoning". By mapping the sphere of



influence of different types of environmental and social impacts, INTMET can begin to identify distinct groups by impact area, and from this prioritize stakeholders for consultation. In this way, we also could identify potential "cumulative impacts" on stakeholder groups that might not have been evident.

While priority should be given to individuals and groups in the project area, who are directly and adversely affected, drawing the line between those affected and those not effected can be challenging.

It is important to consider also the opposite position of stakeholders, i.e. stakeholders who might be concerned with the development of a (any) new technology (e.g. against the background of environmental risk potential). Underestimating their potential influence on project outcomes may pose risks. It is therefore important to also include in our stakeholder analysis those groups or organizations that are not adversely affected, but whose interests determine them as stakeholders.

"Interest-based" analysis and mapping can help clarify the motivations of different actors and the ways in which they might be able to influence the project. For this set of stakeholders, cost-effective solutions (newsletters, websites, targeted public meetings) can be established leaving open channels of communication.

2.5 HOW TO IDENTIFY AND ANALYZE STAKEHOLDERS THROUGH IMPACT ZONING

- 1. Draw a sketch map of the key design components of the project, both on and off site that may give rise to economical/social impacts (especially the main target of INTMET: using complex ore deposits with the new technology developed, thus improving the access to minerals, strengthen the value chain, creating new jobs,) as well as any environmental or social impacts (e.g., sources of air, water, and land pollution).
- 2. Identify the broad impact zones for each of these components (e.g. the area of land use, air and water pollution receptors, etc.).
- 3. After identifying and mapping broad stakeholder groups, overlay those groups over the impact zones.
- 4. Through consultation with relevant stakeholder representatives, analyse and verify which groups are potentially affected by which impacts.

This exercise may be performed more efficiently by using aerial photographs especially when demonstrating the case study at a production site where the new INTMET process may be established.

2.6 VERIFY STAKEHOLDER REPRESENTATIVES

There was a need to identify (key) stakeholder representatives. Communication with and through them can be an efficient way to disseminate information to a large number of stakeholders and receive information from them. When working to determine representatives, however, there are a number of factors worth considering. First, we need to ensure that these individuals are indeed true advocates of the views of their constituents and are reliable to faithfully communicate the results of engagement with the project company back to their constituents. One way to do this is to seek verification that the right representatives have been engaged, e.g. by talking directly to a sample of INTMET-influenced stakeholders.



2.7 ENGAGEMENT WITH STAKEHOLDERS

In general, we needed to have productive engagement processes, for the following reasons:

- It brings transparency to the process. Stakeholders can witness the process and stay informed about what is being discussed on their behalf, and what has been agreed at the close of consultation or negotiations.
- Stakeholders will know what they are entitled to demand, and they will be able to monitor its delivery and avoid corruption.
- It sends the message that INTMET value the input of stakeholders (e.g. research community).
- It allows to identify own representatives.

Note, governments are key stakeholders. There are many important reasons to establish and maintain good working relationships with governmental authorities at different levels, and to keep them informed of INTMET's activities and anticipated impacts. Government support can be critical to the success of a project, and routine engagement with various regulatory and public service authorities is often required as part of doing business. On a practical level, government authorities may have long-established relationships with project-affected communities and other local and national stakeholder groups, and as such can play a role in convening and facilitating discussions between INTMET and stakeholder representatives.

Keeping track of government-led consultation with stakeholders on issues related to our project is highly recommended. Such consultation may be required as part of regional economic planning, environmental permitting or exploration licensing, compensation for land and assets, or the design and management of infrastructure. It is important for INTMET to be aware of these consultations as they might have implications for future stakeholder relations. For example, if the quality or extent of consultations carried out by government turns out to be inadequate, it may give rise to grievances or pose risks. These include raising false expectations or creating misperceptions about the project.

Therefore, where there are questions around the government's consultation process or unresolved stakeholder issues, it should be of INTMET's interest to try to find out the nature of such concerns and, to the extent feasible, take actions to address the situation.

We needed to take into account non-governmental organizations (NGOs) and community-based organizations (CBOs), particularly those who represent communities directly affected. They can be important stakeholders for INTMET to identify and engage on a proactive basis. NGOs may have expertise valuable to effective stakeholder engagement. For example, they can be sources of local knowledge, sounding boards for project design and mitigation, conduits for consulting with sensitive groups, and partners in planning, implementing and monitoring various project-related programs. If there is NGO opposition to INTMET, engaging early to try and understand the concerns or critiques being raised can offer an opportunity to manage these issues before they escalate or find another outlet for expression (especially with regards to the planned pilot testing of INTMET).



Good practice involves taking steps to increase transparency and accountability as a means of promoting understanding about INTMET and creating public trust. Adopting a "presumption in favour of disclosure" means being forthcoming with information whenever possible during the development of INTMET, especially if there is no compelling reason not to share it. A lack of information can lead to the spread of misinformation about a project that can undermine efforts to engage in an informed dialogue with stakeholders (e.g. with regard to environmental concerns). This is an area where perception matters. Sometimes stakeholders care less about the actual content of the information being disclosed than they do about the principle of openness and transparency.

Applying good practice principles is important. We needed to disclose early with the aim of providing relevant information to targeted stakeholders in advance of decision-making. At a minimum, we need to explain next steps and be clear about which project elements are fixed and which can be changed or improved, based on consultation and participatory inputs.

We needed to disclose objective information to the extent possible and be open about the project. In short, "tell it like it is." Refrain from exaggerating the good news, such as employment opportunities, or playing down the bad, such as anticipated noise levels and traffic disturbances during the construction period. If actual numbers are available, we should inform concerned stakeholders (unless it is confidential information). In the long run it is better to say e.g.: Give people the information they need to participate in an informed manner.

We had to give stakeholders the information they need to participate in an informed manner. Crucially, we needed to consider sufficient time between the provision of information about the benefits and potential disadvantages of INTMET (or changes to project operations and their implications) and the start of consultations. People need time to think about the issues and weigh the trade-offs. We shall not expect that stakeholders hearing or seeing information about a project for the first time will be immediately ready to make decisions about what they want.

Besides, we need to provide meaningful information in a format and language that is readily understandable and tailored to the target stakeholder group. This may mean that information will be required in different formats in order to meet the needs of various audiences. Points to consider in determining what forms this information should take and how it gets presented include: level of technical detail, local language and dialects, cultural sensitivity, roles of women and men, ethnic composition of communities, literacy levels, community leadership structures, and local methods of disseminating information within stakeholder groups.

Furthermore, we needed to ensure the accessibility of information by thinking through how stakeholders will most readily receive and comprehend the information.

There might be situations in which disclosing certain types of information at sensitive stages in the project cycle might entail risks. It was understood, for example, that in the very early stages of project development, revealing to competitors about what INTMET intends to do would have posed serious business risks. Such factors were considered in deciding what to disclose and when. Other reasons for non-disclosure might include: commercial confidentialities and proprietary information; or situations where releasing information



during the development of INTMET might unnecessarily raise public expectations, cause speculative behaviour. However, considerations for non-disclosure need to be weighed against the need for stakeholder groups to be informed in order to protect their interests. In general, experience shows that (for instance) companies committed to transparency and accountability help promote the long-term profitability of their investments.



3. STAKEHOLDER MOBILIZATION STRATEGY USED

Chapter 3 is based on chapter 2 (description of general conditions) and shows the stakeholder mobilization strategy (chapter 3.2) used in INTMET, which in turn, was based on a stakeholder analysis (chapter 3.1).

A strategy is a planned long-term aspiration for an advantageous situation or goal. It aims at the appropriate use of certain means, generally referring to some subordinate objective. Strategy is the 'greater plan' or a 'basic pattern of actions'. Once the objectives are set and the starting point is clear, the basic conditions for programming measures, which promise to achieve the objectives, are given. Basis are the stringent procedural relations between the means and the objective, as derived from (the general economic theory according to) the principle of cause and effect. The highest level of success in achieving the objectives has to be determined by comparison of possible alternatives.

3.1 INTMET STAKEHOLDER ANALYSIS

Stakeholder analysis as mentioned in chapter 2 is an in-depth look at stakeholder group interests, i.e. how stakeholders will be affected and to what degree, and what influence they could have on INTMET. The answers to these questions will provide the basis from which to build the INTMET stakeholder engagement strategy. "Interest-based" analysis and mapping will help clarify the motivations of different actors and the ways in which they might be able to influence the project.

There was a need to identify (key) stakeholder representatives. Communication with and through them was considered to be an efficient way to disseminate information to a large number of stakeholders and receive information from them.

Stakeholder target groups as defined in D8.1 are

- 1. Partners and Competitors
- 2. Research and Academia
- 3. Multipliers, Disseminators
- 4. Public Bodies and NGOs
- 5. Press / Media
- 6. Public

One way to do this is to seek verification that the right representatives will be engaged, by talking directly to a sample of INTMET-influenced stakeholders. Ground-truthing the views of the designated representatives in this way can help highlight any inconsistencies in how stakeholder views are being represented. Legitimate stakeholder representatives could be, but are not limited to:

- EU politicians and government officials in INTMET partner countries
- Leaders (chairmen, directors) of cooperatives
- Traditional representatives



• Local NGOs, groups

Governments are key stakeholders. There are many important reasons to establish and maintain good working relationships with governmental authorities at different levels, and to keep them informed of INTMET's activities and anticipated impacts. Government support can be critical to the success of a project, and routine engagement with various regulatory and public service authorities is often required as part of the regular business. It is important for INTMET to be aware of these consultations as they might have implications for future stakeholder relations and finally, in the application of INTMET's technology. In turn, of course, we need to take into account non-governmental organizations (NGOs) and community-based organizations (CBOs), particularly those who represent communities directly affected can be important stakeholders for INTMET to identify and engage on a proactive basis.

There were certain stakeholder issues of particularly sensitive nature. In these cases, it was better to release information about the issue at the same time as conducting face-to-face consultations. In this way, any misinformation and immediate reactions of the affected parties could be addressed right away with the facts. In preparing information to support stakeholder consultation on controversial issues, it was helpful to employ the measures, e.g. we needed to explain what input was needed from stakeholders and how it was used in the decision-making process.

Concrete information of INTMET stakeholders were identified as follows:

- Partners and Competitors, i.e.
 - European mining companies (junior and senior mining companies)
 - Overseas mining houses
 - o Ore mines
 - o Companies from the metallurgical sector
 - Mining investors and insurers
- Research and Academia, i.e.
 - Research facilities
 - o Universities
- Multipliers, Disseminators, i.e.
 - Industry associations (e.g. Euromines European Association of Mining Industries, Eurometaux - European Association of Metals, etc.)
 - European Technology Platforms (e.g. ETP SMR, etc.)
 - United Nations Economic Commission for Europe
 - United Nations Environment Programme (UNEP)
 - o European Innovation Partnership on Raw Materials
 - International Mineral Processing Congress
 - Balkan Mineral processing Congress
 - Consumer of metals
- Public Bodies and Authorities, i.e.



- Mining authorities incl. regional and local ones
- Cities, towns, municipalities in potential mining regions
- European Commission
- o European Parliament
- Raw Materials Supply Group (RMSG)
- Public, i.e.
 - o Citizens
 - o Consumer organisations
 - o Trade unions
 - o NGOs

3.2 HOW TO MOBILISE STAKEHOLDER

There were several strategical ways and tools how to mobilise stakeholders within INTMET. For the set of INTMET stakeholders, cost-effective solutions (newsletters, websites, targeted public meetings) could establish and maintain open channels of communication. Referring to D8.1, this was through:

- Website
- Activities in social media
- Basic dissemination material
- Articles / Publications
- Events, Workshops, Conferences

Mobilising stakeholders in general means that they first need to be well informed about the INTMET project, its objectives and values, its progress and how they can contribute to a broader discussion on INTMET's challenges and targets. Applying good practice principles is important. We needed to disclose early with the aim of providing relevant information to targeted stakeholders in advance of decision-making. At a minimum, we needed to explain next steps and be clear about which project elements are fixed and which can be changed or improved upon, based on consultation and participatory inputs.

We needed to disclose objective information to the extent possible and be open about the project. In short, "tell it like it is." Refrain from exaggerating the good news, such as employment opportunities in rural regions (often such where minder deposits are located).

Besides, we needed to provide meaningful information in a format and language that is readily understandable and tailored to the target stakeholder group. This meant that information was required in different formats in order to meet the needs of various audiences. Points to consider in determining what forms this information should take and how it gets presented include: level of technical detail, local language and dialects, cultural sensitivity, roles of women and men, ethnic composition of communities, literacy levels, community leadership structures, and local methods of disseminating information within stakeholder groups.



Furthermore, we needed to ensure the accessibility of information by assessing how stakeholders would most readily receive and comprehend the information.

There might have been, situations in which disclosing certain types of information at sensitive stages in the project cycle might have entailed risks. It was understood, for example, that in the first stages of project development, revealing to competitors about what INTMET intends to do could have posed serious business risks.

Several tools how to mobilize stakeholders are described in the following sections.

3.2.1 WEBSITE

The INTMET project website is a database targeted on all types of publics, from citizens to decision makers, partners and stakeholders. The point of this website is to promote INTMET, what it means and stands for, as well as provide most of the tools for the mobilisation. The INTMET project website <u>www.intmet.eu</u> was established early in the project. Its public area contains all information about the projects content, aims, impacts, the partners and the sponsor. It provides information on events and project related news which can be actualised by all beneficiaries. Press material and the possibility to subscribe the quarterly project newsletter was also provided. The project website was subject to continuous updating in line with the project progress.

3.2.2 ACTIVITIES IN SOCIAL MEDIA

INTMET realised representations on Facebook and Twitter. The INTMET Facebook page has several purposes. It gathers an English-speaking community of citizens interested in raw material resources, addressing especially the younger generation. It serves as a source of posts for the partner institutions, stakeholders and the interested public. The INTMET Facebook page gathers posts on project activities, related events and publications. Partners and interested members could take the information on INTMET Facebook page and use it on their social network accounts and websites. Additionally, a Twitter account will be created to broaden the scope of social media representation.

3.2.3 NEWSLETTER

One important communication tool, a (quarterly) newsletter was designed and edited. The newsletter is one way to directly approach target groups or the entire INTMET stakeholder community. Newsletter can be easily delivered and have a wide-spread impact. Therefore, newsletters are an ideal way to spread information about project progress, etc. quickly. It also serves as a cross-linking communication tool between project partners and stakeholders.



3.2.4 BASIC DISSEMINATION MATERIAL

For basic dissemination purposes, there are several means of printed material that can be used. Usually, this material is used as handout material to provide basic project information at e.g. workshops or conferences or it can be circulated among stakeholders. In INTMET, we used:

- Brochures: An eight-page project brochure that has been updated once during the project lifetime.
- Press releases distributed via email to media contacts (national press agencies and selected media) and, if necessary, translated into all partner languages.
- Based on the brochure a two-page project folder addressing stakeholders and the public.

3.2.5 ARTICLES / PUBLICATIONS

The project progress, different perspectives of the stakeholder communities, project results and other topics of public interest related to INTMET were analysed and compiled for publishing in scientific or other relevant journals and other media.

3.2.6 EVENTS, WORKSHOPS, CONFERENCES

In order to achieve a wide stakeholder mobilization of the INTMET concepts, progress and results, project partners presented the project and its achievements at related external events or conferences or at specific events. The project has a high scientific relevance and it is key to reach the main minerals producing communities. Depending on the external potential for this form of dissemination, the project considered own workshop(s). As a number of communities play a very influential role at EU level, communication activities were oriented to reach these communities. Concretely, each partner country organised ways and means for reaching relevant stakeholders to present the project in its details and discussing local, regional and national project related issues. Partners are asked to produce short video impressions which can be inserted into the project videos.



4. ACTIONS UNDERTAKEN

4.1 COOPERATION

4.1.1 COOPERATION WITH OTHER PROJECTS

Cooperation with other running or recently finished EU-funded projects as well as the further use of technology in future projects is important¹. This cooperation was necessary in order to retrieve information and technology needed for the further course of INTMET in order to generate a kind of cross-fertilisation. Many of the INTMET beneficiaries were in the role of gatekeepers, interlinking contact persons, networking experiences and know-how from other relevant projects. The following projects have been subject to fruitful exchanges with regard to stakeholder contacts and best practice experiences:

- **Minerals4EU**: The project was designed to meet the recommendations of the Raw Materials Initiative and was to develop an EU Mineral intelligence network structure delivering a web portal, a European Minerals Yearbook and foresight studies. <u>http://www.minerals4eu.eu/</u>
- I²Mine The project "Innovative Technologies and Concepts for the Intelligent Deep Mine of the Future" started activities designed to realise the concept of an invisible, zero-impact mine. It concentrated on the development of technologies suitable for deep mining activities. <u>http://www.i2mine.eu</u>
- MINATURA2020: The Horizon2020 funded project was to develop a concept and methodology for the definition and subsequent protection of "mineral deposits of public importance" in order to ensure their "best use" in the future in order to be included in a harmonised European regulatory/ guidance/policy framework. In the course of the project a Council of Stakeholders for each participating country was to be established. <u>http://minatura2020.eu/</u>
- BIOMORe A project for winning deep ores: The BIOMOre concept was designed to channel impermeable ore bodies and bioleach metals in-situ. To achieve this, biogeochemical and geotechnological methods and models were developed and optimized, and specialized equipment designed and built. Scientific and technological expert input was contributed by the project partners coming from European countries, Canada and the Republic of South Africa. These experts represented the forefront of knowledge and innovation in raw materials supply. http://www.biomore.info/project/
- SCRREEN Solutions for CRitical Raw materials a European Expert Network: SCRREEN project is
 running under SC5-15-2016-2017 Raw materials policy support actions. It will contribute to improve
 the CRM strategy in Europe by mapping primary and secondary resources as well as substitutes of
 CRMs and estimating the expected demand of various CRMs in the future and identifying major trends.
 Stakeholder dialogue is at the core of SCRREEN: policy, society, R&D and industrial decision-makers
 are involved to facilitate strategic knowledge-based decisions making to be carried out by these
 groups. http://scrreen.eu/

¹ Note: MinPol was/is involved in several of this projects and thus, can contribute effectively.



- MICA Mineral Intelligence Capacity Analysis: The MICA project contributed to on-going efforts towards the establishment of a stakeholder tailored product, namely the "European Union Raw Materials Intelligence Capacity Platform" (EU-RMICP). <u>www.mica-project.eu</u>
- CHPM2030 Combined Heat, Power and Metal Extraction: The Horizon2020 project aimed at developing a novel and potentially disruptive technology solution that can help satisfy the European needs for energy and strategic metals in a single interlinked process. It focussed on the conversion of ultra-deep metallic mineral formations into an "orebody-Enhanced Geothermal Systems (EGS)" serving as a basis for the development of a new type of facility for "Combined Heat, Power and Metal extraction". http://www.chpm2030.eu/
- VERAM: This Horizon2020 project was producing a Vision and Roadmap for European Raw Materials in 2050 based on raw materials research and innovation (R&I) coordination involving two leading European Technology Platforms (ETPs): ETP SMR (Sustainable Minerals Resources) and FTP (Forest Technology Platform), with the support of ECTP (European Construction Technology Platform), represented by UNIVPM, SusChem (ETP for Sustainable Chemistry), represented by Cefic, and EuMaT (Advanced Materials ETP), represented by VITO. http://veram2050.eu/
- **FAME:** FAME's contribution was to design flexible, modular and economic as well as environmentally friendly processing technology solutions to help expand the European minerals base, promote entrepreneurship and better raise raw material awareness and understanding within society. This, in turn, will help create sustainable jobs within Europe. <u>http://www.fame-project.info/</u>
- **INFACT:** With the goal of improved raw materials security in the EU, INFACT has the ambition to increase chances of discovery via access to new physical places and application of innovative exploration methods. <u>https://www.infactproject.eu/</u>
- MIREU: The European project MIREU aims to establish a network of mining and metallurgy regions across Europe, that will help the regions to share knowledge and experiences when facing the challenge to ensure a sustained and sustainable supply of mineral raw materials to the EU. <u>https://www.mireu.eu/</u>
- REMIX: REMIX Project encourages resource efficient and environmentally and socially acceptable
 production of raw materials, including critical raw materials. Growth and competitiveness of European
 industry is currently limited by the state of play in these two areas and policy instruments have been
 set up across Europe to address these important topics. The selected regions are at different stages in
 the mining cycle and have complementary resources and profiles. The REMIX project will advance
 innovation in their regional mining value chains, of large- and small-scale companies.
 https://www.interregeurope.eu/remix/

4.1.2 MAPPING OF STAKEHOLDER MOBILIZATION POTENTIAL OF INTMET PARTNERS

In order to achieve a wide stakeholder mobilization of the INTMET concepts, progress and results, project partners were to present the project and its achievements at related external events or conferences or at specific events, especially on national level.



4.1.2.1 SPAIN

COBRE LAS CRUCES (CLC)

The new facility for processing low-grade and complex ores will extend the life of CLC mine. CLC is an important employer in the region and thanks to INTMET cooperation it will be possible to hire graduates and train experts in mineral extraction. First Quantum Minerals Ltd. (the owner of CLC) has announced that the life of the Las Cruces mine will extend until the year 2020. With a new extraction facility for low-grade ores the mine life will even extend until 2040 (though this will depend on demand). The Las Cruces mine site lies in the Sevilla province in the South of Spain. According to the European Job Mobility portal, the unemployment rate in the Sevilla province reached 31,3% in 2015. This only underlines the importance of the mining industry in the region as a local job creator of an industry that can grow on domestic mineral supplies.

AGQ MINING & BIOENERGY

AGQ Mining & Bioenergy consists in technological centres which provide research, service and support to the global process of the benefit of minerals: mining exploration, hydrometallurgy and mineral processing, quality metal products and mining environmental impacts. The company has broad experience in developing mining effluents treatments in mining field and innovative approaches in metal valorisation, and innovative approaches in ecology. Currently, AGQ is involved in several, national and international, R&D projects regarding to the implementation of new technologies in different mining processes. Also, the presence of AGQ in other countries (most of them located in South-America) is a potential key aspect to be considered, and the INTMET project can became an important impact for the AGQ business activity.

TECNICAS REUNIDAS (TR)

TR is a general contractor and technology provider with a global workforce of more than 9.000 employees engaged in design and construction of industrial plants as well as in process development. Focusing on the NFM sector and hydrometallurgy technologies, since 1971 TR has maintained a leadership position in engineering and R&D projects in hydrometallurgy with early contacts in the Spanish Pyrite Belt. Its extensive knowledge of the ores, mines, processes, companies and people has provided value to companies and projects such as Rio Tinto, Xtrata (currently owned by Glencore), Glencore, Horsehead, Nyrstar, among many others. INTMET results will be used for improving TR's technology portfolio constructions. This constructions knowledge will create export potential for innovative technologies in mining and smelting industry, which is a goal of the European Union.

4.1.2.2 FINLAND

OUTOTEC OY

The Finnish partner Outotec is a company providing technologies and services for the metal and mineral processing industries. It is specialized in developing solutions of copper, zinc, lead, gold, silver and platinum group metal refining at all stages in the value chain from ore to metal. The company has a leading position in the market and on the technology ground of mineral processing all around the world. Outotec's technologies can help reduce the environmental impact of a large number of operations in the metallic-mineral industry.



INTMET will bring new elements into Outotec's portfolio and improve the effectiveness of polymetallic oreproduct process and sustainability in the supply of metallic materials in the European market.

4.1.2.3 PORTUGAL

SOMINCOR

SOMINCOR is a Portugal based mining company operating the Neves Corvo underground mine. SOMINCOR is important regional employer with nearly 2200 employees. It has built a wide spread network of roads and railways, which brings prosperity and employment to associated sectors. INTMET technologies have a potential to boost up company and region because so far the company is only producing concentrates². INTMET technology will enable it to produce cathodes with high added value.

4.1.2.4 SWEDEN

Sweden has a highly advanced mining industry with positive approach to new research projects and progressive mineral policy³.

4.1.2.5 POLAND

Poland is Europe's most important copper producer. Its production is twice as high as that of Bulgaria, Spain and Portugal together.⁴ Two consortium members are from Poland.

The Institute of Non-Ferrous Metals

The Institute of Non-Ferrous Metals based in Gliwice, Poland, is a leading scientific centre of the Polish nonferrous industry.

Institute of Non-Ferrous Metals (Instytut Metali Niezelaznych, IMN) is a leading scientific centre of Polish nonferrous industry. IMN activities cover all stages of metallic materials production: from ore treatment to technologies for production of modern products meeting all environmental standards. Many of the developed solutions became implemented in small and medium enterprises, not only in non-ferrous industry, but also in other branches. The services provided cover: R&D targeted for development of new technologies, optimisation of industrial processes, modernisation of production lines, construction of equipment, measurement and analytical services. The IMN specialists have a great experience in participation in national and international – EU projects

KGHM POLSKA MIEDZ

The KGHM Polska Miedz (Polish Copper) company is one of the global leading players in the production of copper and the largest producer of silver in the world (2012). It has several research projects in development. KGHM operates mining sites around the world as well smelting and refinery sites. Products include copper cathodes, raw materials, molybdenum, etc. The INTMET research has a potential to extend mine life and

² http://somincor.com.pt/en/ms/how-many-are-we-7780-183-castro-verde/ms-90064631-p-4/

³ http://www.sgu.se/en/mining-inspectorate/mines/mines-in-sweden/

⁴ http://www.euromines.org/mining-europe/production-mineral#Copper



increase benefits for polish economy, employees and new technologies brings new opportunities for local employment market5.

4.1.2.6 SERBIA

Mining and Metallurgy Institute Bor, MMI Bor, (BOR INST)

Bor is a town located in eastern Serbia and owns one of the largest copper mines in Europe. MMI Bor is a research institute active in domestic and foreign markets in the field of geology, mining, mineral processing, metallurgy, chemical technologies, chemical control, hydrometallurgy, environmental protection, information technologies, industrial informatics, mechanical engineering, electronics, non-ferrous metals and alloys, energy efficiency, environmental protection, ecology and publishing.

MMI Bor possesses base data for many non-used primary and secondary mineral deposits in Serbia. These data can be of great interest for possible further mineral explorations, introducing new technologies and new deposits exploration. The Institute publishes two journals, one of international importance, "Mining and Metallurgy Engineering Bor", and one of national importance, "Copper".

4.1.2.7 SOUTH AFRICA

MINTEK

Mintek is South Africa's national mineral research organisation and it is one of the world's leading technology organisations specialising in mineral processing, extractive metallurgy and related areas. Working closely with industry and other R&D institutions, Mintek provides service testwork, process development and optimisation, consulting and innovative products to clients worldwide. Founded in 1934, MINTEK has become a leading provider of minerals processing and metallurgical engineering products and services to industries. MINTEK will provide information on local markets and outside market from their experience.

4.1.3 IDENTIFICATION OF STRATEGICAL PARTNERS OUTSIDE THE CONSORTIUM

The main purpose of commercialisation of project results is to sell them to the market. Europe still has active mines and several facilities which are processing ores and reprocessing secondary material⁶. Therefore, we need to map these mines and processing facilities outside the INTMET consortium as important targets for marketing activities.

Important targets are the mines located in the Iberian Pyrite Belt in <u>Spain</u> and <u>Portugal</u>. This region provides many potential cases, where the INTMET technology may improve the related economic and also ecological situation.

For example, in <u>Greece</u> we have the Helenic Copper Mine (<u>http://www.hcm.com.cy/site/about-hcm</u>), which appears interesting in the context of INTMET.

⁵ http://www.intmet.eu/kghm-polska-miedz-sa-poland/

⁶ http://copperalliance.eu/industry/structure/copper-exploration-production-and-fabrication-map-in-europe



<u>Bulgaria</u> is the second largest copper producer in Europe but needs to import considerable amounts of ores and concentrates. New technologies would be highly effective for improving Bulgarian economy. Bulgaria has one of the lowest minimal wage in European union. There for it is essential to install innovative solutions which will stimulate regional economy.

In <u>Serbia</u>, the old copper mines "RTB Bor Group" recently are under reconstruction by the government. In the future strategic partners for privatization will be in demand. Rakita Exploration d.o.o. that purchased the larger share from FreePort McMoRan Inc. is the owner of recently discovered big copper deposits. Furthermore, deposits producing selective Zn and Pb concentrates could be of interest (Rudnik and Trepca at Kosovo and Metohija district). Rich polymetallic ore deposits (Cu,Zn,Pb,Ag,Au), which are not in exploitation due to their complexity, belong to SMEs, such as Bobija AD, Balkan Exploration and Mining, Copper Minerals d.o.o. Coka Marin etc.

In <u>Romania</u>, VAST Resources Ltd is operating polymetallic mines and are currently considering establishing a new metallurgical complex. INTMET already had contact with VAST, which have to be intensified now.

Outside the EU

Opportunity to share experiences with copper mining will be discussed, e.g. Chile, Canada, Republic of South Africa (RSA: http://www.mintek.co.za/corporate-profile/corporate-information/)

4.2 PRINTED BASIC DISSEMINATION MATERIAL

All printed dissemination material is available for download from the INTMET website at <u>http://www.intmet.eu</u>.

For basic dissemination purposes, there are several means of printed material that can be used. Usually, this material is used as handout material to provide basic project information at e.g. workshops or conferences or it can be circulated among stakeholders. In INTMET, we produced and used:

BROCHURES

At the beginning of the project, we produced an eight-page project brochure that has been updated during the project lifetime. The first issue concentrated on providing information about INTMET objectives and workplan so that all readers were aware of the intention of the project. The following Figure 1 shows the front and back page of this issue.





FIGURE 1: FRONT- AND BACK PAGE OF THE FIRST ISSUE OF THE PROJECT BROCHURE

All partners were provided with this first issue of the brochure for use at the various events they were participating. Among others, this brochure has been distributed at the EU Raw Materials Weeks 2016, 2017 and 2018.

The second issue of the brochure was produced to include the main results of the project work. Main purpose was to distribute at the INTMET Final Clustering Conference in January 2019 (see chapter 4.11). The following Figure 2 shows the front- and back page of this second issue.

Cu	www.intmet.eu
Ag Pb Integrated Metallurgy In	COORDINATOR COBRE LAS CRUCES, S.A. General offices Cobre Las Cruces S.A.
www.intmet.eu	Carretera SE-3410 – Km. 4,100 41860 Gerena – Sevilla – Spain
Innovative processes to recover base metals and CRM from low-arade and complex ores	DISSEMINATION MINPOL GmbH - Dreistetten - Austria
	© INTMET project consortium CONTACT US @ office@intmet.eu
	f INTIMET - Integrated Metallurgy 💟 ©INTIMETproject
	INITMET project has received funding from the European Union's Horizon2020 research and innovation programme under grant agreement No 689515.

FIGURE 2: FRONT- AND BACK PAGE OF THE SECOND ISSUE OF THE PROJECT BROCHURE



Results

More than 3,000 brochures have been printed in total and distributed at various occasions. This shows that the brochures contributed significantly to creating awareness of the INTMET project and its basic ideas and results. Feedback from stakeholders and other experts showed that the brochures were recognised as a useful dissemination tool.

PROJECT FOLDER

Based on the first issue of the brochure, a two-page project folder addressing stakeholders and the public has been produced. Its purpose was to be distributed together with the brochure as kind of short information about the project or at more non-technical events, where people were only interested in the basic facts of the project. The folder is shown in Figure 3.



COBRE LAS CRUCES S.A., Spain – Project coordinator (GHM POLSKA MIEDZ S.A., Poland 30MINCOR – SOCIEDADE MINEIRA DE NEVES CORVO S.A., Portugal JUTOTEC, Finland SCNCAR PERIVADAS S.A., Spain VSTYTUT METALI NIEZELAZNYCH, Poland MINTEK, South Alfrac MINNG AND METALLURGY, INSTITUTE BOR LTD, Serbia MINNG AND METALLURGY, INSTITUTE BOR LTD, Serbia UREAU DE RECHERCHS SCOLOGIQUES ET MINIERES, France GO MINING & BICHERCY S. Spain VSTITUTUL NATIONAL DE CERCETARE, Dezvoltare pentru Metale Neferoase şi Rare – IMNR, Romania

- VINPOL GmbH, Austria
- Hydrometallugiod processing of solutions containing metal lons. © copyright INN
 A standard method to laboratory weathering of solid methodials suffig a humdle Call. In this picture the
 A standard method to laboratory weathering of solid methodials is using a humdle Call. In this picture the
 Pice acress is a collacid method used for the segretation of glathum group elements and
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 tor cooling. A GeQ Mining and Bioenergy
 Centrityge eaulpment for solid iquid segaration. © copyright INN

Connected and the second secon

INTER'S SOUTIONS The INTER project meets the challenge to recover valuable metals such as copper, sinc, lead and sitter and critical metals like cobait, indum and animory from low grade and complex ones. Our approach offers a radical solution and represents unique tech-nological breathrough. INTER' uses three innovative hydrometallurgical processes almed at maximising the metal recovery vield withe minimising energy consumption and the environmental footprint. 2017 Greating as active like la Martine exercised.

El countres completely reix on imports. In fact, Europe has considerable deposits of low grade polymetalia minerals. Nervers, these de-posits are often damiserable due to the technical impossibility of recovering the metrics in an el-tripostatility of recovering the metrics in an el-trational economical pincesse withs for an el-metrid a decondrukt tile mining and metal-targical available way. Cut-relative tratices with an electronical pincesse with for an el-deposits: furthermete, there is no industrial pin-cess able to ded with polymetallic (Cut-2n+Ph) largeride dino an innovarity e business solution.

FIGURE 3: FRONT- AND BACK PAGE OF THE PROJECT FOLDER



Results

More than 1,000 folders have been distributed at various occasions. Also, the folders contributed significantly to creating awareness of the INTMET project and its basic ideas. It was recognised that the folder is a useful dissemination tool especially for audiences that are so much related to the technical issues of the project.

4.3 WEBSITE



FIGURE 4: SNAPSHOT OF THE INTMET WEBSITE

The INTMET project website (see snapshot in Figure 4) at <u>http://www.intmet.eu/</u> has been created in July 2016, consisting of a public area and an area for members only. It was developed to present the initial concepts of INTMET and results of the project once available including up-to-date factual information on technologies and their use. All published multimedia material as well as dissemination means were made available for download on the website. In this way, the website was one of the main disseminations means of the project. The web site contains a 'News' and an 'Events' section. This was for keeping visitors informed about the project progress and project related events, which may have also been of interest for people outside the consortium. Furthermore, the possibility to subscribe the quarterly newsletter was provided.

At the end of the project, the website contained almost all results and material that are not of confidential nature. This comprises almost all dissemination material, the videos, information about the technical results of the project, public deliverables and publications.



<u>Results</u>

Unfortunately, there are no access statistics available for the website. However, due to feedback from stakeholders and other experts, the website was consulted rather frequently to obtain information about project progress and at the end about results. This means that the website really fulfilled its task as being the central dissemination tool of the project.

4.4 SOCIAL MEDIA REPRESENTATIONS

INTMET established social media representations and Facebook and Twitter. Facebook was used for kind of mirroring the 'News' section of the website, whereas this news were also distributed via Twitter more or less in text form. Both social media channels were used, among others, to promote the INTMET videos.

Through several promoting impulses on Facebook during the last two months of the project lifetime (see Figure 5), more than 70,000 people could be reached. The actions focussed on different European regions, among others Spain, Sweden, Finland, Serbia and Austria. Nearly 9,000 actions people took on INTMET's promotions, by such as reactions, shares, video views and comments.



FIGURE 5: RESULTS OF PROMOTING ACTIVITIES (BOOSTS) ON FACEBOOK





FIGURE 6: INTMET FOLLOWERS ON TWITTER

Through its Twitter account, INTMET could enlist 151 followers who have been regularly updated on INTMET activities. A closer look at the followers shows that a good part of them are technically close to the project and that relevant industry is also clearly represented (see Figure 6).

<u>Results</u>

The social media representations of the INTMET project worked well but could be improved. Although the figures associated with the Facebook and Twitter accounts are fair, it became obvious that by far more attention needed to be paid to social media representations. The contribution of the social media work to the dissemination of INTMET in total must therefore be considered fair, at least for the project running time. However, it can be assumed that the situation will now change as the final project results are on the table and discussion will turn to a more application-oriented one.

4.5 VIDEOS

Ten professional, high-resolution (1920 x 1080p) project related videos in English and Spanish have been produced in the course of the project. They were all published via You-Tube and linked to the project website.



INTMET established its own YouTube channel⁷ (see Figure 7). In total 13 INTMET related videos are edited on the INTMET channel. All partners were involved in the video production, either by providing information and suitable material or in the review of the drafts.

There is a general project video of more than 6 minutes length available in English that outlines the background of the INTMET project and its objectives. This is a kind of promotion video for the project.



FIGURE 7: THE INTMET YOUTUBE CHANNEL

Several short video clips were produced as expert interviews with the coordinator and technical experts of the project consortium. The coordinator provided general statements about the project and its positive economic but also ecological impacts. The technical experts provided statements about the technological processes (atmospheric, pressure and bioleaching and valorisation of wastes and residues). Excerpts from these clips were also used in the promotion video mentioned above.

⁷ <u>https://www.youtube.com/channel/UC2Gw2tDbLYmtLPDczmTyl9Q?view_as=subscriber</u>



CIC produced a video about their PMS project comprising the pilot plant for improved flotation and atmospheric leaching, where also INTMET project contributed significantly. This video was produced in Spanish with English subtitles. Excerpt of this video are included in the promotion video as well.

The project partner Bor produced a short video clip without sound about their bioleaching pilot installation. Excerpt of this video are included in the promotion video as well.

In the context of the 2nd annual project meeting held in Bor, Serbia, in February 2018, a local TV station produced TV reports about the meetings of the project consortium with the Mayor of the Bor community and the General Manager of the Bor mining company. Both clips were produced in Serbian language and are also available on the INTMET YouTube channel (Figure 8).

Television reports

TV Bor RTB Reception for members of the H2020 project consortium INTMET Integrated Metallurgy. The consortium meeting was hosted by INTMET project partner BOR INSTITUTE from 20-21 February 2018 in Bor, Serbia.





FIGURE 8: LOCAL TELEVISION COVERED THE INTMET CONSORTIUM MEETING IN BOR, SERBIA

Results

All video clips have been accessed several hundred times via YouTube. This shows the interest of the stakeholder community in the INTMET achievements. It also shows that the awareness of the INTMET project was on a rather high level and that the information flow to the stakeholder community worked quit well.

4.6 NEWSLETTERS

The important communication tool, the newsletter, was designed and edited. The newsletter is one way to directly approach target groups or the entire INTMET stakeholder community. Newsletter can be easily delivered and have a wide-spread impact. Therefore, newsletters are an ideal way to spread information about project progress, etc. quickly. It also serves as a cross-linking communication tool between project partners and stakeholders.

INTMET produced a couple of newsletters. The first one was issued at the beginning of the project after having collected a significant number of stakeholder contacts in the order of 860 contacts. The first newsletter was to inform about the start of the project, its objectives and workplan together with the kind invitation to collaborate with the project partners.

In the course of the project, information was sent out about the positive mid-term project review and preliminary results.



The last two newsletters contained the invitation to the INTMET Final Clustering Conference (see chapter 4.11) and the registration instructions. One was sent out to the stakeholders, the second one to the media representative with an invitation to a press meeting in the course of the conference.

<u>Results</u>

As newsletters can have a wide-reaching impact the area spread of the information provided was rather huge. It can be assumed that this dissemination means significantly contributed to the success of dissemination activities of INTMET.

4.7 PRESS RELEASES

In total 4 press releases have been distributed via email to media contacts (national press agencies and selected media) in English and, if necessary, translated into all partner languages. Press releases forms a special communication channel with media. Therefore, only project information understandable for non-technical people could be provided. However, this information was usually multiplied by several orders of magnitude due to the spread of the various media contacted.

<u>Results</u>

Due to the wide range of coverage of media information, the press releases contributed significantly to the awareness of the INTMET project. This could be concluded from press clipping activities especially in Spain and Serbia. Here, a high awareness of the project could be seen and was expressed through articles in newspapers and even TV spots.

4.8 POSTERS, ROLL-UP AND MEGABOARD

INTMET drafted in total 8 posters for various purposes. The poster production was coordinated by MinPol, the contributions and the review were made by the project partners.

The posters were presented at the EU Raw Materials Weeks 2016, 2017 and 2018. The INTMET approach was shown at the MEC in Poland, 2017. The two remaining posters were presented at the IMPC 2018 in Moscow, Russia.

All posters are available for download from our website at <u>http://www.intmet.eu</u>.

On the occasion of the Final Clustering Conference in Sevilla (see chapter 4.11), MinPol also designed the INTMET Roll-up and the Megaboard in cooperation with CIC (see Figures 10 and 12).

<u>Results</u>

The posters contributed significantly to creating awareness of the project and providing information about the project results. They have been shown to rather big audiences so that their impact can be considered very high.



4.9 QUESTIONNAIRE

The main purpose of the questionnaire was to identify business opportunities or potential applicants for the INTMET technology (the questionnaire is available as Annex I to INTMET deliverable D8.4). Apart from some general information, we explicitly asked for providing information about currently applied processing and extraction routes, information about the deposit and the commodities relevant to the operation.

We sent this questionnaire out to our stakeholders. We also provided a web-based version accessible via the INTMET website. Unfortunately, and despite several activities to promote the questionnaire (via newsletters, through related remarks in conference presentations, even direct contact to several people and finally through the announcement of and registration for the INTMET final clustering conference), we only received 5 (partly) completed responses, whereof only 1 came from a mining operator.

It goes without saying that this approach was not successful and didn't provide any additional information.

<u>Results</u>

As the questionnaire approach turned out to be not successful, this activity could not positively contribute to information flow to and from the projects. It is a general fact that questionnaire survey are not the most promising means obtaining information. Therefore, the desired information should e.g. be collected on personal basis meaning in personal contacts. This like improves the effort for obtaining such information but it is probably worth it.

4.10 ARTICLES / PUBLICATIONS

INTMET partners carried out many publishing activities. This was done in scientific journals and in conferences or workshops. All publications contributed significantly to raising awareness of the project and disseminating results as well as getting in contact with stakeholders and other interested parties. The following list is only an excerpt of all publications done.

- Carlos Frias, Francisco Sánchez, Petrus van Staden, Dragan Milanovic and Eero Kolehmainen (2018): The IntMet project provides innovative hydro- and biohydro-technologies to deal efficiently with polymetallic and complex sulphide ores. Conference proceedings, IMPC, September 19-20, 2018, Moscow, Russia, Paper 583, p. 194-203
- D.B. Milanovic, S.S. Dragulovic, V.T. Conic, R.M. Kovacevic, M.M. Bugarin, P.J. van Staden (2018): Chemical refining process for Pb, Au and Ag recovery by treatment of bioleach solid residue from Sedex type ore: part 2. Conference proceedings, IMPC, September 19-20, 2018, Moscow, Russia, Paper 1023, p. 537-543
- V.T. Conić, V.K. Trujić, S.S. Dragulović, D.B. Milanović, R.M. Kovacevic, M.M. Bugarin (2018): Two stage leaching process for Cu and Zn recovery from Sedex type ores: part 1. Conference proceedings, IMPC, September 19-20, 2018, Moscow, Russia



- Carlos Frias, Jorge Blanco, Edward Vera, Natalia Moreno, Francisco Sanchez (2017): Polymetallic Ores Hydroprocessing at Cobre Las Cruces. Flotation Pilot Plant Outcomes. Conference proceedings, European Metallurgical Conference EMC, June 25-28, 2017, Leipzig, Germany
- Petrus van Staden: Development of integrated bioleaching processes for the treatment of low-grade complex ores, 2018, Namibia
- Petrus van Staden: Polymetallic processing within a circular economy, presentation at SAIMM, July 2018, Zambia.
- Mateusz Ciszewski, Andrzej Chmielarz, Michał Drzazga, Katarzyna Leszczyńska-Sejda, Grzegorz Pietek, Grzegorz Benke, Katarzyna Leszczyńska-Sejda, Witold Kurylak: Integrated innivative metallurgical system to benefit efficiently polymetallic, complex and low-grade ore and concentrates. Poster presentation at the Mineral Engineering Conference 2017, Sept 20-23, Wisla, Poland

<u>Results</u>

The publication of INTMET related issue in local newspapers as well as in world-wide issued scientific journals and on conferences or workshops was a significant contribution to make INTMET and its results known to a wider audience. This is mainly also due to the wide area coverage of these activities. Articles were published world-wide and presentations and related papers were given at many different places, even outside Europe.

4.11 EVENTS, WORKSHOPS, CONFERENCES

As already mentioned in chapter 4.10, INTMET was present at many conferences, workshops and other events in Europe and beyond. The following non-exhaustive list gives some examples of INTMET presence and participation:

- EU "Circular Economy Mission to Santiago de Chile on April 25th 26th, 2016", Santiago, Chile
- EU "Circular Economy Conference. International University of Andalusia on July 13th, 2016"
- EU Raw Materials Week 2016, 2017, 2018
- European Metallurgical Conference EMC, June 2017, Leipzig, Germany
- Mineral Engineering Conference September 2017, Wisla, Poland
- Metallic Mining Hall, October 2017, Seville, Spain
- AIMS, May 2018, Aachen, Germany
- SAIMM Conference, July 2018, Zambia, Africa
- International Conference, 2018, Namibia, Africa
- Goldschmidt Conference, 2018, Boston, USA
- International Mineral Processing Congress, IMPC, September 2018, Moscow, Russia
- International Conference on Mining and Metallurgy, October 2018, Bor, Serbia

Clustering activities

In April 2018, the EC funded FAME project (see chapter 4.1.1) held a cluster meeting, where INTMET was invited to participate. The Cluster Conference was a new approach to increase impact from exploitation by merging different stakeholder groups and grant programs from national and regional level. Carlos Frias (CIC)



gave an INTMET presentation, which was well received. Valuable contacts were obtained and fruitful discussions were held.

INTMET was a one of the co-organisers of the 2nd EU Critical Raw Materials Event "Critical Raw materials in our everyday life" on 12th November 2018 in Brussels (Figure 9). This event also contributed to improving the visibility of INTMET.



FIGURE 9: CO-ORGANISERS OF THE 2ND EU CRITICAL RAW MATERIALS EVENT

A particular clustering event was the <u>INTMET Final Clustering Conference</u> on 23 January 2019 in Seville, Spain (Figures 10, 11 and 12). This conference was the final event of the INTMET project. The aim of the conference was to present the results of three years work of the INTMET project. The results are very positive and provide a significant step forward in winning metals from polymetallic, complex and low-grade ores in a sustainable but also economic way. The technological innovation will foster, and the conference will promote the sustainable exploitation of complex and polymetallic ores especially in the Iberian Pyrite Belt mining region, as the ores from this region formed a significant part of the investigations of the project. The project objectives and work were well-aligned with the EU Raw Materials programme and policy so that the results will also have a significant impact all over Europe. The INTMET clustering conference aimed to spread the obtained knowledge by discussing the results with other European initiatives.





FIGURE 10: CONFERENCE ROLL-UP







FIGURES 11 AND 12: IMPRESSIONS OF THE INTMET FINAL CLUSTERING CONFERENCE

About 120 participants registered for this event. The agenda comprised apart from presentations from INTMET and the invited other projects FAME, REMIX and INFACT round table discussions with decision makers and project representatives. Everything was very well received and the response from stakeholders was positive that the INTMET results can bring added value to the processing of complex, polymetallic and low-grade ores.

<u>Results</u>

The presence and participation of INTMET partners at events, workshops or conferences served well the goal to make the stakeholder community aware of the advantages, INTMET processes will have. Especially the INTMET Final Clustering Event was a great success. The messages of INTMET were well received and positively commented. It can be assumed that all dissemination activities created a very good platform for continuing exploiting the INTMET results.



5. CONCLUSIONS

The initial strategy for stakeholder mobilization (included in INTMET deliverable D8.2) provided the basis for activities throughout the entire lifetime of INTMET. This document now shows the individual steps carried out and made an assessment about the results of each activity individually.

Al in all, the dissemination activities were very successful. All individual activities contributed to the overall aim of these activities: to mobilise the stakeholder and make them aware of the INTMET achievements. Not all went perfectly but these items are useful when it comes to 'lessons learnt'.

It can be assumed that all dissemination activities created a very good platform for continuing exploiting the INTMET results. The next steps need to be decided on individual INTMET partner basis. But if there is an intention to continue the development activities started in this project, the stakeholder community will have a positive perception of the INTMET processes.

For the benefit of the European mining industry and the political goal to reduce import dependency of metals, INTMET processes must be applied in practice. The scene is set, the way is paved.