



## SUMEX DELIVERABLE D5.5

# COMPLEMENTARY CAPACITY BUILDING MATERIAL

### *Summary:*

With a view to building complementary capacity building materials around the topic of sustainability in the extractive areas, a podcast was developed which explores the main challenges faced by the extractive sector, including environmental impact, social responsibility, legal compliance, and stakeholder engagement. The podcast also discusses the role of public authorities in addressing these challenges and SUMEX insights that are relevant to facilitate sustainable mining practices.

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## EXECUTIVE SUMMARY

With a view to building complementary capacity materials around the topic of sustainability in the extractive areas, a podcast was developed which explores the main challenges faced by the extractive sector, including environmental impact, social responsibility, legal compliance, and stakeholder engagement. The podcast also discusses the role of public authorities in addressing these challenges and provides good practice examples as well as SUMEX insights that are relevant to facilitate sustainable practices in the extractive sector.

The podcast entitled “Sustainable Management in the Extractive Sector: Navigating Challenges and Forging New Paths” targets primarily industry professionals, permitting authorities, and policy makers seeking to gain insight into sustainable management in extractives and deepen their knowledge.

The podcast series comprises an introductory episode as well as five thematic episodes focusing on the SUMEX focus areas of socio-economic and environmental impact assessment, land use planning, health & safety, permitting and reporting.

The six episodes have an average duration of 15 to 20 minutes and are due to be released every three weeks starting in early May 2023.



## 1 INTRODUCTION

The ambition of SUMEX (Sustainable Management in Extractive industries) is to promote sustainability in the European extractive sector. For this a sustainability framework has been established, with the involvement of stakeholders from civil society, academia, industry and government backgrounds from all across the EU. In addition to this framework, SUMEX developed a digital toolkit consisting of a Knowledge Repository and a Massive Open Online Course (MOOC). The Knowledge Repository is an open-access toolkit of good practices around sustainability in the extractive sector; the MOOC is a six-week online course that addresses the most pressing issues and practical challenges of sustainable management in the extractive sector faced by decision-makers.

Complementary to this toolkit, SUMEX has produced additional capacity building material in a podcast format to facilitate a straightforward knowledge transfer. This podcast will convey the project's approach and outputs to new audiences and foster the relationship with stakeholders already familiar with the project's ambition.



## 2 SUMEX PODCAST DEVELOPMENT

### 2.1 AIMS AND OBJECTIVES

The SUMEX podcast “Sustainable Management in the Extractive Sector: Navigating Challenges and Forging New Paths” has been set up with a view to building additional capacity material for stakeholders interested in the topic of sustainability in the extractive sector.

The podcast introduces the topic of sustainability in the extractive sector in light of recent political and societal developments, including the latest IPCC (Intergovernmental Panel on Climate Change) report and the EU’s Critical Raw Materials Act, both issued in March 2023. The five thematic episodes which follow the introduction navigate the listener through the main challenges the extractive sector is facing, including environmental impact assessment, social responsibility, legal compliance, and stakeholder engagement.

In addition, the podcast explores the role of public authorities, and in particular permitting authorities, in addressing those challenges and features good practice examples. SUMEX findings and outputs which can facilitate the transition to sustainable management in the extractive sector are highlighted in a complementary way.

The main target groups of the SUMEX podcast are industry professionals, as well as permitting authorities and policy makers who seek to gain insights into sustainable management in extractives, taking into consideration the increasing importance of domestic supplies of raw materials to meet society’s needs.

By repurposing short excerpts from the webinars conducted for the SUMEX Massive Open Online Course (MOOC) in a new format, the SUMEX podcast aims to provide complementary materials for anybody keen to learn more about sustainability in the extractive sector. On the other hand, it also allows to foster the dissemination of the SUMEX approach and outputs and is intended to act as a teaser for the second live run of the SUMEX MOOC, due to start in summer 2023.

### 2.2 STRUCTURE

The podcast has been developed as a series comprising six episodes in total and follows the structure outlined below.

#### **Episode 1: Introduction to the topic of sustainability in the extractive sector**

Narrator: Tony Hand, Tallinn University of Technology (TalTech)

Content: This episode provides an overview of the topic of sustainability in the extractive sector in light of recent global and European developments. It also highlights the contribution made by the SUMEX project.

#### **Episode 2: Environmental Impact Assessment (EIA)**

Host: Tony Hand, TalTech

Experts featured: Guillermo Aguirre, Anglo-American, and Tommi Kaupilla, Geological Survey of Finland

Content: This episode presents an overview of the challenges surrounding EIA and potential pathways to improve it in the future. It underlines the importance of trust in the mining industry and how crucial it is to apply more holistic approaches for impact assessments.

#### **Episode 3: Land use planning**

Experts featured: Sybil Berne, MacCabe Durney Barnes, and Thomas Hartmann, Technical University of Dortmund



Host: Tony Hand, TalTech

Content: This episode explores the role of mining compared to other land uses. It discusses the complexity of land use planning and the difficulty to find an appropriate balance between different types of land use.

#### **Episode 4: Health & safety**

Experts featured: Sophie Grenade, industriAll European Trade Union, and Alexander Tsanov, Dundee Precious Metals

Host: Tony Hand, TalTech

Content: This episode introduces the current state of health and safety in the extractive industry and underlines the efforts made in the last decades. It presents good practice examples, both from the industry and the trade unions' side, on how to improve working conditions in the extractive sector.

#### **Episode 5: Permitting**

Experts featured: Lia Mergulhão, Portuguese Institute for Nature Conservation and Forests (ICNF) and Michael Rademacher, Bingen Technical University

Host: Tony Hand, TalTech

Content: This episode explores the difficulties that arise when extraction sites are located in nature-protected spaces, such as Natura 2000-labelled areas. It also discusses how the EU's nature restoration law from 2022 is increasing the pressure on extractive companies to achieve a net positive impact on biodiversity.

#### **Episode 6: Reporting**

Experts featured: Aimee Boulanger, Initiative for Responsible Mining Assurance (IRMA) and Kimmo Collander, Finnish Network for Sustainable Mining

Host: Tony Hand, TalTech

Content: This episode delves into the topic of sustainability reporting. It introduces and compares different standards for the public reporting of environmental, social and governance performance, ESG for short.

### **2.3 APPROACH**

The SUMEX podcast uses short excerpts from the MOOC expert webinars around the project's five focus areas and rearranges them along new story lines. A series of challenges surrounding the discussion on sustainability in the extractive sector were identified: Trust in the mining industry, the complexity of land use planning and the challenges of post-closure appeared as reoccurring keywords.

The introductory episode allows to set the frame of the podcast series in light of the most recent international and European developments, such as the publication of the last IPCC report and the EU's Critical Raw Materials Act.

The six episodes all have an average duration of 15 to 20 minutes, and they are moderated by a native English speaker, Tony Hand from TalTech University.

The recording of the moderator's voice has been conducted in April 2023 at TalTech University.

### **2.4 PROMOTION**

At the time of writing this deliverable, the editing of the first three episodes is about to be finalised.

The first episode is planned to be released on 4 May 2023 via PodBean. The following episodes will be released every three weeks.

PodBean's 'Unlimited Audio' Plan will allow to disseminate the podcast through all major podcast platforms.

To accompany the promotion, a cover image (Figure 1) and an introductory text (Figure 2) have been developed.



**Figure 1:** Cover image of the SUMEX podcast.

Would you like to gain new insights into sustainable management in extractives and deepen your knowledge in this field? Join moderator Tony Hand in our podcast "Sustainable Management in the Extractive Sector: Navigating Challenges and Forging New Paths" to explore the main challenges faced by the extractive sector, including environmental impact, social responsibility, legal compliance, and stakeholder engagement. Our podcast also discusses the role of public authorities in addressing these challenges and provides good practice examples as well as insights from the SUMEX project that are relevant to facilitate sustainable practices in the extractive sector.

Moderator Tony Hand is currently the Sustainable Mining Project Manager in the Division of Mining and Mineral Technology at Tallinn University of Technology – TalTech, in Estonia. With over 30 years of experience in the mining sector and 3 years as Senior Advisor in Mining Technologies and Sustainability at EIT RawMaterials, Tony understands the challenges faced by the extractive sector operating in society today. Society cannot move forward without responsible sourcing and extraction of raw materials. Consumer behaviour creates more demand for products and this is an area that Tony believes more must be done to inform and educate businesses and society in general, on the impact of increased production on communities, the environment and the health of the planet in general.

**Figure 2:** Introductory text to the podcast.





### 3 FOSTERING SUSTAINABILITY

The SUMEX podcast is a valuable resource that delves into the critical challenges facing the extractive sector regarding sustainability, while providing practical examples of best practices.

With its availability on major podcast platforms, the podcast provides an easily accessible and concise overview of the key issues associated with promoting sustainability in the extractive industry. This feature allows for the dissemination of the topic to diverse international audiences and has the potential to heighten public awareness.

By listening to the SUMEX podcast, individuals from different groups of stakeholders can gain a better understanding of the importance of sustainability in the extractive sector, and be equipped with knowledge and tools to address related challenges.

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## ANNEX 1: SCRIPTS OF THE SIX PODCAST EPISODES

Note: The transcripts from the MOOC expert webinars have been generated automatically, therefore linguistic errors may occur.

### 1. Introductory episode – TalTech

Hello everyone and welcome to this, the very first episode of the Sustainable Management in Extractive industries, or the SUMEX, podcast.

My name is Tony Hand and I will be your moderator for this series of the podcast where we will be seeking to gain insights into sustainable practices in the extractive sector. We will be assisted in this by experts in their respective fields to develop a better understanding of the challenges faced by the sector, including environmental impact, social responsibility, legal compliance and stakeholder engagement. In the podcast we will also examine the role of public authorities in addressing these challenges and look at how SUMEX insights are supporting sustainable practices in the sector.

First off, please let me tell you a little about myself. I am a project manager in sustainable mining at the Division of Mining and Mineral Technology at the Department of Geology, Tallinn University of Technology – TalTech, in Estonia.

Before joining TalTech in October 2022, I spent many years in the mining sector, starting out in mine surveying, eventually becoming a mining engineer. In 2016 I left the mining industry to join the newly formed EIT RawMaterials as a Senior Advisor for Mining Technologies and Sustainability. EIT RawMaterials is part of the European Institute of Innovation and Technology and its overarching mandate is to support securing the supply of critical raw materials to the European industry sector by driving innovation along the raw materials value chain. EIT RawMaterials also manages the European Raw Materials Alliance, or ERMA.

ERMA was announced in 2020 and its action plan is to look at the current and future challenges and propose actions to reduce Europe's raw materials' dependency on third countries, diversifying supply from both primary and secondary sources and improving resource efficiency and circularity while promoting responsible sourcing worldwide.

ERMA's vision is to secure access to critical and strategic raw materials, advanced materials, and processing know-how for EU industrial ecosystems. The alliance involves all relevant stakeholders, including industrial actors along the value chain, Member States and regions, trade unions, civil society,

research and technology organisations, investors and NGOs to help achieve this vision and also strengthen domestic sourcing of raw materials in the EU.

Let us start this first episode with a question. How can the extraction of raw materials from the ground be considered sustainable? The extractive industry sector and the term sustainability do not sit well together in the same sentence. The fact is, the more raw materials we extract from the ground, the less we leave behind to meet the needs of future generations. This depletion of finite resources is, in essence, contrary to what can be considered a sustainable practice, however the methods by which resources are extracted can be developed in more responsible and sustainable ways.

Without the extraction of metals and minerals, we as a society, will not be able to tackle major challenges such as climate change. Apart from contributing to the fundamentals and the general economic growth, the mining and metals industry is essential to the transition to a low-carbon, sustainable future and to climate change mitigation. Minerals and metals are critical components in a wide variety of clean energy technologies, from wind turbines and solar panels to electric vehicles and battery storage. Going forward, our reliance on metals and minerals is not declining, instead it is rapidly increasing.

On the subject of climate change, the latest report from the Intergovernmental Panel on Climate Change, (IPCC), states that the current pace and scale of climate actions are insufficient to tackle climate change, every increment of warming will create greater challenges. However, the report notes that increases in temperatures can be positively altered depending on policies and actions taken now. Such choices will play a critical role in deciding our future and that of future generations. One action for this transition to a fair and sustainable planet is the necessity for greater awareness and acceptance of the critical role that the extractive sector has to play in this future.

Due to the climate change crisis, and as a response to supply chain challenges and environmental impact, along with the need to improve social performance, sustainability has become an increasingly important factor in the extractive sector. Geopolitical factors are playing major roles in accessing raw materials and securing supplies, not to mention pandemics. As we shall, the global dependence on China for raw materials for green energy technologies is creating a greater examination of mineral deposits closer to home. The EU wants to ramp up the extraction of raw materials within its own region in an attempt to lessen the reliance on China as a supplier. But this will not sit well with many communities and stakeholders. The need to engage and transparently communicate with

stakeholders is crucial if Europe is become more self-sufficient regarding its supply chain for metals and minerals.

There is an old phrase “If it can’t be grown, it has to be mined’ which encapsulates the importance of minerals and metals in the modern world.

The extraction of raw materials is vital for a liveable and sustainable future for all. Raw materials are essential to drive economic growth and deliver social benefits to the regions in which they are located. They are crucial for the transition to an electrified green economy, the construction of infrastructures, buildings and housing for the ever increasing global population.

The challenge, in this context, is to assure society that sustainability in the extractive sector is about doing things better and proving that an industry, which admittedly, has a chequered history, can operate in an environmentally responsible and sustainable manner.

But, the extractive sector cannot just turn on a tap to provide these materials in greater quantities, the life-cycle stage for extractive sites can be a very long process consisting of five distinct stages:

The pre-exploration phase includes the planning process for land use and development at the earliest stage.

The exploration phase is next to analyse the prospective new site in order to identify potential mineral deposits for future exploitation.

The development phase follows if there is found viable deposits of minerals. This stage will take longer than the previous stages as it covers the building of the necessary infrastructure for the operations to commence and run smoothly.

The extraction of the resource has the potential to be the longest phase of all. In this phase the raw material is extracted from the ground. Depending on the size and value of the deposit, the production and processing of the raw materials can last for decades. This is followed by the processing phase which may, or may not, be carried out on site.

Site closure and rehabilitation happens once the mineral deposit is exhausted or no longer financially viable to extract. After the exploitation phase is over, the operators are responsible for decommissioning, remediation and rehabilitation of the site, which takes several years. However, this is not always the case and companies that have walked away once the deposit is depleted, have caused great damage to the environment, infrastructure and communities and lives have been lost due to failure to secure and monitor underground and open pit mine and quarry sites. This reflects badly on the whole sector and tarnishes the reputation of the extractive industry. Probably the greatest

challenge faced by the sector is to convince society that it operates in a transparent, responsible and sustainable manner before, during and after the extraction takes place.

It is no wonder that the public perception of the extractive sector is, in general, negative. But, we must highlight the great work that companies are doing to ensure stakeholder acceptance and environmental protection.

Returning a mine or quarry site to its pre-extracted condition is a costly and time consuming endeavour, however, in many cases the post-extracted site can become a much better feature for the environment and communities located in the area. An excellent example of what can be achieved is the Eden Project in Cornwall in the UK. The site was once a clay quarry and is now one of the world's greatest botanical gardens – the result of remediation, rehabilitation and regeneration as constructed ecosystems. In fact, the Eden Project is the biggest enterprise and the largest single employer in Cornwall.

The Lisheen mine site in Ireland began operating in 1999 and ceased in 2015. Over this period 22.4m tonnes of ore was mined at the site. Situated in an area of natural beauty and prime agricultural land, while surface and underground rehabilitation had been in progress, the company had actively collaborated with local authorities and business development groups in finding possible users for a site that is well served by power, water and waste disposal infrastructure. The site is now a bio-economy campus powered by the wind turbines that dot the neighbouring landscape. Although the site is now being reused and supplies alternative employment in a rural region, the company is committed to carry out a 30 year monitoring programme as part of the after-care of the site. Lisheen is regarded as a world class closure.

The life-cycle of mines and quarries can take decades to complete with a long-lasting impact on the environment and communities. To ensure this impact is a positive one, tools and systems must be in place to engage with stakeholders throughout this life-cycle. The SUMEX project has established a sustainability framework for the extractive industry in Europe, with the involvement of stakeholders from civil society, academia, industry and government backgrounds from all across the EU. It also provides a tool-kit with good practises, with a focus on access to land, permitting and policy coordination and integration and also identifying stakeholder learning needs and requirements.

Some facts and figures relating to the sector are worth noting. According to the World Economic Forum report in 2022, the mining process, from exploration to operation, is highly energy-intensive. It accounts for 10% of the world's energy consumption, hindering net-zero ambitions and causing significant environmental impact from land-use change.



In another report, the WEF highlights the fact that the construction industry is the single largest global consumer of resources and raw materials. It consumes about 50% of global steel production and, each year, 3 billion tonnes of raw materials are used to manufacture building products worldwide. The largest proportion of primary aggregates is used to manufacture concrete.

The sector faces major challenges, but there are positive trends happening that need to be highlighted.

Globally, organisations such as the International Council on Mining and Metals (ICMM) has set out a list of Mining Principles, created on the understanding that the decarbonizing of the global economy and meeting the UN Sustainable Development Goals (SDGs) requires a sustained demand for metals and minerals over the coming decades.

The Global Aggregates Information Network, or GAIN, is an entirely voluntary network of the major regional aggregates associations of the world. The purpose of GAIN is to openly share experiences and industry best practice in the interests of promoting the greater good of the aggregates industry globally and vigorously enforces an anti-trust policy. GAIN members represent 60 per cent of the global aggregates production of 40 billion tonnes, from around 400,000 quarries and pits worldwide, estimated to employ in the region of three million people. Ancillary services can double or triple this figure.

From the EU perspective, organisations and representative bodies are fully aware of their increasing responsibilities to extract raw materials in a responsible and sustainable manner. However, the crisis in Ukraine has created a greater urgency to develop secure and strategic supply chains. This includes the need to responsibly source more raw materials from within its own borders and extract them in a manner compliant with environmental and societal demands.

**Euromines**, for example, the representative of the European metals and minerals mining industry, provides a formal platform in which the members evaluate the impact of European and International policies and legislation on the industry and define common positions and actions for the benefit of all stakeholders in the sector. Euromines represents large and small companies and subsidiaries in Europe and in other parts of the world, including 19 national mining federations, 16 direct company members, 350,000 jobs and 42 different metals and minerals .

**IMA-Europe** is the decisive EU voice of industrial minerals producers and importers. Its mission is to develop a thriving industrial minerals sector at the heart of a sustainable Europe. The organisation represents 685 mine and quarry sites and 750 processing plants and thousands of employees from 250 member companies. Society uses industrial minerals, either in a processed or natural state, to make



building materials, ceramics, detergents, electronics, glass, medications and medical devices, paints, paper and plastics, and many more industrial and domestic products.

**UEPG**, representing the European Aggregates Industry states that the European aggregates sector is the largest part of the non-energy extractive industry in the EU, with over 3 billion tonnes produced every year, of which about 10% are from recycled sources. These mineral resources are a vital input to the economy and are recognised as being strategically important in the provision of buildings and infrastructure, supporting economic expansion and the needs of growing national populations. The current conflict in the Ukraine has driven the need to provide housing for the largest wave of refugees since World War II, driving the demand for more raw materials in the process. Rebuilding regions hit by natural or man-made disasters will drive this demand even further.

In order to create a more secure raw materials supply chain, the EU has just published the Critical Raw Materials Act (16th March 2023). This act identifies 'strategic projects' along the supply chain and focuses on extraction, refining, processing and recycling of critical raw materials (CRMs) to decrease dependence on countries, particularly China, that dominate CRM supply chains. The EU currently gets 98% of its rare earth supply from China, as well as 93% of its magnesium and 97% of its lithium. The recent Inflation Reduction Act (IRA) in the US has caused tensions around CRMs also.

However, before the Critical Raw Materials Act was introduced, initiatives such as the EU funded SUMEX project established a sustainability framework for the extractive industries in Europe. The aim is to foster more, but sustainable mineral production in the EU.

### **SUMEX objectives and approach**

SUMEX is doing this by considering the Sustainable Development Goals (SDGs), the European Green Deal, as well as EU Social License to Operate considerations and involves stakeholders from civil society, industry, academia and government backgrounds from all across the EU.

The sustainability framework is applied across the extractive value chain to analyse the minerals, as well as relevant economic, environmental and social policy frameworks of the EU member states and selected regions along five focus areas – socio-economic and environmental impact assessments, land use planning, health and safety, reporting official statistics and permitting processes/policy integration

The podcast will devote an episode to each of the five focus areas.

Here's a brief introduction to five focus areas.

In the next episode we will go into more detail on environmental impact assessments and the challenges they can pose for the sector.





In episode 3 our focus area will examine land use planning, definitely a contentious issue when it comes to the extractive sector.

In our fourth episode we will focus on health and safety. The extractive sector has a poor public image when it comes to this topic, but what is being done to change public perception. Tune in to listen to our experts opinions on this.

Episode 5 will examine the permitting processes and explore the difficulties that arise when mining projects are located in sensitive areas.

Our final episode in the series will delve into sustainability reporting. What are the standards and stakeholder expectations for the sector?

The extraction of raw materials, vital to modern society, is also vital to future generations. We, as consumers, place a great emphasis on the availability of products and services for our daily needs, yet we want to place restrictions on the extraction of the raw materials that are the essential ingredients that make society move forward. How do we balance our consumptive demands with those requiring responsible and sustainable extraction? Tune in to the SUMEX podcast to delve deeper into these topics that impact on each and everyone of us and discover how dependent we are on the extractive sector.

## **2. Impact Assessment in the extractives sector**

*Expert webinar recording: <https://youtu.be/ogUVHTn13x0>*

### **Moderator:**

Welcome to the second episode of the SUMEX podcast! Today we will dive deep into one of the focus areas of the SUMEX project: Environmental Impact Assessments or EIA for short.

EIA plays a crucial role when it comes to evaluating and mitigating the environmental risks of mining projects. However, there are also several challenges that surround EIA, and we'll be exploring them in more detail today. Some of these challenges are very closely related to the public perception of mining, as environmental impact is usually one of the public's major concerns when it comes to opening new mines.

We'll also be discussing potential pathways to improve EIA in the future, and looking at some of the innovative approaches that are being taken to address these challenges.



So, whether you're a professional in the field or just someone who's interested or concerned about the impact that mining projects have on the environment, we hope you'll join us as we delve into this important topic.

For those of you who may not be familiar with EIA, it actually originated in the United States with the National Environmental Policy Act of 1969. Since then, EIA has become a widely used tool to evaluate and mitigate environmental risks in the approval process of projects.

Now, the European Union also has its own EIA Directive which was adopted back in 1985. This directive is generally more technical in nature and has fewer requirements for public consultation compared to the US version.

But why is it important to talk about EIA from a global perspective?

Well, in the SUMEX project we primarily focus on Europe but it's important to note that environmental impact assessment is a crucial tool worldwide when it comes to evaluating and mitigating the environmental risks of mining projects and ensure that the sector becomes more sustainable.

Today, we will have the opportunity to hear from two high-level experts in Impact Assessment, one is based in Chile and the other in Finland:

Guillermo Aguirre is an Environmental Chemist with 22 years of experience in the mining industry. He is currently Principal of Permitting Performance at Anglo-American, where he focuses on integrating sustainability and permitting into business planning.

Tommi Kaupilla is a geologist at the Geological Survey of Finland and holds the position of Research Professor of Mine and Industrial Environments at GTK. His research interests and expertise include environmental risk assessments for mining operations and surface water impacts of mining as well as sustainable mining issues.

To start us off, I would like to touch upon the topic of environmental impacts and public trust and its significance for the mining industry. New mining projects are facing heavy opposition in several countries across Europe and it's becoming increasingly clear that trust is a key issue for the industry. Guillermo has been working in the mining industry for more than two decades and he will tell us more about his perspective.

*Excerpt Guillermo, 29:40-32:18*

*"You have seen environmental issues related to mining in every country. Look for mining companies, its hard to deal with that. So what we need, first trust in ourselves as mining companies. The other problem that I see is lack of trust in authorities. The role of the authority is to ensure that things are done on the right way to protect people and the environment, we all need to understand that if we lose trust as humans we are done. So we need to trust, we need to trust each and in order to maintain the trust we have to act in the right way all the time. And don't be afraid to show your errors. Changes in culture*

*and public take time and sometimes it's just one person doing something wrong and create a big a big impact."*

Cut if needed: (This is very insightful. However, from what I understand, trust doesn't necessarily seem to be an issue in all regions, as some of them have a longstanding mining tradition and industry is generally well accepted. Guillermo can tell us more about this.

*Excerpt Guillermo, 17:45-18:41:*

*"I personally come from a mining country, my grandfather works in miner, my dad didn't. Mining developed on a different way we have the technologies, we have the instrument, we can do it. We need mining, I am convinced about that. But we need a different mining. A transparent, open and integrated mining. And that is possible."*

**Moderator:**

This is a strong statement. Guillermo then also spoke about the role that Environmental Impact Assessments could or should play to improve trust in the mining industry.

*Excerpt Guillermo, 06:59 –09:38:*

*"(...)EIA is here to predict the future and that I don't think that is possible right now. Right now I don't think we have the right tools now, we cannot even predict the weather in the next 10 to 20 days. So based on what you said, how can we build trust? Transparency around the models, assumptions, data, full open around that is the way it should be. Because that note will make people understand what is coming right now. But also once we go forward with a bridge is it there is an acceptance of the results and the level of uncertainty of those results is also transparency in the way we monitor. You say how will environment will interact with your project and then you monitor. And following how your system behave is also opening to that data and making the data public. We should have the data public. Understanding that things might not work the way we all thought with a way we all agreed, but that giving space to fix things. That's the way some mining companies are doing, but it's a challenge too."*

**Moderator:**

So, I understand from Guillermo's words that open access to data is one piece of the puzzle when it comes to improving trust and transparency in the mining industry.

In addition to that, it seems like it would also be beneficial to take into consideration the fact that mining projects are constantly evolving over time.

*Excerpt Guillermo, 20:10-22:50 (cut, "Tommi,...") and 22:53-24:47:*

*"This is how it happens. You apply for a permit, and the moment you put your application in the project is already going to be changed or optimize, so we should understand that. Rather than try to adjust the project to the permits system, we should and understand that, that's the nature of this business. I think it's great so this initial approval and then you know once you get your permit for the next 20 years, you just go. I think this is a problem. One of the things that should change is to make the impact assessment process a continuous process. In some countries, for example your plan has to be updated every five years, in the independent if you change your project.*

*How we can change the entire process of this business we are doing that right now. We are bringing Sustainability into the way we start thinking about new minds or expansions. That it's on a process*

*called the RDP Process. So we are building together with mine planners. In one of the projects we are designing the pit and trying options that generate less dust from the design. So that the outcome is less dust. Nobody studies permitting. It's not about the permit, it's about building Sustainability into the way we design and then the way we operate and of course the way we transition to something different. I don't like the temporary closure, I like the transition and I have seen very successful transition. (example; you can do that but it's built on trust)."*

**Moderator:**

After listening to Guillermo's insights, we will now hear from Tommi, as an expert who works for a public institution. I'm curious to hear his thoughts on how we can increase trust in mining projects beyond just making the environmental impact assessment and permitting process more transparent. We asked Tommi whether he thinks there are ways to make the process more holistic and to better include the post-closure period.

*Excerpt Tommi, 32:50-36:36:*

*"Thank you, first I think that the scope of the EIA irrespective of jurisdiction I think it's already very broad if you leave read the legislation what they tell you to assess it is really broad so you would think that it is holistic already. But for instance for the social impacts, how do we better bring them in? Since I come from the natural science as I have this very pragmatic technology oriented way of thinking about it, is that that we should be doing the same, that we do for the other impacts like trying to quantify the changes in the living conditions for the people in the region when are mining projects comes to the area. And again in the mining project leaves that that area because that there will be a big changes lets say in the framework conditions. So there will be demographic changes, different types of people will be moving in perhaps, the regional economics will change, there will be different types of jobs available, and these people need public services, they need housing, they need schools, and daycares and sanitation. And all this can be quantified. In fact we exactly know how much people will work on the at the moment and then we will need some estimates of how many of them can be recruited local how many of them will be moving in and so on. I think very good basis to start taking into account the social impact but you need to be of course sensitive because you need to identify the meaningful things to measure, I mean the ones that I listed are very simple and straightforward and probably applicable at all projects, but they can be local things that you need the local expertise to know what exactly it is that you need to measure. Changes that you wouldn't maybe as an outsider understand that are important for the for the people in the region. And then you would with these quantify changes you would then move into this its current mining paradigm, in which you try to, because a mine is always a temporary thing. It will come to end in 30 years or something and the and the current paradigm in mind that you should produce the sustainable benefits for the region of this maximise the opportunities while you're mining and produce this a positive legacy. So it's these numbers, that you can then work with and try to improve because these are the changes you are assessing for your EIA. (...)"*

**Moderator:**

I understand from Tommi's words that the positive legacy of a mining project is something that should be taken into account more seriously during the project planning phase and in the EIA process. To close this episode, we asked Tommi for his final thoughts on this topic.



41:41 –Excerpt Tommi, 36:46-37:57

*“You can deliberately and that should be your aim you will deliberately try to leave that place in a better condition than what it was. Or what the progress would’ve been without your mine so you need to deliberately build the sustainable benefits for the region. ...We need to find a clever way to put it in the EIA.”*

**Moderator:**

This really sounds like one of the key messages for today. We are now already reaching the end of this podcast and it was fascinating to hear from both Guillermo Aguirre and Tommi Kaupilla. We’ve learned a lot about the importance of trust in the mining industry and that it’s crucial to apply more holistic approaches when it comes to preparing impact assessments.

Before we wrap up, I wanted to remind our listeners about the Massive Open Online Course produced by the SUMEX project. If you’re interested in learning more about EIA and other important topics related to sustainable mining, be sure to register for the course!

Thanks for tuning in to this episode of the SUMEX podcast. Stay tuned for more episodes, where we’ll continue exploring approaches and pathways to make the mining sector become more sustainable. For more information on the SUMEX project, we also invite you to check out our website at [sumexproject.eu](http://sumexproject.eu).

### **3. Land use planning in the extractives sector**

**Webinar recording:** <https://youtu.be/gkXEoF9aRig>

**Moderator:**

Welcome everyone to a brand-new episode of the SUMEX podcast! Today we will speak about land use planning and which place mining has in this area.

This is currently a hot topic in Europe, and also globally, as the energy transition is increasing significantly our need for mineral raw materials. More and more governments decide on dedicated strategies to ensure the domestic supply of critical raw materials and this also means that land use planners have to take into consideration the need of safeguarding the access to those metals and minerals.

However, there is also a growing opposition to new mining projects, so it’s important to understand the role mineral extraction plays compared to other types of land use.

To help us navigate this topic, we have two amazing experts who shared their insights with us.

First up, we have Sybil Berne, an urban planning consultant working for MacCabe Durney Barnes, a planning consultancy in Ireland. Sybil has worked on a variety of large-scale projects, including the extractive industry, and has for instance undertaken research as part of the Horizon 2020 MINLAND Project.

And our second expert is Professor Thomas Hartmann. Thomas is a professor at the Technical University of Dortmund in Germany, and his research focuses primarily on instruments and strategies

of land policy for dealing with scarcity of resources, with a particular focus on land and water issues. Thomas is also the President of the International Academic Association on Planning Law and Property Rights.

We all know that mining can have long-lasting impact on a region, which can often be a big concern for local populations and increases public opposition to mining.

We first asked Thomas to share his thoughts on this topic and how he thinks land use planning should address mining.

Excerpt Thomas, 19:52-21:10

*“Well we need to understand mining is a very special land use. And I’m now situated in the Ruhr area. An area of coal, steel and beer. It used to be well steal and coal, well it went away. We only have beer left. Anyway what I see here in this areas is how long the impact of mining activities are in a region. Reaching from migration of people into an area of change in the whole landscape but also for future generations. We are talking about last load long-term consequences also on the environment and planning is a party that has the job to take the public interest into account and this also involves of future interests and the interest of those who cannot speak. The nature, weak population, future migrants. I mean the Impact of mining in a landscape is immense. So the burden on planners to take this balancing serious is very very high.”*

**Moderator:**

Opening a new mine is indeed not an easy decision at all, considering the long-term impact it will have on a region.

We asked Sybil if she thinks land use planners are well equipped overall to take this kind of decisions.

Excerpt Sybil, 21:53-24:13:

*“Yeah, I think this is where you need your government level to be very proactive and to provide education and support to local authority, when there is gaps in knowledge. Obviously, not all local authorities have to deal with mining. In this respect the government needs to be very proactive at engaging with the local authorities and trying to teach them how it works. Also another element, and I think this is a bit of a problem a little, not just for mining but also other industries, like you know energy production, like renewable energy – there is a lot of work that can be done by developers themselves and also with the government in educating the public. Why are those uses important and why do we need them? It’s not a case out of sight, out of mind, you know? I think what we seem to do with the energy crisis is that we need to be more self-sufficient, we need to produce our own raw material, our own energy et cetera et cetera. So that’s an agenda for the government and their supportive agencies to pursue. They have to teach people what mining is about and how we can work and for this I think we can use positive stories of where is successful meaning operation. Mining operation can educate you, it gives you jobs they can found your local activities, they can build your School et cetera et cetera. So I think this is more of a government level type of endeavour where you need - if you want mining to happen - you need to government and the government level to act on it. They need to go on the ground and educate planning authorities and educate the public effectively to make it happen.”*

**Moderator:**

It's very insightful that Sybil highlights the importance of education in improving the public's understanding of the importance of mining activities for society. It's clear that public perception can have a significant impact on the decision to open a new mine.

Land-use planning indeed sounds like a very complex area with so many different factors to take into consideration. Thomas shared with us his insights on how land use planners can find an appropriate balance between different land uses.

Excerpt Thomas, 6:42-9:53:

*"So, of course, extractive industries and mining are very intense land uses and also they need a lot of resources. But resources, are not only resources you put out of the ground, but it's also the land, also social resources that are needed. So with that respect, it's a very important land use, that needs to be taken into account when balancing different land uses. In a perfect word, land use planning does not pursue own spatial interests, but it balances interests by others. I know that is a bit of an idealistic view, and in different countries, you see different notions how this balancing is working out in practice, but in a perfect world what planning should do is talking all the spatial claims and balance them carefully in order to make an decision how to use the scare resources at stake. And that means theoretically speaking, that mining is just a land use like housing, commercial using, infrastructure, flood risk management or recreation of areas, and planners need to balance that. Of course, this is a bit of an simplistic view, because there are land uses that are more urgent, and more pressing. You cannot negotiate with a river about an flooding zone. So there are some pressing issues, some physical constraints. You want to mine in a certain location and you cannot place it in a different location, whereas other uses like housing you can more easily shift and move about. So talking these constraints into account, yes I think mining plays a special role and we see that in many of this planning systems in Europe and beyond, that there are very often special mining legislation in addition to spatial planning or land use planning which considers to be more broad. By the way, I am just mixing land use planning abs spatial planning – in think the major difference here is that spatial planning goes up to the regional level, sometimes the national level whereas land use planning finally makes the decision on how to use property in land. It's less strategic, and more on the specific part of land, so here it really comes together all this balancing act on what can you do with the square meter of land. So what I am saying here is, that mining is one of the spatial interests that needs to be balanced, it is a very strong and a very specific one. That makes it so special I think."*

**Moderator:**

This helps a lot to better understand the difficulty of finding an appropriate balance between different types of land use. It's definitely a challenging process, as we can see.

We will now hear from Sybil on how she perceives the relationship between different decision-making levels, such as local or regional policy, and national development plans. She was able to tell us more about Ireland's approach, and especially how the different levels interact when it comes to mining.

Excerpt Sybil, 14:14-16:25



*“In Ireland we have the national plan, and then the regional plans and then the local plans – so the hierarchy of plans is aligned. Policies that are included nationally, are translated regionally and locally. And the lower you go the more adapted the policy is.*

*There is a supportive policy framework, that’s your starting point. You need a supportive policy framework to go and perceive the development. With local interest you need to have an negotiation with the local authority, with the community and try to understand – and that’s where your local plan can help, you can get mineral developers to go and talk to communities and make proposals.*

*They have to recognize and they are very good in Ireland for that, they have to recognize you have to live with noise and vibrations, so this companies have to give something back to the community. And that something back is not just giving them jobs or saying we have created 500 Jobs and then that’s it. So development plans, local plans they can include policies that forces developers to have to do that. They can include in their policy framework, for the assessment of proposal, they can include policies that inquire or impose on developers to go and talk to local communities and to understand what they want, where they are coming from, and what they do not want. And I think it is actually quite important that when consoling impacts. Negotiation is critical in a successful process I think.”*

**Moderator:**

That’s really interesting to better understand the link between national and local policies in land use planning, especially when it comes to mining.

We also asked Thomas for his take on this.

Excerpt Thomas, 16:33-18:49:

*“I would like to add to the notion of negotiation versus regulation. It appears sometimes, that you want a certain land use and the planner comes with certain regulations and stuff. This is then often claimed as being very bureaucratic or development unfriendly. Well, we need to understand, that most of these regulations, and most of these negotiations, that are necessary, are not done in order to annoy the developers or to annoy the planners or the citizens. This is done for a purpose. And the purpose is we are dealing with scare resources, and in particular land is a very particular and special resource. We cannot relocate we cannot reproduce it, we have to be careful with using it. So there is some legitimacy and justification for having certain regulations. So yeah, it is sometimes bureaucratic, but it is not bureaucratic just because of joy of bureaucracy by planners – most of them hopefully don’t have that – but it is for a reason. It is in order to be very sure that we use the scare resources in the best way. And this is why we should not only wine about bureaucracy and complicates processes, quite the contrary. We should honor this processes. They are not perfect, that is not what I am saying. And I know situation where the system is working at the contrary of perfect, but we need to understand the reason. It protects properties. This makes it much easier for us to accept procedures in negotiations and discussions with local communities potentially.”*

**Moderator:**

We are already reaching the end of this episode, but before to wrap up, I would like to share additional insights from Sybil on how the land use planning process works in Ireland.

Excerpt Sybil, 27:26-28:56:





*“(…) So in Ireland we split consent for mineral development in three. We have our planning permission, so that’s for your infrastructure, for operating the mine. That’s accompanied by the environmental impact assessment and the assessment on the habitats directive, then once that’s secure you go to the environmental protection agency where you get your integrated pollution control or your industrial emission license depending on the amount of waste. And then Finally you go to the minister to get your remaining lease or license. In a way - okay - we have three different bodies take in three different decision and we never, we don’t know until maybe 100 years if this was the right decision. But it kind of gives comfort that the right decision was taken at the end because you have to go through all of your stages of consenting you have three different bodies looking at three different types of impact and all of them are pushing forward their best expertise available to make the decision. So I think yeah okay we don’t know we got into the right decision but I think we can get as close as we can to the right decision.”*

**Moderator:**

That’s very interesting. I believe by now we all understand how complex land use planning is and how difficult it is finding the appropriate balance between different types of land use.

However, it’s important to collect good practices and it was very helpful to hear insights from Sybil on how land use planning is organised in Ireland, for instance.

In case you are interested in other best practice examples, I invite you to browse through the Knowledge Repository which has been developed within the framework of the SUMEX project, where you can find a compilation of good practices with a view to boosting sustainability in the extractive sector.

That said, I thank you all for listening and already look forward to the next episode of our podcast!

#### 4. Health and safety in the extractive sector

**Expert webinar:** <https://youtu.be/bDu9Mx2QCS0>

**Moderator:**

Welcome to a new episode of the SUMEX podcast! Today, we’re going to be discussing health and safety in the extractives sector. We will have the chance to hear from Sophie Grenade and Alexander Tsanov, who are both experts in this area.

Sophie Grenade is a Policy Advisor for industriAll European Trade Union where she focuses on raw materials and circular economy. She has more than 10 years of experience in trade union work at national, European, and international level. Before joining industriAll Europe, Sophie worked as an advisor on European affairs within the Belgian Trade Union Confederation.

Alexander Tsanov has a master’s degree in mechanical engineering and engineering safety. He has extensive experience in mine safety and occupational health and safety. Alexander successfully implemented occupational health and safety initiatives at the Bulgarian operations of Dundee Precious Metals and he’s especially proud of the zero level Lost Time Injuries achieved in 2021.

To start things off, let's reflect on the current state of health and safety in the mining industry. As we all know, mining is traditionally seen as a dirty and dangerous industry, which is one of the reasons why it still suffers from a bad image. However, we also know that the industry has made significant efforts to improve health and safety conditions in the last decades.

Sophie has a lot of experience in this field and she shared with us her take on this and she especially reflected on the major issues or challenges when it comes to health and safety in the extractives sector.

Excerpt Sophie, 06:48-8:54:

*"We see lots of effort on different levels. European level membership level but also company level we see lots of things happening and that's very important to say. But we have also to say, that there are still problems that are important to mention, in a very broader way I'm just talking about the extractive industry but that's important to recall that the fatal accident at work is declining this is true but there is a more and more occupational disease which are increasing a lot so these last years. Just as an example 100 000 workers die every year from occupational cancer due to exposure to other substances. So that's also very much important to mention I think. So this also means that we have to continue to work on this important topic. Wanted also to mention that psychological pressure and a long working hour are also causing lots of new problems I may say like disease, depression, and suicide. And in extractive industries of course lots of effort, I already say that, but there this is also the case we also see some remaining problems. For example just to wanted to mention in April 2022 ten workers died in Poland, 8 Serbia and there were still lots of respiratory systems these days, musculoskeletal disorders so that's probably uh mining with the sector with the most work related problem if I may say."*

**Moderator:**

It's clear that the mining industry still has a long road to go to achieve its zero harm objectives.

Alexander has long-standing experience in the industry, and he explained us how his company is addressing health and safety challenges. We asked him to provide us with some examples of the approaches his company takes to tackle these issues.

Excerpt Alex, 03:44-05:22:

*"Okay, the first important thing was that when we came to Bulgaria to change the mining method from sub-level caving to open pit mining. That is safer than the other. The second thing is to change all the equipment. The other thing is the safety system. We had a lot of new good practices implemented, and the main aim of this is to involve everyone in the process of improving safety. This procedure takes time, for incident reporting and investigations. We have a set of rules implemented on our site we developed them based on the main existing mining industry and if some of our employees or external contractor don't follow the rules, the consequences are very very hard for them. This is it with a few words."*

**Moderator:**

I can imagine that the increasing automatisisation and digitalisation in mining operations is changing quite a lot the landscape when it comes to health and safety protocols. Let's hear from Alexander which role this plays in his company.

Excerpt Alex, 29:07-30:33

*"We are very open to digitalization and we are trying to implement the last technologies in our mines. For example, the last implemented technology to take out from the underground uh Rock breaker operator now he operated the breaker that is underground in the grocery complex on the surface and he is sitting in the office with no exposure to dust, temperature, or whatever. The next step is for the front load Operator, to operate the remove their machines from the surface also we already have implemented surveyor drones that keep out the safe ways from the housing the underground. I'm not fully familiar with all implemented technologies in our companies but this is an example of some of them. The last thing one of the technique machines we've changed it with a drilling machine with batteries and now we're in courses to implement this production that means that more diesel except exhaust exposure will be uh with this machine underground."*

**Moderator:**

So, it seems clear that innovation and technology development have the potential to greatly improve health and safety conditions in the mining industry, as Alexander has highlighted. However, there are certainly bottlenecks to overcome.

One of the challenges that I see is ensuring that workers have the skills and knowledge needed to operate new technologies safely. This can require significant investment in training and education programs. Additionally, it's important to ensure that workers are involved in the design and implementation of new technologies, so that they can provide feedback and identify any potential safety risks that may have been overlooked.

Let's hear from Sophie what is her take on this topic.

Excerpt Sophie, 30:46-32:00:

*"Yes of course, probably that that can help this is also part of the evolution of Industry so of course we are already very much advanced in digitalization and that could maybe help regarding the exposure risk of workers to go to different tests and the temperature etc. That is true, but we also have to take into consideration that digitalization has also new risks regarding health and safety. So we have also to take this new risk of digitalization regarding the safety of workers. I'm just, I'm talking here about some new machines of course but artificial intelligence, which could also sometimes cause new problems because of algorithms and also these kinds of problems."*

**Moderator:**

That's interesting. So, Sophie confirms that digitalisation and automation offer new opportunities but may also cause new problems and risks.

I would also like to understand a bit better which role trade unions can play to improve health and safety conditions. As one of the main functions of trade unions is to advocate for the rights of workers, including their right to a safe and healthy workplace, they have quite a crucial role to play. We asked Sophie to provide us with some examples from her work.

Excerpt Sophie, 10:06-10:33 and 10:40-12:34:

*"We think that is the most important thing to mention, we think that we are going to achieve better regarding health and safety if the trade unions are involved in the anticipation plan, in the training programs in identifying also the program. This is very much important and for that, we have some examples. I don't know if I still have a bit of time to share with you two examples of social dialogue in extractive Industries."*

*First, one program is about respirable silica. We have done very much important work with employers trading and employers on the EU level trying to tackle this problem because you know silicones are still a huge problem in mining. There we have European legislation with some limits but we think that having just an exposure limit will not help on the ground because we also need good practices, we need training for companies and workers, etc. So we are working very well with employer organizations on the EU level to try to have some concrete implementation of this exposure limit if I may say. And I think this is a very good example and I can share with colleagues the different information we are getting. Very shortly another good example of societal dialogue. in Germany all employers are obliged to be a member of a professional organization this is also the case for extractive Industries and Mining. And this organization, this Professional Organization is getting fees for every employer in proportion to the number of employees at risk, and the more the employers are doing to reduce the harm, the less they have to pay. So that's also maybe a good practice and these organizational professional organizations trade unions are sitting on the board in support of these Professional organizations with 50 percent of seats. So this is a space in which they can discuss the main problems and how they can tackle these problems. So yeah, that was the thing I wanted to mention first."*

**Moderator:**

These are really inspirational examples of how social dialogue and changes in the organisational culture can help improve health and safety conditions.

We are already approaching the end of this episode, but I would like to quickly touch upon the role of legislation in improving health and safety conditions.

I asked Alexander whether he believes that legislation provides the fundamental basis or if industry can go beyond to further improve working conditions.

Excerpt Alexander, 26:24-28:25:

*"Yes, our vision is that the legislation set the minimum requirement for safety. We are trying to maintain a higher level. Our legislation for mining in Bulgaria is from 1971."*

*Oh okay, it's not updated yet. So the bar is not that high you want to say. All the time we are looking for the best European and World standards in mining and each year what changes they have in legislation and what time the minimum requirements for the World level will be attracted to make them higher level as I said. But that certainly then is an issue if you have 70-year-old legislation that probably is not up to date anymore and along the lines of what Sophie said before, that legislation needs to move ahead as well for example. We have changes in one piece of legislation, we have this legislation set minimum exposure limits, but nobody in Bulgaria can measure it and we hired the laboratory from Romania SGS and the analysis of the samples we've made in the USA. Just to see where we are. But this will be enforced in 2023 in open pit in 2026 in underground mines. This is my meaning that is not very easy in Bulgaria to follow the legislation, because it's not up to date and if we want to be up to date with the new legislation there is no way how to measure the new requirements."*



**Moderator:**

So, I understand that for industry to excel in the area of health and safety, legislation should be considered as the starting point and a minimum requirement for setting high-level standards.

We are now at the end of this episode of the SUMEX podcast, and I hope you enjoyed it. Today we heard about several good practices, both from the industry and the trade unions' side on how to improve working conditions in the extractives sector.

In case you are interested in this topic, I would like to invite you to have a look at the Knowledge Repository of good practices that we developed within the framework of the SUMEX project where we compiled best practice examples about health and safety, among many other topics which we explore in this podcast series.

Thank you again for listening!

## 5. Permitting in the extractive sector

**Expert webinar:** [https://youtu.be/Y\\_sg7SC3aAU](https://youtu.be/Y_sg7SC3aAU)

**Moderator:**

Welcome back to the SUMEX podcast! Today we will dive into the topic of permitting in the extractive sector. Specifically, we will explore the difficulties that arise when mining projects are located in nature-protected spaces, such as Natura 2000-labelled areas. We'll also discuss how the EU's nature restoration law from 2022 is increasing the pressure on extractive companies to achieve a net positive impact on biodiversity.

Today we will have the chance to learn from Lia Mergulhão and Michael Rademacher, two experts in the field of permitting.

Lia Mergulhão is a Geological Engineer by training and is working at the Portuguese Institute for Nature Conservation and Forests, called ICNF for short. Lia has more than two decades of expertise on the approval of quarries and open cast mining projects planned in and around nature-protected areas.

Michael Rademacher is currently professor for ecology and biodiversity at the Bingen Technical University in Germany. Michael has extensive experience in environmental protection and biodiversity and has worked both in research and in the industry. Before his current position, he was the director of biodiversity and natural resources at Heidelberg Cement.

To start things off, I would like to refer back to one of our first episodes where we explored the topic of trust which is a major concern for the mining industry, when it comes to securing approval for new projects.

Michael has combined expertise in industry and research and we were keen to hear from him whether he considers trust as an issue in permitting processes.

Excerpt Michael, 16:59-19:29:

*"(...) The thing is that you have to convince yourself after you've done the environmental impact assessment you have to do also restoration concept, and a restoration plan then for the future. And unfortunately very often the reality is that authorities have no trust in mining restoration plans. And there are big discussions about whether it is possible to mitigate the measures or not. Because we are talking very often about a long time. We talk about sometimes 100 years or more from for example for cement industry. And I think I guess and you talk about companies like Cecile and so on in Portugal, and of course, for the mining company, it's getting more and more complicated and very cost-intensive to convince mining authorities, or other authorities that there is a clear willingness and also knowledge how to restore mining sites, because they have to trust the mining company. That is 25 years, 50 years, and 100 years, these restoration plans, which were discussed function. And therefore we suffer at least in some central European countries with a lack of experience in for example nature conservation authorities. So there are fewer and fewer experts, and more and more people only looking at the legal sentences. In sense of really talking about for example succession processes or what is popular, what is a good population for some thoughts on the mining side? And therefore this is a big challenge for the mining industry and uh of course if good people are discussing it with each other and trusting each other after a long time such a restoration will be possible. Then of course you always find things you can do in a restoration concept on the side that will have a very good influence on the Natura 2000 for example or the nature conservation at targets of the site, of course, there is a big contribution the only thing is doing pathologies have enough trust in the mining industry that there's enough experience to fulfill. (...)"*

**Moderator:**

It seems clear that trust is a major hurdle for the mining industry to overcome.

We also asked Michael about other challenges that the mining industry faces when it comes to permitting processes.

Excerpt Michael, 7:13-9:32:

*"(...) There are some challenges and first of all, we have to distinguish between a mining company being inside a nature Conservation Area or next to it. That already makes a big difference in the permitting processes. And for companies situated directly in and for example inside a Natura 2000 side, especially for the cement industry, not for the concrete and the gravel industry. There is a big challenge that they already exist a long time before the European Union or the country created the natura 2000 side. So they suddenly have to change completely their mind about getting more land for mining activities which is much more complicated than before. And on the other hand, we have a lot of mining companies situated next to nature conservation areas and for them, a big challenge is to get awareness that the activity on the mining sites is not influencing the nature conservation targets in the nature conservation areas. But coming back to the first thing, I think we have to discuss later on, that the big challenge that a company who was always having the future view to getting more land for the activities getting completely stopped by the nature conservation activities coming later. And so the whole business model has to change then and they have to learn to communicate with NGOs, with nature conservation authorities, and maybe, later on, I would like to talk about how these two parties, the nature conservation people on one side and the other side the mining industry are communicating to each*



*other. Because one of my biggest challenges very often they can't understand each other. If you have a mining engineer sitting next to an ecologist, they might talk about the same thing, but they do not have not the same wording, they have not the same background, and that's very often one of the biggest starting points of challenging processes because they don't understand each other. (...)"*

**Moderator:**

That's very helpful to better understand the industry's perspective. One thing that becomes clear is that the location of a mining project can have a significant impact on the permitting process.

We also asked Lia about her take, from the public authorities' perspective, and how she thinks the mining industry can overcome their challenges. She shared with us some insights from her work in Portugal.

Excerpt Lia, 20:41-23:54:

*"Okay well, in the beginning, I think about the pilot project. We made pilot projects in our natural park when we start when the natural park was classified there were a lot of queries that were not legal. So my colleagues went to the field and tried to convince the important explorers, to have a legal exploration not only that, but we also have a lot of places where there are people, that will exploit, but because the ground the stone was not so good they abandoned the place completely um in chaos. So what we have done with European funds we pick up and ourselves, made the restoration and rehabilitation of those places, with those rehabilitation and restorations we made examples for the exploration. So given the example of how we can manage to do it with not expanding much money, it was about 40 years ago. And nowadays we see a little bit further, so what we see is that we have dialogue and understanding and technicians from all those disciplines ecology, biology, geology, and so on putting together, working together, and knowing what we have in the field. We can restore habitats, we can make habitats grow where there is no habitat with the process of rehabilitation. We defend that what we would very much like to see is on one end the exploration of the stone and the other end the rehabilitation of the space doing at the same time if it is possible is the best way to get trust and to know that what we are doing - or what the company is doing well - is going in a good way or we have to change a little bit to the project. We believe that is always working together with the companies and we do surveillance with our technicians with our Rangers so we go often to the field and we often visit those companies, and those explorations questions and talk with them closely it's possible to get trust in it in each other."*

**Moderator:**

From Lia's example, it really seems crucial to involve all stakeholders in the dialogue and to collaborate very closely with the mining company.

Let's also hear from Michael with his unique perspective, as both a professor and an industry consultant, if there are any additional insights or strategies he thinks could be useful to overcome the challenges for permitting in nature-protected areas.

Excerpt Michael, 23:59-26:55:

*"(...) also in my experience the state of just-in-time restoration so use your mind on one side, and on the other side you start with the restoration that's an absolutely important thing that the people also in the surrounding, the stakeholders see that this open hole is step by step closed and it answers. So*

*you mean you minimize the conflicts regarding the landscape destruction also that's from I think that's a very important point always just in time rehabilitation might be the best. And also um when I am working for Heidelberg Cement I redeveloped a hierarchy, that for all mining sites which are in nature conservation areas or next to conservation areas, we developed together with ecologists, freelancers or coming from NGOs, or in in-house ecologists, we developed for each side a biodiversity management plan. A clear plan which is describing what is on the side, and how could the mining site contribute to the conservation targets of the surrounding nature-protected areas. And of course, then such a biodiversity plan is always linked to a to-do list of what to do over the next years and um so the management knows each year exactly which type of habitat should be restored, what if there should be a lake or not and so on. And we also learn, in the beginning, we wrote these texts in the typically academic way you know with a lot of fancy words biologists like to use. We stopped that after two years because we understand that if you write such biodiversity management papers for the site you have to write in wording that other people also understand so we change the behavior of doing such reports we start with reports sometimes 40, 60, or 70 pages. Nobody is reading that in Industry, because they have other things to do. So we shorten the reports, take a lot of tables inside so, and find words which also non-ecologists can understand, and pre-trained always NGOs, and local NGOs, to support the local management by the implementation of the measures. And that is a big success to be honest to take everybody in, the authorities, the NGO, experts. And having every year several meetings to discuss what has to be done this year and how to implement is very important, also the monitoring. Is there any success of these measures because we lose very often. We do things but we do not monitor those things (...)."*

**Moderator:**

As we will have to wrap up for today, I'd like to briefly touch upon the EU's new nature restoration law which puts pressure on companies to do their part and become even more ambitious when it comes to restoration targets. This law requires mining projects to achieve a positive impact on biodiversity, and it's raising some important questions about the relationship between mining and nature protection.

Lia shared with us her personal outlook on this topic.

Excerpt Lia, 35:45-38:50:

*I think we have a long way in front of us, and I think each one of us is to make some effort and meaning, that work in nature conservation to make the effort to understand and in a way support economic activity. It's also important, that the economic activity works to make the activity sustainable and not only by restoring or rehabilitation the areas that they exploit but also by encouraging research to discover new mineral deposits and improve methods of their exploitation, minimizing the negative environmental impacts associated with this activity. For instance, finding technology solutions that with fewer needs of working the rock. For instance, if you have a limestone query and in some cases, there is a lot of waste. If you find ways of doing better, getting less waste will benefit natural conservation. I think that is always by example, that we can go along and we can convince the legislators, the politicians, the public, that it is possible to work, it is possible to have this activity and also to take care of nature. I think it's always by the examples and technologically trying to develop new techniques, and for instance at the beginning of this protection when you show the plan for the query. When you made the exploitation you have always in mind what that area is going to look like in*



*the end. What will be our final goals for the rehabilitation? And the word rehabilitation must be always in our minds, all over the process. (...)*

**Moderator:**

Lia made a great point here about the role of technological progress in minimising the environmental impact of mining. It's an important factor to keep in mind as we think about how to make the extractive sector more sustainable.

It was really fascinating to hear insights from both Lia and Michael and we learned a lot about the importance of dialogue and trust between different stakeholder groups. These themes have come up time and time again in our podcast series, and they are essential to creating a sustainable future for the extractive sector.

To close this episode, I invite you to check out the SUMEX Knowledge Repository where you can find further examples of sustainable practices in the extractive sector. I look forward to the next episode and invite you to stay tuned!

## 6. Reporting in the extractive sector

**Expert webinar:** <https://youtu.be/bJzzMiR88-o>

*Note: The transcript of excerpts below is not perfect.*

**Moderator:**

Welcome back to the SUMEX podcast! Today we will delve into the topic of sustainability reporting. We will introduce and compare different standards for the public reporting of environmental, social and governance performance, ESG for short.

We will have the chance to hear insights from Aimee Boulanger and Kimmo Collander, two experts at the international level.

Aimee is the Executive Director of the Initiative for Responsible Mining Assurance, IRMA for short. IRMA offers voluntary independent assessment against its international standard for responsible mining. Aimee has worked on mining-related topics for more than two decades and has substantial experience in supporting communities directly affected by mining.

Kimmo is the Secretary General of the Finnish Network for Sustainable Mining. This network has also developed a standard with a focus on Finland. Kimmo has a background in public affairs and has worked for ten years in the administration of the European Parliament.

First of all, we will hear from Kimmo how the Finnish standard can be used to compare the performance of different companies and how to create benchmarks to further improve reporting standards.

Excerpt Kimmo, 16:04-17:57:

*“The comparability issue is geographically limited, and that’s why in the TSM family we have this local ways of working within the framework so for take for example water related issue. In Finland we have an abundance of water, in Chile not so much so you cannot really compare the two situations. Add on that the fact that in north and Finland lakes and rivers are frozen for about six months in a year, not happening in Chile so you need to have a have local understanding for different criteria. And that local understanding needs to be checked through this wide consensual preparation process of all stakeholders, so you cannot just do whatever you want but you need to have a proper checks and balances by stakeholders. Then the competition is between companies. That should be that also here, but in this field but at least in Finland, it still isn’t visible and we would encourage media for example to start actually using our results more aggressively and uh pushing also from that side companies to do better and asking triggered questions.”*

**Moderator:**

The geographic factors seem very relevant to determine the comparability.

Complementary to this, let’s also hear from Aimee how the IRMA standard, which has a global ambition, can aim at comparability and setting benchmarks for further progress in the area of reporting.

Excerpt Aimee, 18:43-21:16:

*“I think the consistency of a global standard is incredibly important, because right now you’ve got a world in which of course we have very different legal structures place to place and you can say, okay well that reflects culture and environmental differences but we also know in many cases it reflects um political and economic challenges. So then you have this sense that if a community concerned with mining in Nevada and the United States raises those concerns and asks for better performance are they just pushing off the impacts of that extraction to another country with weaker regulatory structure. So that’s the reason to say we have higher expectations no matter where you operate in the globe and a consistency on it now completely agreed. If you ask for a stakeholder engagement plan that’s culturally appropriate it’s going to look different for an Indonesian Community than it may for a Canadian or a Finnish Community you know. It’s language accessibility who you talk to how you reach people and similarly if you’re asking to protect water resources and in one place you’re got natural high background levels of arsenic you’re not having to fix for that issue, which was part of the natural context or just as **Kimmo** raised, if you have a place with a lot of water you’re having to design for that in a different way than in a high drought condition. But in either case there should be an expectation that you’re protecting the background quality of water that you’re designing so that you don’t have either people, or food systems, or long-term care and maintenance at the site at risk you’re not contaminating ground downstream. Often this whole idea that every place is different allows us to perpetuate the sense of weaker standards in some cases or a permission to do harm place to place. I think balancing this where the places where you need that truly need the flexibility with a higher standard held in all cases and also completely agree with uh **Kimmo’s point** on the idea to push companies to move up and to compare them against one another that’s a reason, also for consistency in global standards. Because of course you go to these places and you have operators who all stay. We’re all doing it we all need it we’re all five star in AAA and we know that’s not the case and in order to have a market that values improved practices we need to have those consistent measures to go against that and verify that actual performance.”*

**Moderator:**

In previous episodes of our podcast, we discussed the topic of trust which is a major issue for the mining industry. We asked Aimee to provide us with her insights on how reporting standards such as IRMA can help increase society's trust in the extractives sector.

Excerpt Aimee, 6:21-8:47

*"I think that the most important values that IRMA brings is that it is equally governed, by affected communities, and labour unions, and NGOs working alongside private sector companies from whether that be finance mining companies or their customers. I think that expectations on the global industry are increasing, many people don't understand mining globally. And it has been far from many end consumers who don't understand what the work it takes to get the materials that go into our phones our buildings our cars, but increasingly as new mining is being proposed associated with energy transition and because we're taking a closer look saying if this is supposed to be materials that help solve climate crisis and are responsive to that we should be looking at the impacts that those extraction has at the top of the supply chain of climate response. We are seeing we can't have a conflict where we are causing greater harm at the top of the supply chain of these materials. So as those expectations for improved practices increase and then the pressure on communities where these materials exist increase you've also got pushback and resistance we have a deep trust deficit between communities where mining has happened, and NGOs, and labour unions who have worked as their advocates in the industry. So we need to start first on a ground that acknowledges that harm has happened, that impacts to social environmental values continue to happen, and then if you're going to have a global standard you have one which really creates a foundation to build that trust. So it needs the transparency at the start. Transparently noticing audits are happening transparently, engaging affected communities including the critics in that process, detailed audit reports coming out which are also public. So that we can begin to heal that conversation and to acknowledge that much of what's happening out there is not five star on AAA. And that in extraction is going to come with impacts but a more honest accounting of what those impacts are in a market that values improvement."*

**Moderator:**

It's extremely valuable to hear from Aimee with her longstanding expertise in the area of stakeholder dialogue. We also asked her to develop a little further how she thinks the IRMA standard allows to accommodate the differences between the different stakeholder groups which are involved.

Excerpt Aimee, 23:19-25:27:

*"(...) I would say first of all that the more we begin to see these diverse audiences as having a common and shared need, the more that we'll be moving to this space where the market can really value improved practices. So as we live in a global world, you know, impacts to environmental and social well-being are being felt by all of us. And in addition it's not just in that being a climate stress world, but in it as we were just speaking in another conversation the other day if you don't have community consent, you don't have security of supply. So you we're continuing to have communities resist being around what they have grown to know of industrial scale extraction and a short period of jobs and potential Prosperity along stretch sometimes decades or centuries of contamination or cleanup or Reclamation unfinished. So that sense that they're pushing back whether that be through litigation that can delay*

*projects or stop projects, or you know even more dramatically things like blockading roads and things. So an investor is going to feel the impacts of that even though they feel it in a different way and in a different context than a community who is experiencing that kind of conflict directly, but either way the globe is going to have and suffer that impact of these values that have been separated. And that's where I think bringing these together of course how we communicate you know. Kimmo spoke to the idea of reports which are meaningful whether you're a local community who wants to know if I turn my tap water on, or if I eat the fish am I safe? And you want to hand something to an investor which makes sense and the metrics they're looking at but still that investor should know does the community feel safe and are they safe when they turn their tap on, or they eat the fish. We need to bring the metrics closer together so that they're meaningful to both (...)."*

**Moderator:**

To wrap up, I asked both Aimee and Kimmo what they think needs to improve to really make a difference and create change in the mining sector. Let's start with Kimmo's take on this.

Excerpt Kimmo, 32:42-33:56:

*"We need to step up our communication, so that people know that this kind of uh systems exist and that they are they are there to be used you know for improving the sector's performance. That's number one and then number two is that that we need to stay constantly aware of the fact that the world doesn't stand still. Our toolkits need to be dynamic, so that the we amend and review and amend them when needed we cannot do it too often. We don't want to jump here and there, which is annoying for both ends so the way consumer of our tools and also for the for the minds. And also we need to keep an open mind of uh creating new protocols where they are needed so we are not in a vacuum we need to change as a demands of the road change."*

**Moderator:**

And let's now hear from Aimee to close today's episode.

Excerpt Aimee, 30:30-32:26:

*"I think that the two main places, where I would have attention. I think we need to be courageous and bold to set best practice expectations. I don't think this moment is one to say we have good enough mining in a world where we have industrial extraction already leaving centuries of impact I think we need to speak to best practices. Many of these materials will go into energy transition, so I think we need to measure ourselves against that and drive that in the market. And I think that best practices need details, so that we can sort and we if we don't have the just everyone checks the box when we know there's big variations in performance and we create a full market incentive for that. So that the cost of the investment of that is carried throughout the market it's not just at the mine level but also who value that down stream their customers and purchasers who are investing in that as well. The other main area I think we need this attention is on um the equal governance of stakeholders who are most affected by this, whether that's indigenous rights holders or it's the communities who live closest, or the people working there that we need them to feel that they own the system that they directed the standards are set by them audits are transparently noticed before they happen. People are encouraged and know how to participate in them, the reports that come from them are detailed and also public, and not just day they pass they failed but this detail on performance, and then we're showing*



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*improvement from that so it's a base from which the community can use it to negotiate whether permits are given, as **Kimmo said** on the importance of those where projects aren't even developed yet, but also for existing projects how they're held to account for to improve practices."*

Moderator:

It was fascinating to hear from both Aimee and Kimmo today and we learned a lot about the relevance of reporting standards to set benchmarks for companies to improve their performance on Environmental, Social and Governance factors.

We are closing today this first series of our podcast and I hope you enjoyed listening. To wrap up, I invite you to check out the Knowledge Repository developed by the SUMEX project where you can find lots of inspiring examples of sustainable practices in the extractive sector. Stay tuned and follow us at [sumexproject.eu](http://sumexproject.eu) for all further news.