



# PACIFIC

## *Passive seismic techniques for environmentally friendly and cost efficient mineral exploration*

### D6.1 – Report describing tests of current forms of communication

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#### Description

Forms of communication currently used in the context of mining activities will be evaluated.

#### Dissemination Level

<b>PU</b>	Public	<b>X</b>
<b>CO</b>	Confidential, only for members of the consortium (including the Commission Services)	

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## Executive Summary

As part of WP6 “Social acceptance & perception of risk for mining activities” the Economic and Social Research Institute (ESRI) will be conducting computer-based behavioural experiments designed to gauge how the format of information provided to the public affects their understanding and perception of mining-related activities (D6.2). The results will be used to generate recommendations for future communications (D6.3). The focus of this report concerns the evaluation of currently-used mining-related communication materials, and forms a part of the preparation process for these future deliverables.

The primary aim of this deliverable is to gain insights regarding written communications in order to inform the design of experiments, and the information content included. A number of other EU-funded projects are undertaking a more thorough assessment of interactions with stakeholders and evaluating best practice on a more general level.

As the behavioural experiment will be conducted in Ireland, information was collected from companies operating in the Republic of Ireland and in Northern Ireland (UK). Although companies in Northern Ireland adhere to UK licensing and regulation, their interaction with local communities is largely comparable to that in the Republic. Their information materials are therefore useful to include.

## 1 Introduction

The ESRI's Behavioural Research Unit (BRU), in collaboration with the Geological Survey Ireland (GSI), are currently designing an experiment to study the public's perception and understanding of mining-related activities, and how this is affected by the format of information they are provided with.

As part of the preparation for this experiment, contact was made with several mining and exploration companies operating in Ireland to request some of their communication materials provided to the public, particularly in relation to mineral exploration. These will inform the content of information materials included in the experiment.

Written materials were received from four **exploration and production companies** operating in Ireland and GSI's national **Tellus programme**<sup>1</sup> (an airborne geophysical survey combined with a ground-based geochemical survey, which engages routinely with the public).

Information slides for community updates at the Marathon site in Canada were also provided by Stillwater Canada Inc., but as these were difficult to interpret in isolation they were omitted from the analysis. Additional discussions were held with representatives from two of the companies and the Head of Minerals Section at GSI (Mr Eoin McGrath, March 13<sup>th</sup>, 2019) to gain further insights into communication strategies and regulations in an Irish context. Online resources about minerals, exploration and mining in Ireland on the GSI<sup>2</sup> and Exploration and Mining Division (the national regulatory and licensing body, EMD)<sup>3</sup> websites were also examined as part of the process.

This report briefly outlines insights gained into the content and format of currently-available communication materials about mining-related activities in Ireland, and how these will influence the design of a behavioural experiment.

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<sup>1</sup> <https://www.gsi.ie/en-ie/programmes-and-projects/tellus/Pages/default.aspx>

<sup>2</sup> <https://www.gsi.ie/>

<sup>3</sup> The Irish Government office for licensing and regulation of mining activities <http://www.mineralsireland.ie/>

## 2 Analysis of mining-related communications

### 2.1 Content of communications

The primary purpose of examining current mining-related communications was to inform the content of the information to be included in the behavioural experiment. The experiment will deal specifically with the kind of information members of the public may be directed to if a seismic survey is to take place in their local area, so a particular focus is put on communications related to mineral exploration.

#### 2.1.1 Information about mineral exploration

Printed communications relating to mineral exploration were obtained from three companies. Information is provided on different types of exploration (seismic surveys, gravity surveys, magnetic surveys, soil sampling, well logging, drilling). Some of the information included on these techniques may be considered unnecessarily technical or detailed for a member of the general public. More practical content on how exploration might affect local people (traffic delays, effects on livestock, effects on crops, surface damage, safety hazards, compensation and connection to other practices such as fracking) is also included. This information is sometimes incorporated in an FAQ section. A large number of images are included, which should familiarise local people with the equipment and machinery they might encounter while exploration is ongoing.

Some (but not all) of the materials mention the regulations governing exploration and state a commitment to undertaking work in an honest and ethical fashion. Most of the materials mention that further exploration may take place but do not make explicit reference to the possibility of exploration leading to the development of a mine. An exception to this is a leaflet about drilling, which briefly outlines the process and timeline of opening a mine; this may be because drilling is usually undertaken later in the exploration process. None of the materials include information on the implications mining would have for the local area (although in some cases local people will already be familiar with mining in the area). Interestingly, the communication materials also do not mention the purpose of the minerals they are exploring for and why they are important to society.

#### 2.1.2 Information about mining more generally

A range of communication materials about mining were available from one company. Their content is largely focused on the economic benefits that opening a mine would bring to the local area, planned support for the local community, and how it would function alongside other industries in the region. There is also a significant amount of information on environmental and wildlife protection plans. The focus here is generally on the company's efforts as opposed to any detail on the risks presented by mining. Specific issues that may be emotive (environmental impact) are omitted from public communication materials.

Detailed information about exploration and mining regulations in Ireland are available from the EMD website ([www.mineralsireland.ie](http://www.mineralsireland.ie)). However, this information is aimed primarily at industry stakeholders, rather than members of the general public. The GSI website contains some mining-related material, although it is not contained on one centralised page. For instance, information about the history of mining in Ireland is contained under a section about construction and engineering, information about minerals and their uses are found under a different section about geology, and information about mine closure is found under yet another section about environmental health. There is no centralised online resource about the risks and benefits of mining in an Irish context.

## **2.2 Format of communications**

Research from behavioural science suggests people are more likely to understand information that is simple, concrete, credible and prominent. The format of communications was analysed with these principles in mind.

### **2.2.1 Arrangement of information and media used**

The focus of this analysis was specifically on written communications, in order to inform later experiments. However, informal discussions with representatives from mining companies revealed a significant proportion of their communication with the local community takes place in informal face-to-face settings. Analysis of this type of communication is outside the scope of the current project, but its crucial role must be acknowledged – written materials are only one aspect of communication with the public.

The communication materials about exploration typically take the form of leaflets or advertisements in local newspapers. Most refer readers to a phone number to call if they require further information, or occasionally an email address. One leaflet refers reader to the EMD website for information in relation to licensing. In general there is very little referral to online resources.

One company's communications can be found in the "media centre" section of their website, which consists of a list of short "articles" each focused on a specific topic. The list is long and there is considerable overlap between articles, which may pose a barrier to people finding the specific information they're looking for. As mentioned previously, GSI's mining-related information is spread between different sections of their website, making it less prominent and harder to find.

### **2.2.2 Clarity of content**

The clarity of the content of communications is variable. Clarity is generally good regarding the practicalities involved in mineral exploration and how local people will be affected. However, many of the materials examined included an unnecessary amount of technical detail. For instance, a one-page article about water management was almost 1000 words in length and included details about the water requirements of a mine (22.16m<sup>3</sup>/hr), which are unlikely to mean anything to a lay reader. The inclusion of unnecessary details obscures the key messages of a communication, making them less prominent. Some of the more simple materials examined also contained spelling and grammar errors which may hinder fluency and affect the credibility of the materials.

### **2.2.3 Use of visuals**

Many communication materials make the use of images to aid understanding. This is especially helpful in the context of mineral exploration, where images of machinery and equipment gives people an idea of what to expect. Some of the more sophisticated materials also make use of infographics which can be helpful in making key facts more prominent. The overall aesthetic quality of materials examined varied hugely from very basic bullet-point leaflets produced by exploration companies to quite sophisticated materials with professional-quality graphics produced by larger companies. Aesthetics may influence the perceived credibility of the information.

#### **2.2.4 Tone**

The tone of materials examined was generally neutral. An exception to this are some articles produced by one company, which are designated as “reality checks”. These address certain misconceptions about the company’s operations and counter them with facts, creating a somewhat defensive tone. Many of the materials examined make use of a casual, familiar tone, by presenting information in the form of FAQs, or in “a day in the life of ...” articles.

### **2.3 Contribution to the experimental design**

The primary purpose of this communications-gathering exercise is to inform the content of information to be included in the experimental design.

A key observation from this exercise has been a lack of a central online resource with a wide range of information about mining-related activities in an Irish context. This may reflect the tendency of companies to rely more on face-to-face communication, and lower internet use in rural areas. However, as opposition groups increasingly organise themselves on social media platforms, and as more and more people turn to the internet for information, the need for a credible, impartial online resource for this type of information will be becoming more pressing.

In light of this, the content used in the experimental design will not attempt to emulate any particular type of information resource that is currently used, but rather will be an amalgamation of a wide range of information about minerals, exploration and mining.

## 3 Conclusion

Currently used mining-related communications cover a wide range of topics between them, but no single source addresses the full spectrum of issues related to mining in Ireland. The format and quality of information materials varies between different companies, but in general there is scope for improvement with regards to clarity.

In particular, it would be useful for the national/regional agencies/government offices to provide clear, accessible information for the public to access in cases where the company is perceived to be providing subjective information (this may not be the case but can be the perception).

A number of companies contacted did not provide information for analysis. It may be that the company does not have active projects at the moment and do not have relevant material (and presenting old information may cause confusion if may public). Alternatively it is possible the company did not have a clear point of contact for such enquiries.

The next step for the ESRI's Behavioural Research Unit (BRU) is to conduct an experiment to test how information presentation affects the public's understanding of mining-related activities. The content included will be an amalgamation of a wide range of information gathered from different sources, and will emulate a hypothetical central online resource for information about mining-related activities in Ireland.

## 4 Bibliography

Written communication materials information provided by four exploration companies operating Ireland and Northern Ireland and by GSI's national Tellus programme.

Online information provided by GSI and EMD were also analysed.