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## Young Professional Aspects of the Smart Exploration Project: Career Management, Marketing and Sustainability

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### Summary

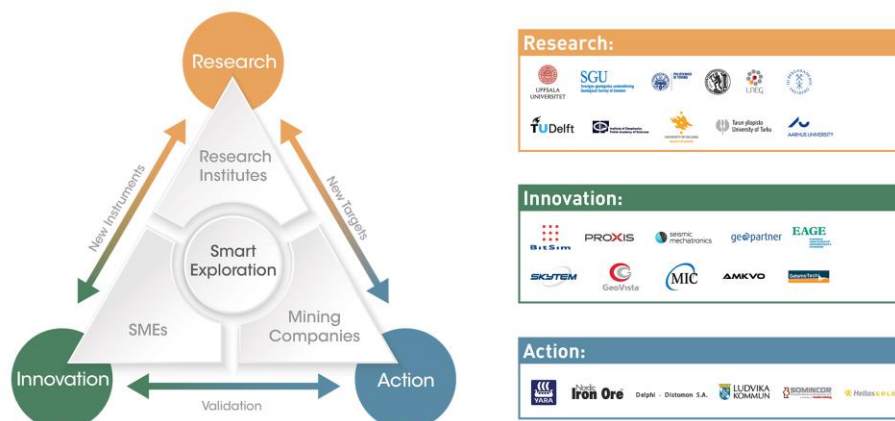
Without doubt for a successful and long-lasting career, it is important to understand how to balance and promote personal and professional teamwork achievements. The modern age has brought many useful communication tools, making it easier to network and reach beyond conventional academic journals. This study, through a survey and statistical analysis of the results, shows how the young professionals pursuing their temporary position within the H2020-funded Smart Exploration project predict their future career, communicate their work with the outside world and envisage a positive work/research environment for their success. Smart Exploration has provided an opportunity to bridge the gap among universities, mineral exploration industry and small and medium enterprises by employing over 15 young professionals. It provides hands-on field experience using modern equipment and methods, as well as showing them how a collaborative and integrated team is tackling mineral exploration challenges within the EU. The project focuses on research and innovation, thereby tasks and activities have been designed with a great emphasis on young professionals, diversifying their activities across engineering and geosciences. This multidisciplinary environment has led to a much more secure feeling to promote their research and development, and a probability for a sustainable career.

## Introduction

Essential ingredients for having a successful career in science and technology are usually career management and marketing, which will offer profitable opportunities to further one's career path. To have a sustainable career, it is not enough to have only technical expertise and knowledge but also having a strategy to manage and build personal networks. It is rather important to learn and understand how to manage, balance and promote research/work achievements from personal life. In this study the young professionals (YPs) of the H2020-funded Smart Exploration project reflect their vision on how the project and their contributions may help to have a sustainable professional career.

## The Smart Exploration project background

The Smart Exploration project is funded by the European Commission through the Horizon 2020 programme. It consists of a research and application team and it is supported by a group of technologically advanced SMEs (small and medium enterprises) and mining companies. The focus is on research-innovation action implying a relevance to the mining and mineral exploration industry and commercializing ideas. Figure 1 shows the overall structure of the project and how different type organizations complement each other. It aims to develop cost-effective, environmentally friendly tools and methods for geophysical exploration as well as other aspects such as geological and geochemical target vectoring and generations (Malehmir et al., 2019). It includes 27 partners from 9 European countries and six exploration sites. In the project, there are components of research developments as well as field surveys where the YPs will have a chance to have their hands-on innovative instruments and new surveys designs. This provides them an opportunity to be involved from the data generation to the end results where they have a chance to collaboratively and with the mining and SMEs interpret their results.



**Figure 1** Overall structure of the Smart Exploration project and how various types of partners complement each other on research and innovation for making an impact on the related industry.

## Study methodology

Results and discussion here are based on a survey that was conducted anonymously among the Smart Exploration YPs. In total, 13 people participated. The focus was from the motivation to why they joined the project as well as their expectations beyond the age of the project. The study was covered by questions and statistical analysis in the form of histograms (Figures 2-6) in order to reflect their current position and vision for their future career path.

## Results

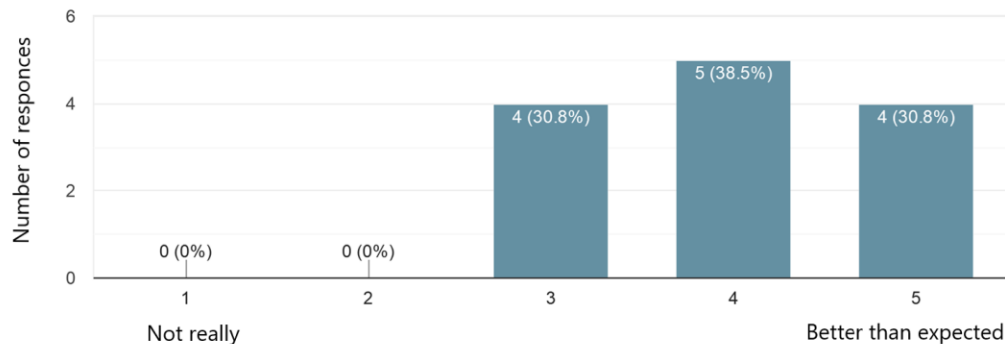
Results of the study, although with a limited number of participants, showed that the main motivation to be involved within the project was to acquire advanced knowledge, working with new technologies

in the mineral exploration industry, networking and collaboration between academia and industry. Here we present example reflections on and some statistics for different questions.

**Study question 1:** What motivated you to apply for the position/get involved within the Smart Exploration project?

YP 1: *"What motivated me to apply for this position was the topic itself that my research was going to be about. But afterwards, I realised that being part of the Smart Exploration project will allow me to get involved with something much bigger that will help to impact my work and to expand the horizons of my research."*

YP 2: *"Innovation driven research."*



**Figure 2** Histogram showing how the YPs mark if the Smart Exploration project meets their expectations so far (year one in the project).

**Study question 2:** Which research/work expectations of yours have so far been met?

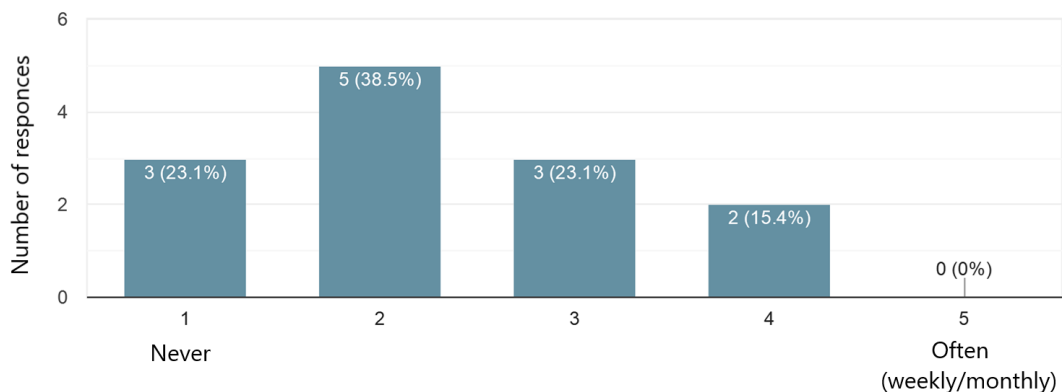
YP 1: *"I had already started coordinating with my fellow colleagues from other universities, participated in field surveys and attended a project meeting. Knowledge sharing is now happening on a daily basis beyond just my own institution."*

YP 2: *"Several research groups/institutes working towards the same goal. Being able to collaborate with different groups".*

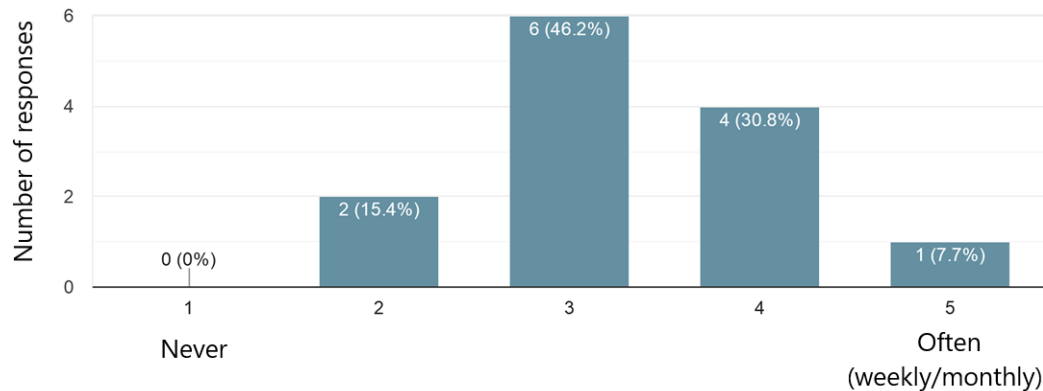
**Study question 3:** How do you plan to make an impact during your involvement in the Smart Exploration project?

YP 1: *"I have some knowledge on the fields of structural geology and 3D/GIS/prospectivity modelling work, as well as practical work experience in the mining and exploration industry. These will be (and already have been) helpful in general in the project."*

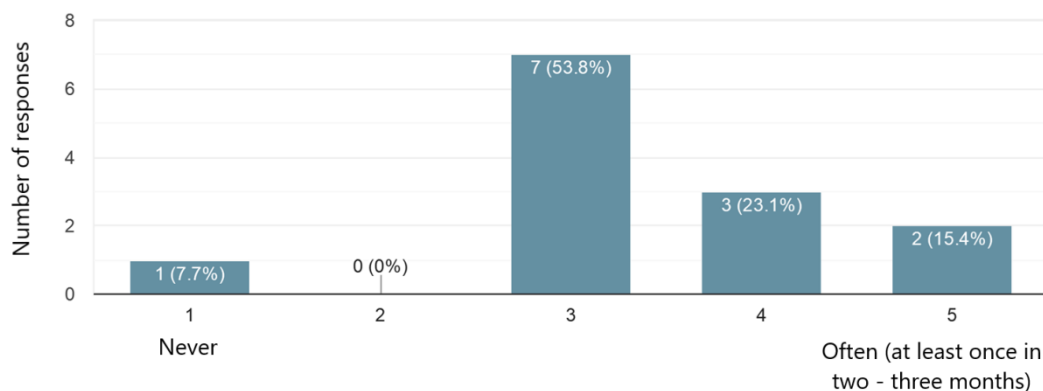
YP 2: *"Providing a modelling code that can be used by the project members."*



**Figure 3** Histogram showing how often the YPs promote themselves on social and professional networks.



**Figure 4** Histogram showing how often the YPs are promoted and shared in professional networks and various events by others (researchers, industry representatives, organizations among others).

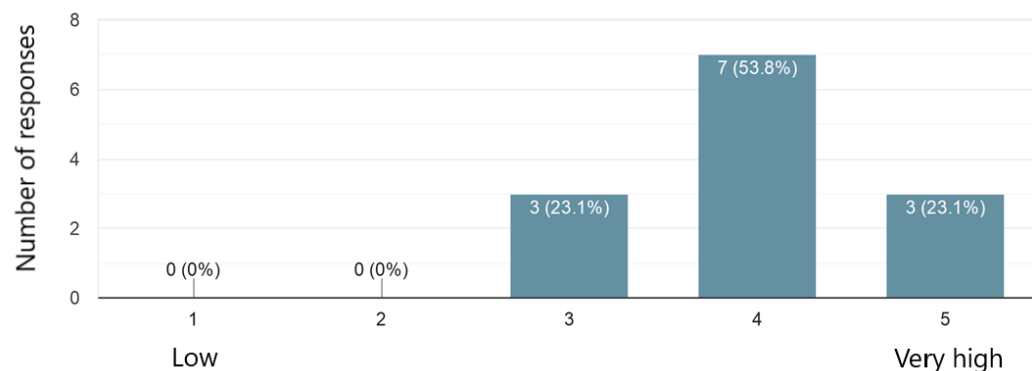


**Figure 5** Histogram showing how often the YPs present their work/research in conferences and workshops, in publications and reports.

**Study question 4:** Do you see the Smart Exploration project beneficial to your career development and why?

YP 1: "Yes indeed. As we are developing technology for the mining industry, our aim is to establish seismic method as a mainstream method for mineral exploration. After finishing the project work I am sure that I will have an opportunity to work as a seismic professional in the mining industry, along with in academics, which usually do have a lot of positions for young professionals."

YP 2: "Yes, due to the availability of the available network and contacts, as well as the impact that my research can achieve within the project."



**Figure 6** Histogram showing how often the YPs see their chances to sustain their career after the Smart Exploration project is finished.

## Discussion

In general, the survey and statistical analysis showed interesting results. The YPs appear to be motivated to be part of the Smart Exploration project, to learn more about advanced and innovative technologies in mineral exploration and to expand their collaboration in academia and industry. This motivates them to invest their current knowledge to make a significant impact on the project, which will give them many benefits afterwards. They are aware of the importance of presenting their work (Figure 3), yet statistical analysis suggests space to improve their presence in professional and social media. Despite what appears low activity in self-promoting, it is interesting to observe that their work/research is more shared and supported by senior professionals from both academic and industry background (Figure 4). Finally, positive expectations related to the career sustainability of the YPs is encouraging (Figure 6). It would be beneficial if this study is repeated and compared to check if perspectives have changed as the project progresses and any aspects brought up here can be improved. We anticipate the survey to be more interesting as years go by since more exposure and more understanding of being in a complex project with different dimension would likely influence the YPs thinking.

## Conclusions

In this study we have presented how the YPs see their involvement in the Smart Exploration project. Starting from their motivation, expectation, impact, how much they promote their science and how much their science is promoted by others, as well as how they see chances for sustainability of their career.

## Acknowledgements

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## References

Malehmir, A. Holmes, P. Gisselø, P. Socco, L.V. Carvalho, J. Marsden, P. Onar Verboon, A. and Loska, M. [2019] Smart Exploration: Innovative ways of exploring for critical raw materials of the EU. EAGE Annual Meeting, London 2019.