

The Future of Geoscience - a virtual summit

Participants:

Nick Rogers, President of Geological Society

Tom Backhouse, Geologist and mining expert, CEO and Founder at Terraflrma

The events start with an introduction by NR and TB about the purpose of the virtual summit. The purpose was to identify the role of geoscience within society, sharing the importance of geoscience for society, highlighting its link with politics, decision-makers and industry.

Moreover, the summit delved into the detail of the public perception of geoscience, as well as in the media, education and business. In addition, it addressed the main challenges concerning the visibility of geoscience and the lack of proper communication and marketing expedients for raising awareness.

It brought together a mix of professionals, entrepreneurs, teachers and lecturers, public speakers and civil servants in three different panel sessions.

First Panel discussion:

Lucy Crane, Mining Industry, Cornish Lithium

Joel Jill, International Development Geologist, BGS

Hellen Smith, Oil and gas industry, Rust Resources

Ben Lepley, Geologist, Mining Consultancy

The first panel discussion focused on the perception of geoscience in society and in the public sphere and the main challenges that need to be tackled for the sake of geoscience's visibility.

LC said that that "geoscientist needs to save the day", by properly communicating that (critical) raw materials are essential to create low- technologies for tackling climate change. Geothermal can help capturing CO₂ as well as lithium and copper and other metals are fundamental for the creation for batteries. All branches of geoscience have a role in fighting climate change. She added that understanding of subsurface is vital for everyday life.

Moreover, she argued that society has a negative opinion of geoscience and geoscientists and that industry cannot properly react because mining activities which are highly criticized. The perception society has of mining is "dirty", "dangerous" and recalls fossil fuels. She added that the perception of renewable energy is more positive and sustainable, but mining and renewable energy are connected and there is a high need of mining activities for using renewable energy there.

Continuing on this topic she said that critical raw materials delivery is more critical because of public image of mining activities and that domestic supply chain of raw material is in danger for US, UK and EU, therefore there is a need for new supply areas.

LC showcase some solutions to the "public image" issue:

1. Engaging with NGOs and other communities within society could help rethinking the public image of geoscience.

2. Moreover, education is vital. Schools and politicians need to know how geoscience is the solution to tackle climate change and not the problem.
3. Diversifying cross sector of industry, fostering diversity among race, nationality, age, gender, ethnical and cultural diversity is also part of the solution.
4. Fix public perception of geoscience. Reach people out and engage with society for positive feedback.

JJ argued that the main issue in perception is due to lack of communication and marketing activities to raise awareness about the role of geoscience. Moreover, the sector needs to be genuinely reformed, from the institutions representing the geoscientific sector to its main structure. Moreover, he said that geoscientists should be properly trained in every aspect of geoscience, and that mapping tools in the public affairs sector can help obtaining good socio-political contacts. These last ones are essential to frame geoscience, bringing meaningful changes in the perception too.

HS said that there is a huge need to reform education and schools by providing teachers with more resources. Education in geoscience should not only engage with children but with parents too. Moreover, she said that media have a big role to play for making public sphere being interested in subsurface knowledge and management as well as CO₂. Media and social media are essential for the younger generations for shaping opinions.

BL suggested that the key actions for reshaping a good public image about geoscience is developing programs for education. He said that geologists need to be in schools for being a conduit in educating children about benefits of geoscience.

The discussion then moved to the importance of media, social media and education in terms of awareness about climate change and the variety of solutions society can rely on for protecting the environment. It was argued that geoscience has no proper public representation, link with the institutions and that public affairs activities at EU level are still weak. (It was said that at UN SDGs yearly meetings, geoscience is still not represented.)

It was added that geoscience and communication trainings should go hand in hand in order to learn how to communicate to institutions and the society itself. Moreover, it was said that the geoscience sector should come up with a core message for gaining visibility at a governmental level and at international meetings, in schools, and in media.

It was also argued that geologists should be the voice of change and be more involved within society. It was mentioned that SGU and GTK are involved in society and can count on a high economic importance.

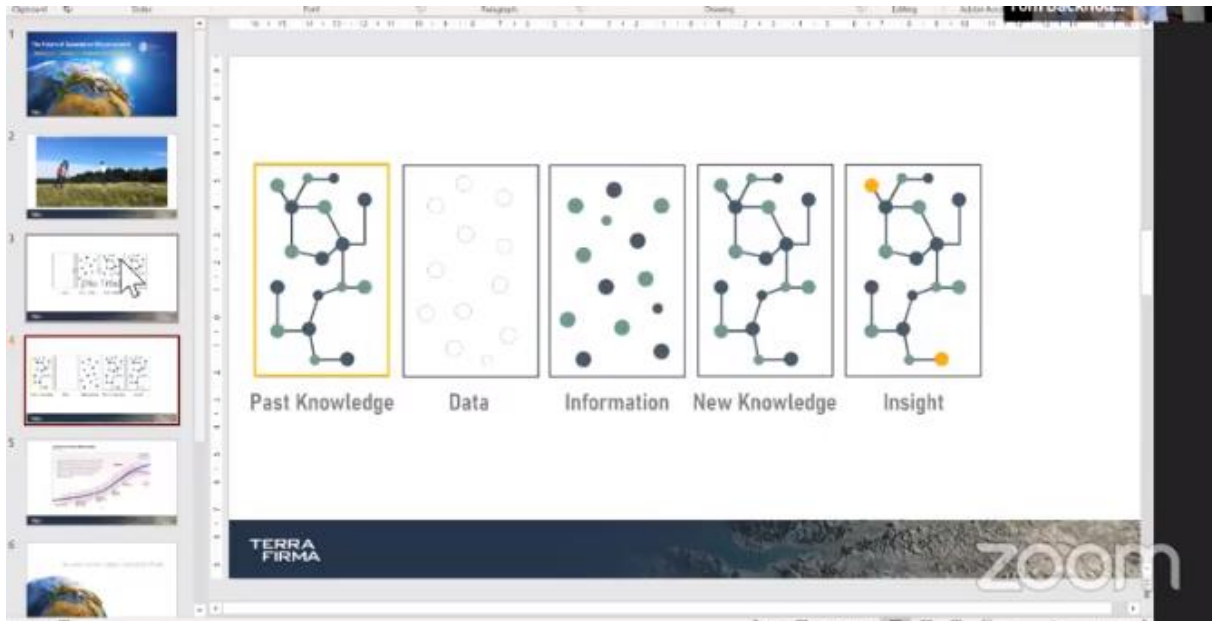
Output:

1. Positioning geoscience within the SDGs
2. Embracing reforms and strengthening institutions
3. Integrating training on communication and public affairs with geoscience trainings.

Second Panel discussion:

Perception of geoscience in business by translating a new way we communicate about technologies in geoscience.

TB made a presentation about the way “TerraFirma” handles communication exploiting the current digitalization process. He argued that the key is using the current digital technologies and artificial assistance for transforming past knowledge in new knowledge, integrating data and information.



Moreover, he argued that the way we use that is essential because it can give influence, visibility and convince institutions to invest on new ideas and technologies.

Geoscience needs to become digital, accept risks, think outside the box and tackle new challenges.

Rosina Smith, Head of client success, Insurdata

Francis Cram – geologist, maps and datasets, MapStand

Holger Kessler - BGS and Cabinet office geoscience

The panelists discussed about the importance of accessibility to open data and how startups are providing all kind of information and data on several sectors. Although the huge benefit that massive data on geoscience can have, a lot of data on natural resources are yet not accessible.

Moreover, it was argued that there is a lack of interpretation when it comes to data, therefore the geoscience sector should invest in guidelines or visuals (from a communication point of view) in order to help customers to have a better understanding of results.

It was added that geoscience needs to mix with other branch of science, and cooperate with other sectors such as communication, marketing and economics. Data sets could be key for connecting insurances and entrepreneurs as well as improving collaboration among industries and create more value and visibility for geoscientific products. Innovative solutions are also key in the nowadays industry.

Output: Come up with ideas on how to make data easy to understand

Third Panel discussion:

Declining geoscience student number

Ian Stewart, Royal Scottish Geographical Society



IS made a presentation highlighting the role of geoscience, its themes and benefits within society and education.



the green stone age

- geo-metallurgy
 - the utility of geo-materials

'By 2058 the Green Stone Age is established, and we will use all elements in the periodic system and more rare minerals to support new materials and technological solutions.'
 (Morten Smelror, 2020)

Zoom

the hidden commons

the land below ground

Subsurface Science

exploration geoscience for water, minerals hydrocarbons, heat, disposal (CCS, radwaste)



Zoom

the deep city

subterranean urbanism



Crossrails Station Roof Garden by Gillespies

Zoom

critical zone science

geo-health
food security

zoom

systemic risk

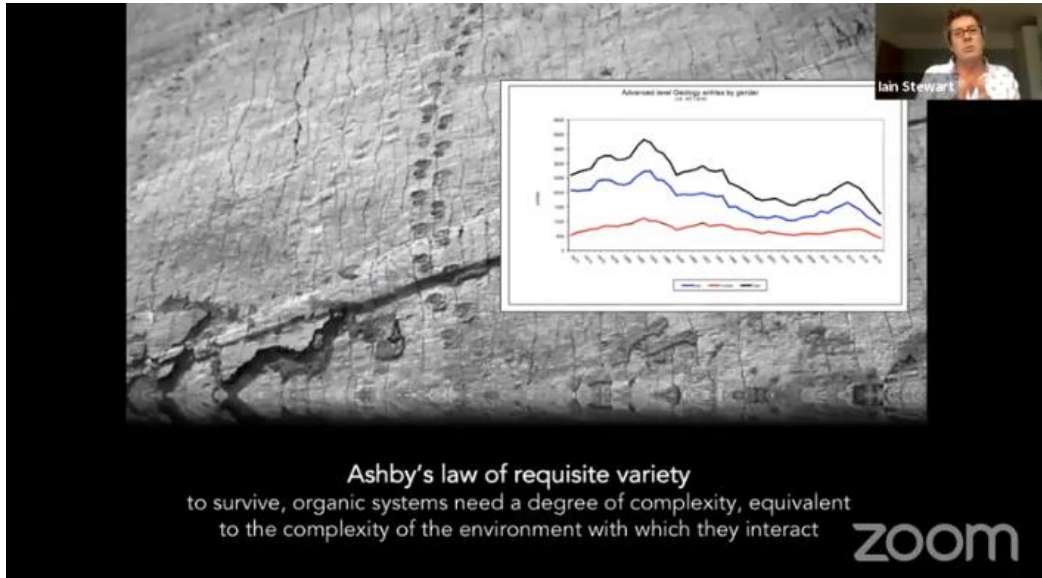
'The COVID-19 global pandemic has made visible the absence of significant efforts by countries and cities across the world to come to terms with the limitations of a hazard-by-hazard, siloed, fragmented view of risk management.'

Marc Gordon (UN DRR, 2020)

zoom

earth stewardship

zoom



The key final message of his presentation stressed that geoscience is essential for understanding the planet and its boundaries. He also argued that the need for sustainable raw material and metals for the green transition will need geoethics, social justice and equity.

Other panelists:

Natasha Dowey – Academia, University of Hull

Dr. Marie Cowen – BGS and GSNI

Catherine Owen – Academia, University of Exeter

In the third and last session of the virtual summit, the panelists discussed about the decreasing subscription of students in geoscience classes and degrees, with a special regard to 14-16 aged group people in the UK.

It was argued that education should be reformed, teachers should be provided with new resources, and accessibility to classes and accreditation system, especially in secondary schools, improved.

Northern Ireland and its school system were used as an example for highlighting the fact that demands for subscription in geoscience, engineering, physics, geography classes are higher as most of the jobs are framed in the geo-economy sector. Although that, visibility in the public sphere is still quite weak.

It was argued that the geoscience sector needs to have a strategy to engage with people and tackle the challenges starting from education in schools and universities. STEAM activities should be reinforced perhaps motivating teachers and children, involving children in exhibitions and projects.

As for the 14-16 aged group of people, they could be motivated to choose geoscience courses with inspirational teachers and by involving them in extra activities which have a value in their CV. Concerning colleges and universities, perhaps students could be motivated through internships which can give them the skills they need as geologists in industry and academia.

Output:

In order to make all of this possible, a strategy between governments and school working groups could be achieved.

Summary

Alicia Newton – Communication, The Geological Society

AN said that addressing the benefits of geoscience in terms and targeting industry, business, policymakers and schools is essential.

The outputs from the summit will be taken into a more focused [Geology Student Enrolment Summit on 24 June](#), and from there a working group/committee with representation from across society will be formed.