



Soundings January 2022

Happy 2022!



A message from our president

Dear IMMS Members,

I hope this newsletter finds you and yours healthy and well and enjoying the start to the new year. What a year 2021 was! A global pandemic continued, impacting supply chains and critical work throughout the world. Still, many achievements were nonetheless realised by the marine minerals community in the past year.

Many within the global scientific community continued to positively engage and collaborate with the marine minerals sector, providing critical contributions to the understanding of marine mineral deposits, their potential value to society and the possible environmental impact of their removal from the deep seafloor. I will share some examples here.

Researchers at Ghent University compared prospective environmental effects of polymetallic nodule collection with land-based mining. Their peer-reviewed paper, published in the [Journal of Cleaner Production](#), concluded that polymetallic nodules on the seabed of the Clarion Clipperton Zone (CCZ) may represent a high-grade, low-carbon source of critical metals. This could be a significant factor for global society to consider, particularly in light of the International Energy Agency's report on [The Role of Critical Minerals in Clean Energy Transitions](#), published in May 2021, in which mineral demand is forecast to grow exponentially.



In July, Researchers at Massachusetts Institute of Technology (MIT) along with Scripps Institution of Oceanography and other experts from a number of research facilities globally [published a study](#) about potential sediment plumes from deep seabed mining operations.



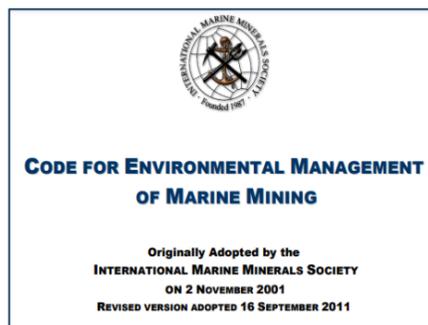
Prototype LISST-RTSSV mounted at the rear of the collector vehicle. Source: Sequoia Sci.

MIT was also involved in an ultra-deep water field experiment in the CCZ to study the sediment plume created by a pre-prototype seafloor nodule collector. Using novel manoeuvres and [sensors](#), they were able to monitor the behaviour and characteristics of the sediment and – from these observations – they can improve and further develop mathematical models aimed at predicting sediment plume behaviour from a mining operation. Based on supercomputer simulations and tow tank experiments, the MIT team had predicted that the sediment plume created by the seafloor nodule collector would be low lying and spread as a gravity current (see publication [here](#)). This research will help to confirm whether those predictions were correct.

In May, Patania II, a pre-prototype polymetallic nodule collector developed by Global Sea Mineral Resources (GSR), was successfully trialled at a water depth of 4,500 metres in the CCZ. The trial was monitored by MiningImpact, an independent group of EU scientists. MiningImpact is a partnership between 29 institutions from nine European countries, plus the International Seabed Authority. MiningImpact scientists were on board a second vessel, chartered by the German Geological Survey (BGR), to independently monitor the trial of Patania II. MiningImpact's aim is to further close existing knowledge gaps and reduce uncertainties about the environmental impacts of deep-seabed mining of polymetallic nodules. The final stakeholder event will be held on 1 February 2022. Delegates can register to attend [here](#).

Keep well, everyone, and we look forward to (hopefully) seeing you in person in 2022.

20th anniversary of the Code



The [Code for Environmental Management of Marine Mining](#) written by IMMS has passed its 20th anniversary of creation and 10th from last revision. It is a statement of Environmental Principles for marine mining, followed by a set of Operating Guidelines that are now used by several regulatory agencies including the ISA.

50th UMC – You can't miss it



2022 is here, COVID vaccinations have taken effect and the United States is open for tourism again. This means that we are planning to host our 50th Underwater Minerals Conference in person at the Vinoy Renaissance Resort, in St. Petersburg, Florida. Keep a look for the abstract submission and registration deadlines. (www.underwaterminerals.org)

ISA returns to in-person meetings



In December, the International Seabed Authority (ISA) held its first in person meeting in almost 2 years and the ISA Council agreed a [roadmap](#) for advancing the draft regulations for the mining of marine minerals from the international seabed area.

If any of you are involved in any educational initiatives or upcoming events, please inform us as we are keen to use IMMS as a platform for promoting this type of news.

Finally, it is important that IMMS is used to share information and ideas that help us move towards our common aspiration. And so, if you have any stories, content, news, events, milestones or interesting studies, please share it with us and we will include it in our quarterly newsletters. I would like all members to be represented so please feel free to send any content you'd like to see featured.

Comments or questions:

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