

EGU21-9135, updated on 21 Jan 2022

<https://doi.org/10.5194/egusphere-egu21-9135>

EGU General Assembly 2021

© Author(s) 2022. This work is distributed under the Creative Commons Attribution 4.0 License.



Literature review: Possible implications of introducing new technologies in artisanal and small scale mining activities on climate literacy in regional population

Alexandra-Cosmina Comaniciu

University of Exeter, College of Engineering, Mathematics and Physical Sciences, United Kingdom of Great Britain – England, Scotland, Wales (ac1132@exeter.ac.uk)

The evolution of new technology and the progressive integration of automated processes in mining had been encouraged by reformed policies around the world. Initiatives were adopted in the hope that they will bring a more sustainable approach to mineral exploitation and help reduce CO₂ emissions and put a stop in the temperature rises. Remote control machines and fully autonomous vehicles, as well as new applications in machine learning and big data management, used to analyse data collected from automated machines, are continuously innovated and introduced to mine sites across the globe by medium and large companies in the industry. Overall, they reduce the carbon footprint of companies and create a safer work environment.

But what about artisanal and small-scale mining? How can new technology improve safety conditions? And how does that translate into a change in public opinion about the effects of mining on climate change? Also, could the introduction of new technologies be a way to push for climate literacy in regions where the most basic needs are generally the only concerns of the population?

A ponderable part of the reasons why the sector is still vastly lagging in formalization and sustainable exploitation conditions is stemming from the lack of proper education and training, including climate literacy. This paper aims to show an overview of the changes automation would impose on a sector that is characterized by informal work in dangerous environments, limited use of mechanical tools, low capital and productivity, and limited access to markets - be it positive or negative- and highlight the main challenges that such a technological disruption would have to overcome.