



¡VAMOS! (Viable Alternative Mine Operating System) – a ‘Horizon 2020’ project

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The 42-month ¡VAMOS! project (Viable Alternative Mine Operating System, Grant Agreement 642477, www.vamos-project.eu), funded by the EC H2020 Programme, will enable access to high-grade EU reserves of mineral ore-bodies by developing an innovative clean and low visibility mining technique.

The project will demonstrate the technological and economic viability of the underwater extraction of metallic mineral deposits which are currently technologically, economically, and environmentally unobtainable. In doing so, ¡VAMOS! hopes to encourage investment in abandoned open-pit mines and prospective mines, helping to put the EU back on a level playing field with the rest of the world in terms of access to strategically important minerals.

The ¡VAMOS! concept is defined by a remotely-operated underwater mining vehicle, adapted and improved from existing subsea mining technology. Operating in tandem with an HROV, the mining vehicle will connect to a flexible riser through which slurried mined material will be pumped from the mudline to onshore dewatering facilities via a floating mobile deployment-module, on which will be fitted a bypass system linked to an LIBS, allowing real-time grade-control.

Analysis of European and national regulation and stakeholder assessments found there is significant support for developing the technology among local communities and governments. An initial environmental assessment of the potential impact of the innovative mining operation concluded the project has a smaller environmental footprint than conventional mining operations: this is due to factors including the quieter operation and absence of blasting, zero water-table flux, and the higher stripping ratio enabled by higher fluid pressure acting on the sidewalls of the mine.

The prototypes are currently in their construction phase following a final design freeze in October 2016. Work is now underway on the foresight visioning, economic evaluation and policy guidelines for the ¡VAMOS! methodology and technologies; the project team will be identifying key areas of research interest and assessing the micro and macroeconomic impact of ¡VAMOS!.

The deadline for the completion of the underwater mining vehicle prototype is May 2017, and the HROV hardware and software is to be completed by July 2017. Site-tests will take place in the months after the build completion at a number of unique abandoned mines across Europe, with final proof of operational viability due by November 2017.