# DIG_IT: THE FOUNDATION FOR THE SUSTAINABLE DIGITAL MINE OF THE FUTURE

The 5Th of May 2020 Dig_it project, funded under Horizon2020 programme, officially kicked off.
Facing demand of raw materials increase and the necessity for mining industry to move towards innovative and sustainable techniques, Dig_it proposes the development of a Smart Industrial Internet of Things platform (IIoTp) that will improve the efficiency and the sustainability of mining operations.

More specifically**, the Dig_ it platform** using sensors at three levels (human, assets, environment) and collecting also historical and market data will feed them into a real time Digital Twins (DTs) that "will provide insights: for predictive maintenance and operation of mining machines and vehicles; to assess, map, and mitigate geotechnical and occupational health risks in real time".
Beyond the environmental and health ambition, Dig_ it project has also a "social purpose" which is focused on "re-establishment of the trust between mines and the society towards a sustainable future in raw material production".

Dig_it it is a collaborative project that engages 16 partners **coordinated by "Instituto tecnologico de Aragon"** and including five mines (Marini Marmi, Ceppo di Gré; Italy, La Parrilla Mine; Spain, Titania AS; Norway, Hannukainen Mine; Finland, Tapojarvi; Norway) that will be used as pilot experiences for the testing phase.

In conclusion, the project has some important expected impacts concerning both technology, environmental and socio-economic impacts such as: **generation of know how** (planned patents, publications in high impact journals and joint public-private publications), **safeguard of environmental sustainability** (including better energy and water efficiency and reduction in waste, wastewater and emissions), **improvement of health and safety performance** of the solutions provided throughout the whole considered life cycle, **creation of a lower TRL technology base** for radical innovations that would help unlock substantial reserves of new or currently unexploited resources within the EU, **enhancement of the economic viability** of operations in the longer term, **enhancement of the competitiveness and creation of added value and new jobs** in raw materials, **creation of approximately a $190 billion benefit for mining sector** and **$130 billion** for the metal sector, **innovation capacity and integration of knowledge improvement**, **public knowledge** of the mine supply chain's increase, **mitigation of public opinion** distrust towards most of the existing supply chain and market barriers towards IIot in mining organisation reduction.

*This project has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement N° 869529*