

QuesTek joins the European pursuit of high-performance materials for next-generation space exploration

Stockholm, Sweden, October 2020 – QuesTek Europe, as part of a consortium led by Politecnico di Milano, has been selected for a European Commission Horizon 2020 SPACE-10-TEC-2018-2020 Research and Innovation Action grant for the project *Advanced design of high entropy alloy-based materials for space propulsion (ATLAS)*.

The ATLAS project will investigate novel high-performance alloys and metal-matrix composites for application in next-generation spacecraft and satellite propulsion. The extreme conditions in and around the propulsion systems impose harsh requirements on the materials selected for each component. For optimal performance, combinations of high-temperature strength, ductility, oxidation- and creep resistance, and low density are required, something that is difficult to achieve using conventional materials. To address this challenge, QuesTek Europe will apply its Materials by Design™ methodology to design high entropy alloys for metal additive- and near net-shape manufacturing of metal-matrix composites.

Working closely with leading innovators in component and process design, the novel and improved materials would enable a higher degree of freedom in the design of next generation space propulsion systems. In addition to increased efficiency and life-time of current systems, improved materials performance will enable the use of sustainable alternatives to the toxic and carcinogenic hydrazine fuel currently used for space propulsion.

“The space industry is constantly evolving and striving for better and more resource-efficient solutions. We know from experience that purposefully designed materials can expand the boundaries of spacecraft- and propulsion system design, and we are excited to be part of unlocking the future of European space exploration,” says Ida Berglund, Managing Director of QuesTek Europe, about the role of materials in the transformation of the space industry.

The ATLAS project consortium consists of 8 members, ranging from academia to space propulsion system manufacturers: Politecnico di Milano, QuesTek Europe, TISICS, YourscienceBC, University of Derby, Arceon, German Aerospace Center (DLR), and Dawn Aerospace. ATLAS is a 3-year project valued at nearly €3 million, funded by the European Commission.

Contact: David Linder (QuesTek Europe AB), david.linder@questekeurope.com.

About QuesTek Europe AB

QuesTek is a global leader in Materials Design and Integrated Computational Materials Engineering (ICME). Founded in 2016 as a corporate joint venture between QuesTek International LLC and Thermo-Calc Software AB, QuesTek Europe brings together QuesTek USA's Materials by Design™ expertise with the computational software development expertise of Thermo-Calc Software. By doing this, QuesTek Europe are able to offer ICME technologies and modelling services, as well as designed novel materials, to the European market. For more information about QuesTek Europe, visit www.questekeurope.com or contact info@questekeurope.com.