**New Space Transportation Era: OHB Czechspace will lead a study on the use of nuclear energy for challenging space missions**

**Czechia, Brno, April 20, 2023 - Flights to distant areas of our Solar System, transportation of heavy cargos, human bases on the Moon or Mars. These and other future space missions could benefit from new propulsion system based on nuclear power. The possibilities of its use are now being investigated by the European Space Agency (ESA), which launched several feasibility studies in March. One of them is led by the Czech company OHB Czechspace and supported by scientists from the Czech Technical University in Prague, Institute of Space Systems (IRS) from the University of Stuttgart, and engineers from OHB System in Bremen specialized in propulsion systems. The Czech and German experts have eleven months to develop the study.**

*“We are pleased that ESA representatives have chosen OHB Czechspace to lead the feasibility study, and to coordinate Czech and German academics and engineers. The aim of the study is to explore the possibilities of using nuclear fuel for demanding space logistics and exploration missions. The study shall provide an overview of existing European experience, technology, and industrial capabilities for the development of such vehicle, as well as a preliminary conceptual design of a nuclear electric propulsion engine. A necessary condition is the assessment of safety constraints from the early stages of the design,”* explained Jakub Sevecek, Head of Project Management at OHB Czechspace.

Nowadays, in-space propulsion is either chemical with storable propellant or electric with solar power. However, these technologies are approaching their physical limits, beyond which an increase of the performance is impossible. A new type of nuclear-based electric propulsion (NEP) should address passing these limits and enable the space logistics to be upgraded to a new league.

*"The use of nuclear-based electric propulsion for demanding space missions has been addressed in a number of studies in the past. Thanks to the current technologies, this topic is once again relevant within Europe. In fact, nuclear propulsion can be more efficient than the most efficient chemical propulsion or overcome solar-limited electric propulsion, enabling exploration of places no other technology can reach. This is a big challenge for future space missions beyond our Solar System, for example,"* said Dr. Jan Frýbort, Principal Investigator of Nuclear Technology of the NEP Vehicle from the Czech Technical University in Prague.

The upcoming study is a part of an ESA FLPP team (Future Launchers Preparatory Programme) project called RocketRoll (pReliminary eurOpean reCKon on nuclEar elecTric pROpuLsion for space appLications). The results will be known during the next year and will serve as a basis for further activities and ambitious ESA programmes.

For more information about OHB Czechspace visit [www.ohb-czech.cz](http://www.ohb-czech.cz)

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