Slovakia, Item 5, Space Debris

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Madame Chair, Distinguished Delegates,

Allow me to present the recent accomplishment of the Slovak Republic to the work related to Agenda Item 5: Space debris. The focus of space debris research in Slovakia is dedicated to physical characterization of space debris objects to assess their impact on the space, atmospheric and ground environment.

Research and development of technologies related to space debris research, as well as for the Space Traffic Management are advancing in Slovakia thanks to the subscription of Slovakia to the Space Safety Programme of the European Space Agency (ESA). Several different European Space Agency contracts have been awarded to the Slovak industrial and academic entities in the last year, many of which were related to the Space Safety topic.

In September 2024 Slovak industry and academia along with its partners from Germany and Australia conducted airborne observation campaign dedicated to the re-entry of decommissioned ESA Cluster satellite, which entered the atmosphere one thousand kilometers West from Eastern Island. Slovak industry was the leader and coordinator of this mission, and the Slovak academia actively participated with its scientific instruments and scientists. Along Slovakia, also German and Australian partners were actively involved in the mission. The Cluster satellite was successfully observed during its demise and the collected data will be used to advance our knowledge about re-entry events and their modeling. This will help to better understand the risks that specific objects pose on the ground population, on the atmosphere and on the air and maritime traffic.

The Faculty of Mathematics, Physics and Informatics, Comenius University Bratislava, Slovakia (further only Faculty) continues to perform optical observations of space debris with its optical passive telescope equipped with the 70cm parabolic mirror. This telescope is used for observations of space debris objects situated in low-earth orbit regimes, through geosynchronous orbits up to the cis-lunar region to improve the information about objects' dynamical and physical properties for space safety applications. Observations are conducted in the framework of activities of the European Space Agency, in collaboration with the private sector, as well with partners from abroad.

The Faculty also continues to operate more than dozens of meteor all-sky cameras distributed around the world, namely in Europe, South America, Australia and Africa. These cameras continue to detect by chance the satellites and rocket upper stages re-entering the atmosphere, providing valuable scientific data.

In May 2024 the Slovak Republic signed the initiative of ESA - Zero Debris Charter and strengthened its commitment to the long-term sustainability of human activities in space.

On the 28th of November, 2024, the National Council of the Slovak Republic passed the first ever law on regulation of space activities. The new legislation establishes clear rules in accordance with United Nations treaties on outer space, which create the global basic legal framework for the performance of space activities. Slovak national space objects register was established under a new law.

Last but not least, on the 18th of December, 2024, "Space Strategy of the Slovak Republic 2030+ – Space as an Engine of Growth" was approved by the Government of the Slovak Republic. The strategy was prepared due to the need to highlight the strategic significance and importance of space activities in the Slovak Republic and to outline the vision and goals of their development.

Madam Chair, distinguished delegates,

Thank you for your attention.