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KOSMOPROJEKT D.O.O. – CUBESAT RESEARCH, DEVELOPMENT, AND AGRICULTURAL APPLICATIONS

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ABSTRACT

Kosmoprojekt d.o.o. is a Serbian aerospace company focused on the development of space technologies, with primary emphasis on CubeSat platforms. This work addresses the challenge of establishing end-to-end small satellite development capabilities in domestic space ecosystems that currently lack developed infrastructure and expertise.

One of the largest motivations for Kosmoproject's inception was the rapid growth of the global space economy, with the CubeSat market representing one of its fastest-expanding segments. This growth is driven by ongoing commercialization, advances in miniaturization, and increasing demand for satellite-derived data. Technological progress has significantly enhanced the performance and cost-efficiency of small satellites, particularly in the 3U to 12U class, allowing smaller players to enter the market. Key application areas of such small satellites include Earth observation, communications, and defense, where demand is led primarily by governmental and military actors, alongside a growing commercial sector.

Kosmoprojekt is currently focused on conducting research on the application of CubeSat-based Earth observation for precision agriculture, including, but not limited to, the use of multispectral data to monitor crop health, vegetation dynamics, soil conditions, as well as the development of data processing approaches and necessary software architecture for extracting relevant indicators.

Within the Serbian market, there is currently no direct competition in the field of end-to-end development and production of space systems and

supporting infrastructure. On a global scale, the sector is dominated by major institutional actors such as national space agencies and established private companies operating across various segments of the value chain. Despite high entry barriers, opportunities exist for specialized and innovation-driven companies to occupy niche positions within the broader ecosystem.

The company aims to establish domestic capabilities for the design, manufacturing, and operation of satellite systems, while contributing to the broader adoption of space-based technologies in regional and European contexts.