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New Developments in National and International Space Policies and Programmes I (1A)

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PROSPECTS OF MICRO AND NANO-SATELLITES IN GLOBAL TRENDS OF THE SPACE  
MARKET - DIRECTIONS AND OPPORTUNITIES FOR THE ISRAELI SPACE SECTOR

**Abstract**

The global space market is shifting towards lightweight, affordable and available space systems: smaller instrumentations, dual-use systems, assembly line payloads, constellations and flight formation. This trend gives rise to Micro and Nano satellites. The Israeli space program, originally motivated by national-security needs and lack of resources, had to focus on miniaturization. The Israeli space industry and academia developed know-how and technological infrastructure in the field of small satellites to fulfill these needs and requirements. Today, Israel specializes in developing lightweight, high-resolution, high precision small satellites for both national security and scientific needs, and has unique expertise in these areas. Based on this technological know-how several Israeli groups are currently developing micro-satellites and nano-satellites for demonstrating and validating new-technologies, and technology spin-ins. An additional outcome of these activities is educational public outreach for inspiring young people to pursue their future in the space business. This paper focuses on two activities reflecting on this process. First, it presents microsatellites projects such as Venus, a joint Israeli-French satellite for scientific and technological missions. Second, it depicts Inklajn1 nano-satellite project, involving high school students in the development process. These fields of expertise, at the head of current global trends, are opportunities for international joint ventures, in particular in the field of Earth Observation, for better use of global resources. This paper, therefore, reflects on the economic relevance and potential affect on the commercial space activity as well as on the potential for academic joint research.