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Verifying and Validating the Impact of Technology Transferred from Space (2)

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SPACE TECHNOLOGY COMMERCIALIZATION – BASIC CONSIDERATIONS, EXAMPLES AND
INSTRUMENTS ENABLING TERRESTRIAL ECONOMIC BREAKTHROUGHS

Abstract

Space technology is commonly perceived pie-in-the-sky high-tech, and numerous terrestrial applications underline this. However, not much structured information is available to date, despite impressive examples of space technology transfer published by e.g. NASA, ESA, DLR and other space agencies. Terrestrial industries and markets yet absorb space technologies in a random manner, ranging from large-scale to niche applications.

As commercial opportunities related to the space sector come in different avors with regards to their timeframe, cost structure, risk profile, commercial potential, organizational and financing needs etc., their business nature and scope can differ significantly. Furthermore, people and culture play an important role, which often is underestimated. The highest macro-economic potential arising from space activities lies in space technology transfer (“diffusion”) and satellite application down stream (“utilization”). While space technology is typically transferred to terrestrial markets by straight licensing, acquisition or new business creation, the downstream segment of satellite services encompasses manifold routes or elements and often is about seamless integration into existing systems or interoperability on the ground.

Terrestrial market players are most often unfamiliar with space and its capabilities, and the same applies to space actors vice versa. Amid space policy focus on space commercialization, emphasis on terrestrial exploitation is comparatively low, and partly geared by external organizations.

An interesting tool is the European OSTF approach (Open Sky Technologies Fund), by which space technologies get window-dressed for Earth markets. This first-ever structured access to space technologies employs capital from a wide range of investors and benefits startups by professional nursery taking them through their embryonic stage to global growth.

The creation of new visible success stories remains key, however, why related processes in the space sector deserve improvements. Backgrounds of the findings presented are experiences made by the author over almost 25 years involvement in space and space-related projects and business, venture capital and private equity, education and strategy development worldwide.