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AWARENESS, SUPPORT, AND FUNDING - ESA'S THREE PILLARS FOR ENABLING A
SUCCESSFUL CYCLE OF BUSINESS-LED TECHNOLOGY TRANSFER

Abstract

The European Space Agency (ESA) has the mandate to support the European space community to transfer space technology, know-how, and competences both within the space industry and beyond, into non-space markets.

Technology transfer is a concept that is well understood in the academic world where researchers often have to identify commercial opportunities for their work as part of their proposals for funding. Many organisations have Technology Transfer Offices (TTOs) that work to license their technology portfolio or create spin-out companies. This structure naturally leads to a technology push approach where an innovation drives the launch of a new product to the market. Successful examples include Oxford University Innovation who generated over 20 million Euro income from licensing and new ventures in the financial year 2019/2020 and NASA who executed 161 new patent licenses in 2020 alone.

Less well documented are the technology transfer activities that are conceived with a market-pull approach or that arise in the business to business area. This is a space in which ESA has provided dedicated support for a number of decades through its Technology Broker Network. Drawing upon almost 30 years of experience, ESA has further refined the structured approach of the ESA Technology Brokers in 2021 and has introduced ESA Spark Funding – a flexible funding programme that enables business-led innovation activities.

For practitioners it is well known that tracking the socio-economic impact of technology transfer activities is notoriously difficult and when all entities involved are commercial the level of complexity can increase significantly. This is especially true when it comes to publication of statistics and the generation of case studies. As such, the visibility of technology transfer in the business to business context remains low and is underreported.

Contained within this paper are the methodologies used by ESA to create a market-led, business centric approach to technology transfer. This is based around the three core pillars of Awareness, Support, and Funding that combine to create an ongoing cycle of successful innovation. This is complemented with a discussion about how better definitions and quantitative metrics for socio-economic impact arising from technology transfer can support policy development and the implementation of the appropriate support tools.