

Space

What is the space economy?

The Space Economy is the full range of activities and the use of resources that create and provide value and benefits to human beings in the course of exploring, understanding, managing and utilising space. Hence, it includes all public and private actors involved in developing, providing and using space-related products and services, ranging from research and development, the manufacture and use of space infrastructure (ground stations, launch vehicles and satellites) to space-enabled applications (navigation equipment, satellite phones, meteorological services, etc.) and the scientific knowledge generated by such activities. It follows that the space economy goes well beyond the space sector itself, since it also comprises the increasingly pervasive and continually changing impacts (both quantitative and qualitative) of space-derived products, services and knowledge on economy and society.

Why are space technologies important?

Satellite infrastructures with their vital enabling technologies (earth observation, communications, global positioning, timing, navigation....) provide an ideal platform for innovation in downstream space applications. Application areas range from environment, meteorology, financial transactions, entertainment, traffic management and land use planning, to monitoring of exclusion zones, emergency management, agriculture and distance education. And as their uses spread, they become increasingly indispensable services for the modern-day economy. Space technologies are pivotal to efforts to address many of the global challenges facing humanity – for example, climate and environmental change, insufficient world food supplies, natural disasters, pandemics. They also play an increasingly vital role in security and defence.

How have space activities changed in recent years?

The range of applications of space technologies has expanded enormously in recent years, from scientific uses at one end of the spectrum to consumer markets (e.g. car satnav applications) at the other. However, there have also been dramatic changes in the landscape of spacefaring nations. While the 1960s witnessed only a handful of countries with spaceflight capabilities, there are today over 50 countries launching satellites either independently or via a third party. As a result the world's space community has expanded rapidly both in terms of its geographic spread and the number of operational satellites in orbit.

Particularly significant has been the emergence of new players – e.g. China, India, Brazil, Argentina, Indonesia, Mexico – many of whom devote considerable resources to their space ventures. China's spending on space exceeds by far the combined space budget of the EU countries (17) engaged in space activities, and in 2010 India's space budget outstripped that of countries such as Italy, the United Kingdom, and Canada.

What are the main policy issues?

Among the key policy issues that need to be addressed are the cost of access to space, but also – especially in light of the growing number of emerging space nations – ways and means of improving competitiveness and innovative capacity at national and regional level. In many OECD countries, the space sector faces important challenges in terms of declining supplies of scientists and engineers,

and the space workforce is ageing quite rapidly. There are also important regulatory issues regarding the peaceful use of outer space, not least the problem of mounting quantities of space debris.

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