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OVERVIEW OF THE SPACE SITUATIONAL AWARENESS (SSA) AND ACTIVE DEBRIS REMOVAL  
(ADR) MARKET PROSPECTS AND KEY DRIVERS

**Abstract**

According to recent ESA and UNOOSA findings, the approximately 2,700 current active satellites have to share the space environment with almost 9,000 tons of space debris. Due to the increased use of orbits, the situation is not expected to improve. While approximately 3,800 satellites have been launched over the past decade, Euroconsult estimates that more than 17,000 satellites will be sent in orbit in the next 10 years, worsening the current congestion situation and increasing the risk of in-orbit collisions.

One of the first challenges is to limit the amount of new space debris created. In this aim, different international organizations and countries have been working towards the adoption of rules ensuring a sustainable use of space. These initiatives have contributed toward an increased awareness among the majority of space stakeholders and led to the adoption of a significant number of guidelines and projects aimed at better regulating the use of orbits. However, due to a lack of binding effect, these principles are not sufficient enough to ensure a global and long-term sustainable use of space.

The priority of satellite operators is to avoid immediate in-space collisions through the development and use of assets designed to track space objects and anticipate any in-orbit accident, also called Space Situational Awareness (SSA) systems and services. This paper will first investigate the rise of SSA capabilities worldwide before further analyzing the current state of the market.

While the detection of potential collisions is crucial, another solution to solve this issue consists in decommissioning existing space debris. Over the past few years, more and more Active Debris Removal (ADR) programs have emerged, supported both by governmental and commercial players. Although most of these projects are currently in their infancy phase, a growing interest has been noticed in this area. This paper will review different ADR initiatives and further investigate their business models.

As emerging applications, both SSA and ADR markets are expected to rapidly evolve in the coming years. However, their progression will depend on several factors, such as technological advances and regulatory decisions. This paper will highlight future market trends for both SSA and ADR markets and discuss some factors that might impact these two subsectors in the coming decade. The presentation will be built on Euroconsult's research report Space Logistic Markets, 1st Edition, to be published in Q2 2022 and on Euroconsult's Commercial SST Market Assessment conducted for the UK Space Agency.