

17th IAA SYMPOSIUM ON SPACE DEBRIS (A6)  
Interactive Presentations - 17th IAA SYMPOSIUM ON SPACE DEBRIS (IP)

Author: Dr. Maria Messina  
Italian Space Agency (ASI), Italy

Dr. SABRINA RICCI  
Italian Space Agency (ASI), Italy  
Dr. RACHELE MARIA D'ANTONIO  
ASI - Italian Space Agency, Italy  
Dr. Alfonso Lamanna  
ASI - Italian Space Agency, Italy

BLOWING SPACE JUNK CLOUDS AWAY: THE COMPLIANCE OF RECOMMENDATIONS TO A  
SPACE DEBRIS REMOVAL NEW CONCEPT.

**Abstract**

The amount of space junk is growing. In the last year, the European Space Agency (ESA) announced a new role for the future functioning of e.Deorbit, the ambitious ESA Clean Space programme approved during ESA's 2016 Ministerial Council. The new approach is to breathe new life into satellite already in orbiting through its refurbishment or refuel. On November 2018 ESA ended up with a more inclusive functional paradigm for e.Deorbit, based on active industrial synergies. All the space players should take the economic feasibility into account in order to pursue an effective clean space system – since technology development could be accomplished – and blowing space junk clouds away through an international legal cooperation. Few days ago, the European Space Agency organized a specific webinar address to ESA and Canadian industry and issuing them a challenge to demonstrate functionality of its orbiting services. Through this innovative way, ESA presented its Debris Removal Service Offer Request (SOR), indicating technical specifications required for carrying out a rendezvous or deorbiting project of a ESA satellite, e.g. a recovery strategy of an orbiting object with a weight above Kg 100 and by 2025. As things stand, these innovative technologies cannot leave certain measures out of considerations to minimize other effects, such as battery breakdown. A cleaner outer space might be achieved by storing batteries safely to help prevent explosions. Three years of research have led to new removal concepts than at the beginning. The creation of new facilities, as a potential in-orbit servicing mission, could represent anatomy of successful innovations – in terms of industry competition and certain law improve. Besides monitoring technological developments, the aim of this paper is to talk about potential solutions to manage space traffic and their compliance with Space Debris Mitigation Guidelines. In addition, we will continue to keep a close eye on these procedures through an active involvement to some ESA initiative, for instance “ESA - ECSL Workshop on Space Debris: Regulations, Standards and Tool” where some of us have been selected.