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RISK MANAGEMENT AND THE INSURANCE OF ON-ORBIT SERVICING. THE INSURANCE  
INDUSTRY AS A DRIVER OF RISKY SPACE INNOVATION.

**Abstract**

On-orbit servicing is an exciting idea that has been present in the space industry for a long time. Although the initial attempts were quite successful, they took place 20 years ago and were followed by a long period of stagnation. On the other hand, during that time technology has substantially developed, especially in terms of robotics, with subsequent tests demonstrating spectacular successes and growing technological readiness, applied, for example, for the needs of the ISS. Other circumstances have apparently changed as well, among them the massive production of space debris, the rapid shrinking of orbital slots, as well as changes in the space business models requiring an ever more agile approach. All of these are not, however, solely within the circle of interest of the satellite operators. Just as involved are the regulators and public actors. On-orbit servicing becomes one of the tools for achieving the objectives of sustainable space development promoted at a global level. All of this also concerns the insurance industry, and it should come as no surprise that there is no space mission without financing, and no financing without insurance. It is well known that insurers have accompanied space ventures since the very beginning. Their special role is, however, not limited to supporting financial schemes. There can be no doubt that the insurance industry has a vital role to play in the risk management processes, as it initially developed the risk management concepts and tools that were subsequently applied in all the industries. This is also the case with on-orbit servicing. On the one hand, on-orbit services will need to be protected with respect to both property damage as well as third party liability. This conviction results from both the commercial needs of the financing schemes, as well as from the regulatory (national) measures imposing compulsory TPL insurance as one of the risk management measures. On the other hand, on-orbit servicing creates not only a challenge for insurers to cover new and risky activities, but also has the potential to become a new driver on the volatile space insurance market. It can affect the scope of the coverage and can change the paradigm from all risk to named perils insurance, allow for a new concept of calculating the loss formula, including the salvage of the satellite clauses and numerous other concepts that may bring space insurance closer to the 'common' insurance business, more affordable to more insurers and, as a result, to more satellite operators. In effect, a very interesting feedback loop may appear, whereby on-orbit services and the insurance market give each other a synergic burst of new possibilities. The author intends to explore the way in which the new type of space activities and insurance interact, while also enhancing sustainable development at the same time.