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Author: Mr. Michael Kretzenbacher
Space Generation Advisory Council (SGAC), Australia

Ms. Minoo Rathnasabapathy
Space Generation Advisory Council (SGAC), Austria

Ms. Tiffany Chow
Secure World Foundation, United States

Mrs. Guzel Kamaletdinova
NIICHIMMASH, Russian Federation

NOVEL APPROACHES TO INTERNATIONAL COOPERATION AND DATA SHARING FOR SSA

Abstract

Representing a major challenge for the space faring community in the near future, the issues of international cooperation and data sharing for Space Situational Awareness (SSA) were discussed in the 2011 Space Generation Congress' (SGC) Industry Session in order to collect the youth's perspective on this pressing topic.

In order to fully comprehend the extent of the space debris issue, help avoid collisions and manage active debris removal, a comprehensive SSA network is required. Such networks already exist; the largest of these however belong to the USA and Russia, and are run unilaterally and as part of defence networks. Thus the sharing of information obtained via these networks becomes difficult as it risks revealing strategic capabilities. Alternative means must be found in order to encourage the sharing of SSA data.

One possible approach is the creation of a neutral international organisation and network that exists solely to facilitate the collection and sharing of SSA data. The proposed network would utilise the capabilities of already existing SSA infrastructure that are not restricted by being part of a defensive network. Such a network could also be used as an alternate means for the international community to invest in the creation of new SSA systems, including space based SSA facilities or further ground based infrastructure, in order to improve global SSA capabilities and facilitate information sharing.

By having a neutrally run international SSA network, the current political problems with facilitating SSA data sharing can be sidestepped. For such a network and organisation to be possible a number of issues need to be addressed. One such issue is funding. Such an organisation could be funded by space faring nations and entities wishing to invest in SSA information sharing, however it would need to work on remaining neutral. This type of organisation could also be commercially run, which would make it self funding, however this may affect the extent of information sharing. Another key issue is trust; space faring nations and entities may question whether they should invest or provide SSA data to an international organisation.

This paper aims at analysing a feasible method of internationally sharing SSA data and encouraging investments in SSA capabilities that are necessary in order to minimise the risk of orbital collisions by maximising SSA information available to space asset owner operators. The creation of a neutral organisation that operates an SSA network and catalogue could fulfil this necessity.