

29th IAA SYMPOSIUM ON SPACE POLICY, REGULATIONS AND ECONOMICS (E3)  
Game changers in the space economy (3)

Author: Mr. Christopher Lehnert  
German Aerospace Center (DLR), Germany

Ms. Evelina Karlsson  
Sweden

Dr. Christina Giannopapa  
European Space Agency (ESA), France

GLOBAL RISK & GLOBAL CHALLENGES – SPACE AS A GAME CHANGER FOR  
SOCIOECONOMIC SUSTAINABLE DEVELOPMENT

**Abstract**

The world at the beginning of the 21st century is characterised through an unprecedented high degree of globalisation and an increase in wealth around the world. (Gapminder, 2015) At the same time, the globalised world is also threatened by a series of interconnected and unique global challenges where Space can play a pivotal role in meeting the demands. Those challenges range from climate change, over mass unemployment, terrorism to migration. Given those challenges, the world increasingly lives with an awareness of insecurity, also because everything that supports humanities existence and growing wealth, at the same time, when absent, threatens it. The world around, has therefore turned into a world of risks in need for security. Meanwhile, space activities have started to respond to this changing world, not only by providing a deeper understanding of our universe, but by using space as an additional sphere and sector, through which humankind can increase and secure its wealth – it is thus game changing in the way we sustain humanities existence. This paper is meant to grasp this development, the general risks that humankind is facing and the specific responses space can deliver. An overview is given, first on the most crucial risks that humankind is facing and second on the way that space can be used to counter these risks. The first part of this overview is based on the examination of the most recent reports and overall strategies of key International Governmental Organisations, and Non-governmental organisation, that are involved in agenda-setting, policy formulation and implementation. The second part includes an overview on current projects of ESA and its partners, that play a role in responding to these risks. To better identify those efforts, a standard classification for risks responses is used that highlights four main components: Identification, Assessment, Management and Communication (Renn, 2005). The analyses reveals how space activities already today, play a pivotal role in all four responses to risk. It does this in two ways: Firstly very tangible through its space mission, but then secondly also in a more indirect way, as being a stabiliser for cooperation in the international governance arena, and an crucial economic stimulator. The overall results show that space is already taking a role in basically all aspects of responding to humanity's risks and in fact plays a game-changing role in modern societies, which has the potential to lead to unprecedented wealth.