CURRENT ACTIVITIES IN THE FIELD OF SSA: CONTRIBUTIONS BY THE MOD AUSTRIA TO THE ONGOING DISCUSSION

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Space is not a peaceful place. Supernovae, pulsars, quasars expel harmful radiation, the Sun emits x-rays and powerful coronal mass ejections and numerous asteroids and comets pass by Earth every year. Most of them pass in safe distance, some come close and others collide with Earth. While the majority of these interactions lead to the entire burn up of the meteor, thereby producing a mere shooting star or a spectacular fireball, there are also these rare events of an impact leaving a significant trace on the Earth's surface. Typical examples are the Barringer crater in Arizona, the Steinheimer Becker in Germany and the infamous Chixculub crater in Mexico, which has been associated with the extinction of the dinosaurs, 65 million years ago.

Acknowledging the non-negligible risk and the potential high impact, various entities and countries have initiated Space Situational Awareness (SSA) programmes. One of these entities is the European Space Agency (ESA). Given its European dimension it has a strong influence on the national activities in Austria. ESA has started its SSA programme in 2009 and splits it into three segments, which are: The Space Weather (SWE), the Near-Earth objects (NEO) and the Space surveillance and tracking (SST) segment.

Bearing in mind that all military actors depend on space assets (satellite communication, satellite navigation and Earth observation), aim to track aircraft and other flying objects in the atmosphere and that recent developments in the field of aerospace technologies have (a) extended the reach of manned and unmanned aircraft to higher altitudes and velocities and that (b) the use of space bases assets (communication, navigation, weather forecast, Earth Observation) has become part of our daily lives it is obvious that SSA and particularly the SST and the NEO segment are becoming elements of high concern for the military forces.

For the Austrian Ministry of Defense, the first step is to increase the awareness for the numerous threats from the space environment to our digital society and to perform a general risk management for SSA. In order to achieve this, a common understanding for the relevant safety and security issues related to SSA and particular to NEO are at the core. Based on this common understanding, interdepartmental cooperation and information exchange could be extended with partners into the international domain, such as by making use of CSDP (Common Security and Defence Policy). Out of the many potential fields of activities, one of particular interest and which is currently evaluated, would be an early warning services, derived from a threat analysis in conjunction with Space Weather and NEO.

This paper will present the current status of SSA within the Austrian Ministry of Defence and will outline potential avenues for a future engagement in this sector, which is by its very nature and element of national, regional and global concern, where all actors and stakeholders will have to work together to protect humanity from of the biggest risks that it is confronted with.