

Exploration of Near-Earth Asteroids (4)
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INTERNATIONAL COOPERATION IN PLANETARY DEFENSE: STAKES AND OPPORTUNITIES
IN SPACE SITUATIONAL AWARENESS, SPACE TRAFFIC MANAGEMENT AND INDUSTRIAL
POLICY**Abstract**

On the 25th of July 2019, the asteroid dubbed 2019 OK, measuring 57 to 130 meters wide, flew by the Earth after being spotted again just a few hours before its fly-by although it was formally identified by NASA. Its ambiguous orbital parameters made it harder to track down: small size, fast speed, and unusual orbit. This rare and unfortunate event shed light on the flaws of the current Near Earth Object (NEO) tracking architecture, putting the emphasis on the role of international coordination in the field. Leveraging the economic and strategic potential of asteroid tracking technologies appears to be a logical step towards improving global coordination for early warning. Indeed, the specificities of such systems bring new perspectives on growing areas of national political priorities around the world. Space and Surveillance Tracking (SST) capabilities have growing economic and strategic relevance for policy making.

A handful of New Space companies in established and emerging space nations, seek to harvest the economic benefits of mining asteroids for their unique physical properties. In the meantime, growing concerns over Space Security issues brought these capabilities under a new light and made them more attractive to a variety of stakeholders. New entrants in the space sector share therefore the same ambition: to stand out of the current industrial and political space landscape by focusing on increasing their bargaining power through technological specialization. While countries such as Luxembourg already became prominent actors in the field of space exploration, other countries aim at establishing themselves as key Space Situational Awareness (SSA) data providers such as Australia. The U.S. paved the way for the establishment of a national Space Traffic Management (STM) framework introducing a game-changing dynamic in the field of SST technologies. As this long process requires the strengthening and monitoring of a highly complex data production chain that eventually would enable and support well-informed decision making, the deployment of such challenging framework calls for greater international cooperation and grassroots innovation in industry. And in the pursuit of the economic rentablization of such extremely expensive systems, synergies can be implemented to address global issues such as NEO tracking while enhancing industrial competitiveness in this sector and promoting space diplomacy.

The paper seeks to present avenues of opportunity for Planetary Defense by taking a closer look at the economic and strategic nexus linking and interweaving these issues to SSA, STM, and industrial policies.