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TOWARD AN INTERNATIONAL ORGANIZATION TO HANDLE A SUSTAINABLE SPACE TRAFFIC MANAGEMENT.

Abstract

Since two decades, the UN-COPUOS and IADC have set the current standards for Space Traffic Management, the registration rules, the debris mitigation recommendations. Recent initiatives have been launched to tackle this issue (CONFERS, UN Sustainability in Space Index ...) Many states are bound by the existing international treaties and some of them have even adopted and implemented national laws and regulations.

Space usual business is now getting accelerated: private massive constellations, in-orbit tugging (change of orbit of a registered object), in-orbit servicing (change in life of a registered object), in-orbit manufacturing and assembly (several parts from different countries into a single spacecraft), space resources exploitation (orbits, planets, asteroids) and space situational awareness move to private companies are raising issues that need quick and pragmatic answers. Sustainable Space Traffic Management is becoming a humankind concern.

As mentioned in the IAA Space Traffic Management study, one can make a parallel with existing worldwide organization such as International Telecommunication Union, International Maritime Organization and International Civil Aviation Organization. At least studying those bodies give a nice starting point for a pragmatic definition of a Space Organization.

First part of this paper will recall the existing context, constraints and processes, and conclude on a quick presentation of the existing organizations that could be used as models.

Second part will detail what could be the scope of such a Space International Organization (from the simplest to the more complex): • Registration and access to space permit delivery (UN registry) • Maintenance of the technical rules (IADC heritage) • Traffic awareness and control, which imposes a common situational awareness, above the national policies • Penalties, coercive measures if needed, with ad'hoc means • Space Access taxes collection • Debris mitigation projects initiation (financed by space access taxes)

The third part will deal with legal aspects of such an international organization and the impact on international treaties, national laws and associated interfaces. Idea would be to set-up an international organization matching with and relying on the existing national legal framework and bodies (ICAO an ITU-inspired most likely).

Finally, the paper will conclude with a tentative planning to reach such a status.