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The space economy: what are the socio-economic impacts? (3)

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CAN GNSS SIGNALS QUALIFY TO BECOME A WORLD PUBLIC GOOD?

Abstract

Continuous availability of GNSS signals, essentially delivered for free to almost the entire world population, together with the phenomenal amount of associated apps that have diffused into the economics, trade, knowledge, culture and recreation fabrics have brought GNSS to the stage of a trivial resource. Indeed, the installed base of GNSS devices in 2013 was about 2.2 billion, relying primarily on GPS and GLONASS signals, projected to be 6 billion in 2020 with four global constellations and two regional systems bearing full operational capability at this date. Does such a spread of usage underlying the pervasiveness and dynamism of GNSS based applications qualify the primary resource of GNSS signals to become a World Public Good (WPG)? The paper will first review how and why banal use of GNSS has spread so fast, describing briefly the main sectors of the market, basically shared between Location Based Services (LBS) and road transportation, and massively dominated by smartphones and car devices. It will then analyze if the characteristics of a WPG defined as “a resource, good or service benefitting to everyone, the exploitation or the preservation of which can justify a collective international action” are applicable to GNSS signals. On the one hand, looking at the GNSS primary resource, no particular international action is taken today and will likely continue that way until 2020 where only three countries and the EU will produce free GNSS signals destined to a global coverage, each of them ensuring full control of its own resource. The dual-use of the national constellations, managed by their respective ministry of defence, does not favour a collective international action. Yet, an approach to a common governance would definitely make sense. But on the other hand, the preservation of this resource benefits today of two ongoing international collective actions, namely via: - The World Radiocommunication Conference held under the purview of ITU, a specialized UN Agency, assigning, preserving and protecting the signal frequencies of an increasing scarce resource, and; - The International Committee on GNSS (ICG), a platform created in the wake of UNISPACE III, where GNSS providers are building the required consensus to ensure compatibility among the different constellations and their interoperability. This platform is also used for exchanging views on signal availability, integrity, and interference issues, crucial for the resources quality. An analysis of the signals characteristics and their uses will indicate if the question is indeed worth asking.