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## Innovative concept for very high throughput satellite systems

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Conventional Satcom systems have proved over the years to be a very effective means of addressing very high quality broadcast services over a large coverage area. However, today's paradigm in media and content distribution is shifting from the classical broadcast to the video streaming, video on demand and data service applications. In this new context, the classical advantage of satellite large coverage area is challenged by the requirement of a very high throughput satellite systems to address the needs of each individual user. Moreover, the Satcom market is evolving with massive growth in bandwidth usage per consumer (fixed & mobile) and thus huge market potential is identified for high throughput satellite (HTS) systems. Focusing on GEO system, increased capacity is achieved with larger user Ka-band spectrum usage (up to 2.9 GHz) and aggressive frequency reuse in the coverage (massive multi-spot and frequency reuse) resulting in very large aggregated bandwidth with feeder link becoming the bottleneck. The new concept proposes to overcome this issue thanks to an innovative space segment architecture.

## Biography

Xavier Geneste work for aerospace industry since 1989 as an electronics engineer. He has been working on spacecrafts for the three majors in France, AEROSPATIALE (then Alcatel Space and now Thalesaleniaspace), ASTRIUM (now Airbus Defense and Space), CNES (Centre National des Etudes Spatiales) on a wide range of activities from project initiation to launches. Now at ESA since 2009 as a senior spacecraft engineer, he is dealing with new technologies developments for the telecommunication platforms (ARTES program).

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