ESPI CONFERENCE 2020

SPACE IN THE FUTURE OF CONNECTIVITY
PERSPECTIVES AND CHALLENGES FOR SATCOMS OPERATORS

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Space based connectivity is needed and at risks : geopolitical fragmentation

- **Space based connectivity is very much needed. The on-going space revolution takes stock of that attractive disruption:**
  - with R&D and investments : LEO constellations; VHTS; re-usable launchers
  - with new business models : more many players (Chinese start up ecosystem), platforms enter the space domain; consolidations will take place
  - with a proliferation of new applications and services

- **Digital technologies are the most sensitive part of the new Cold War between the US and China:**
  - because of their mere nature of « general purpose technologies (GPT) », they will shape the technological competition between both powers, in all its dimensions (business and military)
  - they are already subject to extraterritorial policies, with sanctions, pressures and politically driven business moves (Tik Tok, WeChat, chipsets industry…)
  - coming regulations and standards (IoT, IA, data clouds) will have to be decided which may increase the political fragmentation already identified

- **The geopolitical competition will transfer to the space domain**
  - because of the critical nature of the services provided by the space infrastructure wrt security, strategic interests and sovereignty, where digital services will be of increasing importance (IA, cloud, IoT)
  - because of the very close dependance of the space based digital services wrt the overall space competition (cyber security)
  - because of the still weak governance of the space domain in terms of safety and sustainability, despite recent attempts to change that situation (Long term sustainability measures)

Space based connectivity is needed and at risks : social responsibility is at stake

- **5G is subject to a new social resistance which could delay its developments:**
  - safety is challenged : all WHO studies claim that the 5G is not a threat to the health, which feeds skepticism not to say resistance: as a consequence fake news will proliferate
  - "radiofrequency radiations" look like nuclear radiations fears of the 70/80's and after: as a result, most of the civilian nuclear industry collapsed

- **Space actors are not yet ready to show evidence of the studies they have conveyed to ensure that space-based solutions are safe, secure and sustainable: social reponsibility will urgently need such results**
  - carbon print of the launchers will soon come as an issue in the public discussion (in connection with the already public discussion of the flights carbon print)
  - terrestrial infrastructure of the space based solutions are increasingly important: through such equipments, space comes close to the public which will raise questions (health, cyberattacks resilience, continuity of service)

- **The private Space ecosystem is still too isolated and poorly organized when it comes to political and social challenges:**
  - Space family feels that the dream of the space ambition (Mars; scientific projects; human space flights) is still enough to ensure public trust and support
  - it looks more easily inwards than outwards, when it is a very small business domain (when compared to the terrestrial telecommunications eg)
  - it is facing huge regulatory challenges the management of which will need forward looking, interaction with other key players (science community eg), and ability to structure common views and social/responsible commitments

- **A new kind of governance of the space domain should be considered by the private space actors:**
  - to align its regulations wrt comparable domains, despite the fact that space players tend to believe that they are unique
  - to prepare for enduring discussions and negotiations with governments (including space agencies) and international organizations