European Satellite Operators Association

Why are Satellites Important?

Satellites are a critical infrastructure, providing a backbone for many of today's communication services. Besides being famous for delivering TV broadcast services to the citizens of the world, satellites are often the best-placed technology to deliver on key policy objectives from digital divide and digital switchover to emergency communications, communications for security and peacekeeping purposes as well as monitoring climate change and enabling 'clean', remote management of renewable energy plants. Policy-makers must be aware of the strengths of this unique technology and protect them to maximize the benefits they can bring to society.

***Satellites provide essential services to citizens*:**

- Satellite broadcasting, both radio and television, including high-definition TV
- Internet access all over the world, whether on mountains, islands or in villages
- Broadband connectivity to enable access to public services such as e-Health, e-Education and e-Government, both in the developed and developing world
- Mobile connectivity for ships at sea and planes in flight where other wireless services cannot reach
- Weather forecasting
- Global positioning and navigation systems for land, sea and air transportation
- Earth monitoring including early warning for natural hazards and environmental threats
- Emergency communications and disaster preparedness

***Satellites are crucial to achieve the goals set in many EU policies*:**

- They can truly foster the development of an information and knowledge-based society as planned in the Lisbon Strategy
- Satellite broadband connectivity can quickly help to eradicate the geographical digital divide in Europe to accomplish the objectives set in the Riga Declaration
- They are part of the common Space Policy, key to the French presidency's specific initiatives to become a global leader in space
- Earth observation is being used to monitor climate change and mitigate its effects
- They can help to reduce carbon emissions through traffic management and by enabling remote connectivity for tele-working as well as allowing for the "clean" remote management of renewable energy plants
- Regarding digital switchover, satellite broadcasting offers a more efficient and less [electric] energy intensive alternative to terrestrial technology as well as a far quicker solution that does not involved defacing the landscape with poles and cables
- Satellite communications enables troops and units abroad to communicate (internet & phone) as if they are at home, even using their own gsm's if desired by connecting a receiver to a satellite antenna. Even commercial satellite communications can be secured to a military grade.
- Developing countries can also benefit from the multiple communications services provided thanks to the global reach of satellites

Satellites signals are also different to signals of other wide area terrestrial wireless networks:

- Their signals are global by nature, crossing borders blind to national boundaries
- Satellites have access to a limited amount of frequency bands as they need bands that are harmonised the world over and not just in specific regions

- Accordingly satellite already shares bands with other technologies
- Satellite signals travel the distance from outer space to earth, resulting in a considerably weakened signal arriving on earth, which is more susceptible to interference than comparatively stronger terrestrial wireless signals
- After the launch, it is not possible to change the frequency in which a satellite transmits
- Satellites consume solar energy during their lifetime of up to 15 years and their signals, weakened in transmit from space to earth, provide minimum risk to the health of citizens when received on earth
- They are not affected by natural or human-made disasters and are easily and quickly deployable

ESOA Position on the Telecoms Package

The European Regulatory Framework accords no recognition of the specific technological attributes and unique advantages of satellites described above. Thus it offers no comfort that their technological and regulatory requirements will be met. Satellites are treated just as any other communications technology, including those that operate solely in a Member State or even those that only deliver services in urban areas.

Concerning International Regulation:

- Satellites cover very large areas of the planet serving multiple countries simultaneously: their business plans area based on this unique ability. Frequency coordination for satellites must therefore be on a global basis.
- The original EC proposal did not recognise the International Telecommunications Union (ITU) regulation, the UN agency responsible for allocation and coordination of different frequency bands
- The European Parliament has moved to remedy this situation with the vote in its "Industry" committee. Only a clear recognition of the ITU process will ensure the avoidance of confrontation, harmful interference and service fragmentation within the EU27
- A clear example of the need for international coordination is the use of C-band, which the UN Working Group on Emergency Telecommunications has declared as the standard for all emergency communications. Still, the EC wants to open it up in Europe to services such as WiMax which would interfere with satellite signals

Concerning Access to Spectrum:

- Given not only the global reach of satellites but also the importance of the services they provide, assured access to spectrum and protection become obviously vital concerns
- Satellites rely on the certainty to access internationally harmonized spectrum because the frequency they use cannot be modified after launch and because their far-reaching signals are sensitive to interference that could put service provision at risk
- Access to certain parts of the spectrum must be guaranteed for satellite for technical reasons such as the use of C-band, a frequency strong enough to sustain communications in areas with heavy rainfall such as Africa, Asia, and Latin America. Rain fades the already weakened signals when they reach the earth after travelling 36,000km from their positions in space

Concerning Technology Neutrality:

- This principle aims to maintain a competitive and level playing level field by not favouring or discriminating against specific technologies. Evidence shows that not all technologies are equally able to deliver the same services with the same quality. Further applying the same rules to different technologies does not have the same effect on each one. Application of this principle should be revised or qualified to ensure proper consideration of the specifics of certain technologies or maintain an appropriate technical quality of service.
- Satellites already share bands with other technologies and their signals are weaker when arriving on earth than comparable terrestrial technologies. If legislators do not protect access to some frequencies beforehand, the future provision of key services may be put at risk.

Concerning Digital Switchover and Broadband Connectivity:

- With the switchover from analog to digital transmission, radio frequencies will be freed up. This digital dividend should be optimally used: note that all the frequencies freed up

in the UK after switchover would accommodate around 14 high-definition TV channels. One satellite alone can carry 150 HDTV channels and transmit them emitting zero CO2 on earth (http://case4space.com) While bringing TV to citizens, satellite could, at the same time, bring broadband connectivity as well

- ESOA welcomes any attempt to achieve a more efficient management of radio spectrum that may boost innovation and competitiveness as a way to bring broadband connectivity to all EU citizens
- EU governments should embrace investment in the roll-out of 'alternative' technologies such as satellite, in their plans to progress from analog transmission.
- Satellite broadcasting offers a more spectrum efficient and less energy intensive option than terrestrial technology for both digital switchover and broadband connectivity:
    - The 50 most powerful UHF transmitters in the UK require 54 megawatt that generate 250,000 tons of $C0_2$ a year. Satellites use solar energy generating zero emissions (http://case4space.com/)
    - Providing the same high quality broadband service reaching out to rural citizens by terrestrial means requires the installation of enormous lengths of cable, which is not economically attractive for the operators and also risks damaging Europe's fragile landscape.

Concerning Licensing and Rights of Use of Spectrum:

- The Commission's original proposal included a review of existing spectrum rights every five years. That has been changed with the Parliament proposing to delete any revolving reassessment but keeping a mandatory review by the end of 2010.
- The viability of a satellite operator's business plan depends on a 15 to 20 year business cycle. It therefore relies on certainty over this time and any uncertainty with respect to rights of use of spectrum or access to specific bands could be a deterrent to investment in research and development of new services and applications in this strategic sector