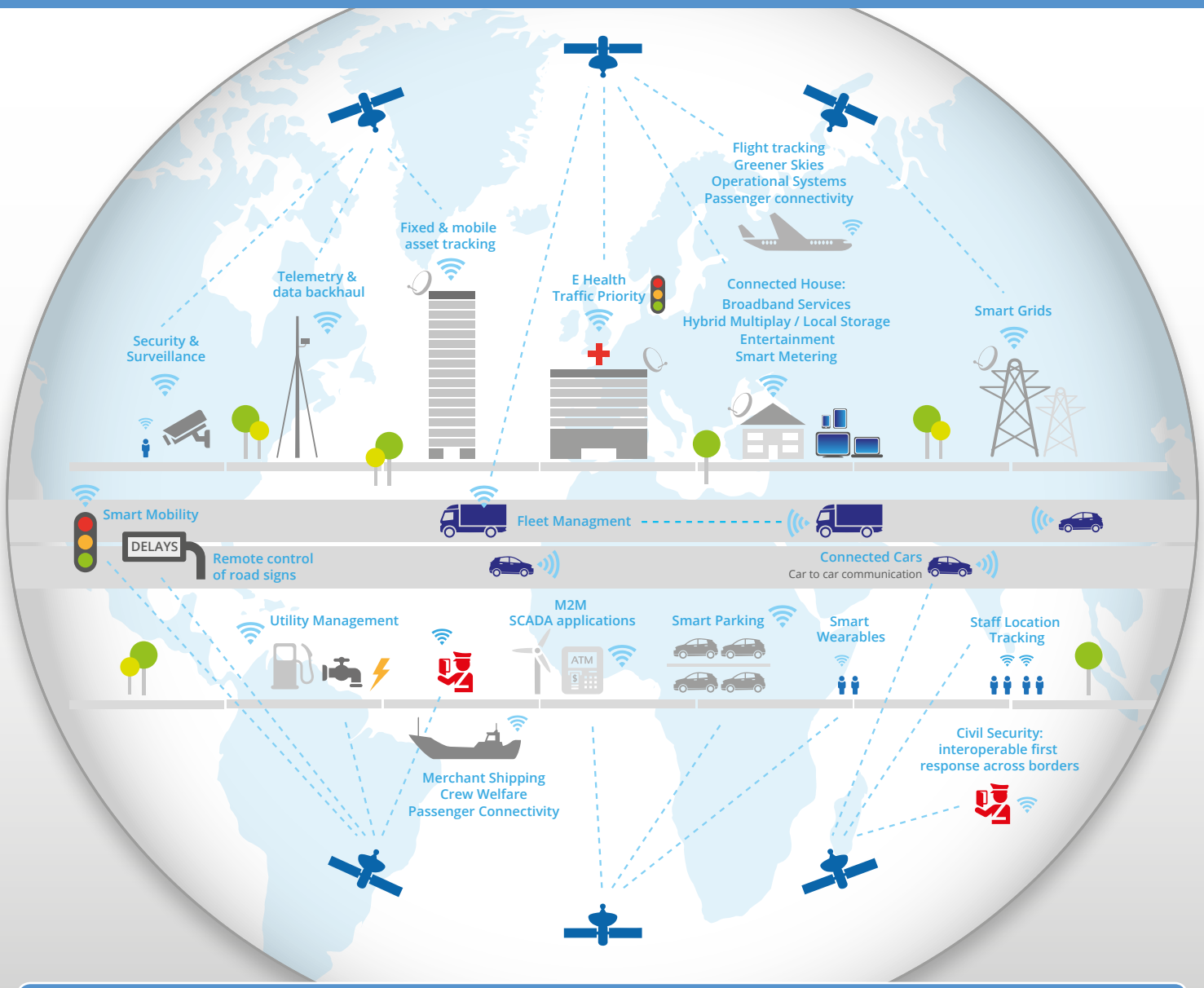
Satellite: An Integral Part Of The 5G Ecosystem



- 5G is more than just cellular, it is wireless - a combination of new technology working hand-in-hand with existing technology
- Satellite already delivers mobile backhaul, push data services, linear and non-linear TV, converged media, broadband services and many M2M services that will be part of the 5G ecosystem
- By 2020-2025 there will be over 100 High Throughput Satellite (HTS) systems in orbit delivering Terabits of connectivity across the world using Ku and Ka bands
- Satellites provide cyber-resilience and data connectivity backup, especially for M2M networks
- Viable and sustainable spectrum access for HTS satellite systems must be promoted to deliver current and planned services
- Interworking of HTS systems and terrestrial technologies is envisaged to ensure a high-speed, robust, inclusive 5G ecosystem

ESOA
EMEA SATELLITE OPERATORS ASSOCIATION

www.esoa.net

The Satellite Industry is a growing industry

2015

Over 60 GEO and non GEO civil Ka band systems are in operation today, including HTS systems integrating Ku and Ka bands

2015 - 2020

The next 5 years will see a further 25 GEO and more non GEO systems being launched

2020

There will be over 100 GEO HTS systems as well as several non GEO HTS systems using Ku and Ka bands worldwide

Sustainable & Viable Spectrum Access for all components of the 5G ecosystem

5G will require large blocks of contiguous spectrum, not available in frequencies below 31GHz

Billions of dollars have been invested in satellite systems operating below 31GHz

Satellite spectrum is essential to allow the development of innovative satellite broadband and media services

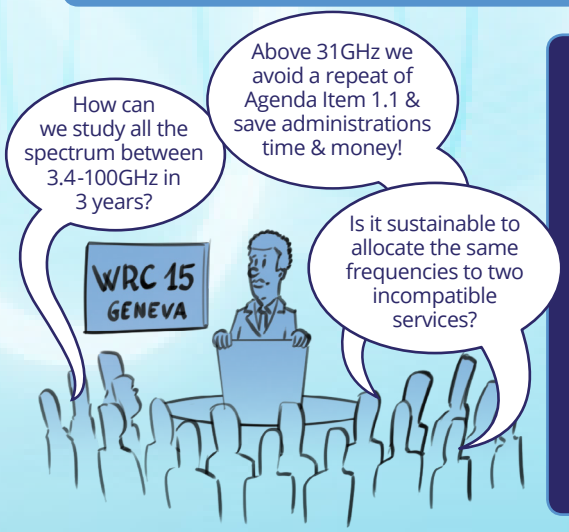
5G will require > 1GHz per carrier on a globally harmonised basis

Above 31GHz significant bandwidth already allocated to mobile could accommodate 5G

Multiple existing users would be affected between 3.4GHz and 31GHz

Multiple GHz of contiguous spectrum are available **above 31GHz** for potential global harmonization in line with on going 5G feasibility studies

Incumbent users are fixed services/ satellite FSS, BSS, MSS/ space research/ radar/ defence



Result

The best opportunity for 5G lies in bands **above 31GHz**, subject to sharing studies with other services

The 5G ecosystem cannot be accommodated in new bands identified for IMT below 31GHz

A win-win solution ***can*** be found that allows terrestrial and satellite 5G services to co-operate & deliver the 5G ecosystem together

ESOA
EMEA SATELLITE OPERATORS ASSOCIATION

www.esoa.net