

# ESOA position on Digital Single Market initiatives

## Executive Summary

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ESOA supports and is committed to completing the Single Market for digital services and fully recognizes how digital economy transformed the current economic landscape in the EU Member States. We want to encourage the decision makers that the focus should be on making sure different technologies are played to their strengths to deliver innovative new solutions. Satellite is an important part of the technology mix that enables an inclusive, affordable, high-quality user experience.

The critical challenge of the Digital Single Market is to guarantee ubiquitous connectivity ‘anywhere, anytime and on any device’ across borders. The digital highway should be viewed as unrestricted, unconstrained and unlimited exchange of information, in the form of data and video. It is this exchange that enables the full connectivity and digitization of the information and allows to transport it seamlessly.

## About ESOA

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**ESOA, the EMEA Satellite Operators’ Association is the world's only CEO-driven satellite Association established with the objective of serving and promoting the common interests of satellite operators who provide information communication services across the globe. ESOA works to lead a coordinated and impactful response to the global challenges and opportunities the commercial satellite communications sector faces. Today the association represents all satellite operators from the EMEA region. Thus it offers a unified voice for the world's largest operators and important regional operators towards all international, regional and national organisations and regulators.**

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## Why satellites matter to Europe

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Overall, satellite operators and consumer services represent two thirds of the entire space economy that is valued at 250 billion dollars in revenues. Satellite sector creates more than 900 000 jobs worldwide, enables independent launch and defence capabilities and puts all regions of the world at the innovative technology edge. Satellites are vital in cost-effectively bridging the digital divide for the ultimate benefit of people everywhere.

## Spectrum policy and 5G

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ESOA firmly believes that ensuring sustainable spectrum primarily allocated to satellite communications services (BSS, FSS and MSS) should be protected in consideration of the requests of terrestrial operators for new frequency allocations. The current focus on mobile broadband and finding more spectrum is a short-sighted approach. Mobile broadband and fibre networks combined are not able to reach more than 80-90% of the EU population (and only at very high costs). Therefore, in the context of 5G the EU should support the European CEPT position on spectrum for 5G, which is largely above 31GHz. This approach presents a reasonable balance for providing equitable spectrum for all services needed for 5G architecture.

In 2008 the European Commission decided to open up satellite spectrum in C-Band (3400-4200 MHz) to share with mobile terrestrial services. It was intended to be on a “co-primary” basis, even though satellite signals that need to travel 36 000 km from space to earth are easily interfered by terrestrial signals – making sharing not technically possible. Knowing this, EU national regulators stopped giving licenses to satellite operators - the opposite of what the European Commission has intended. Since the European Commission decision there has been no roll-out of terrestrial mobile services in this band & mobile operators have been even asked to return their unused licenses to regulators in multiple Member States. The decision has impacted satellite operators who have since made investment decisions for future systems without this vital band & have procured satellites for these purposes.

C-band spectrum is widely used by satellite systems today for numerous important applications, such as banking, mobile backhaul, oil and gas exploration, maritime services, broadcasting distribution to terrestrial networks and millions of end users, distribution of meteorological data, tele-medicine, humanitarian agencies, disaster management, and government services. In many regions, C-band satellite systems provide the only reliable communication infrastructure, such as in countries with vast rugged terrain and in many rural and remote areas. C-band satellite services are also first on call when disasters strike and

terrestrial infrastructure is destroyed. ESOA members frequently support the EU efforts and wider humanitarian community in restoring and enabling communications in the aftermath of a disaster. In 2015 alone multiple disasters including floods in Myanmar, the tropical cyclone in Vanuatu and the earthquake in Nepal were supported by C-band satellite services. Furthermore more than 180 geostationary satellites operate in C-band today.

Furthermore mobile operators do not use their current spectrum allocation, both in Europe and also on a global basis. Around the world less than 50% of available mobile spectrum is licensed for mobile use & even less of it is actually used. Therefore, the answer is not more spectrum, but rather the focus should be on making sure different technologies are played to their strengths to deliver innovative new solutions. Satellite is part of the solution and therefore we urge that satellite spectrum must be preserved. Already Ka-band (27.5-29.5 GHz), one of the biggest growth bands for satellite (it is estimated that by 2020 there will be over 100 GEO and N GEO Ka-band payload satellites), is currently being considered for IMT<sup>1</sup> sharing studies due to proposals to identify these bands for terrestrial IMT.

The European Commission C-band decision already put a hole in the footprint of global satellite systems. In this context, ESOA would like to urge the European Commission that upcoming 5G networks architecture should include multiple layers, diversified and integrated technologies and these need to be taken into account when allocating spectrum. 5G priority must not be allowed to become a new policy stance that simply shifts policy from creating a favourable environment to roll-out fixed infrastructure to creating a favourable environment to roll-out mobile infrastructure. More than one technology is required to enable an inclusive, affordable, high-quality user experience.

## Broadband connectivity

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Satellites ensure total inclusion, with broadband Internet connectivity at prices completely comparable to terrestrial offers & often with a far better experience in terms of contracted speeds actually being delivered. However, 9 million households in Europe still remain unconnected and even though the target of 100% coverage has been achieved, we still need to work towards a new objective of 100% connectivity.

Leaving some users out of the digital era is simply not an option. ESOA promotes a 'voucher scheme' (joint project with the European Commission), successfully implemented already in some EU Member States. It connects remote communities using satellite broadband. Under such a scheme a public authority provides a voucher (financial aid) to eligible end users with which they can pay a registered service provider of their choice for the purchase, installation

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<sup>1</sup> International Mobile Telecommunications

and activation of the satellite kit. The service provider then gets reimbursement of his costs from the relevant public authority implementing the scheme.

ESOA invites the European Commission to widely promote this system of voucher schemes that will enable 100% connectivity throughout the EU. The 2013 Digital Agenda target of 100% broadband coverage was already achieved but the reality is very different. ESOA remains committed to enabling broadband connectivity for all citizens regardless of their location. Only satellite communications can provide ubiquitous coverage over extremely large and often remote areas – several continents are within one satellite footprint.

## AVMS Directive

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Satellite operators rely in their business model on the "country of origin" principle, introduced by 'TV without Frontiers' Directive. The fundamental "country of origin" principle whereby broadcasters & audiovisual service providers can provide their services across borders from one single country is a core of activity for satellites providing broadcasting services. Simplification of licensing requirements, like including removing of the requirement for a local presence within each country where a satellite operator provides service, is of major importance to reduce barriers to entry and developing a fair and competitive market for satellite services across Europe. Once a satellite operator is incorporated and paying taxes in a Member State, it is able to offer services throughout Europe, relying on the Country of Origin principle.

ESOA would like to request that no major changes to that principle are introduced during the ongoing review; is being seriously challenged and will potentially be subject to changes or derogations.

## High demand on the video content – hybrid approach needed

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Video content is set to dominate Internet traffic in years to come according to most studies, but it is extremely bandwidth-hungry and will result in networks becoming increasingly congested, directly impacting the user experience as he suffers from even more delays than today.

Satellites are unrivalled as the most cost and spectrum efficient means of distributing video content, evidenced by the success of satellite TV. This strength means that satellite should be seen as an enabler of video content in what will inevitably be a 'converged service scenario'. It can deliver the latest TV formats to users (HD and Ultra HD) directly for viewing at home on multiple devices (using WIFI). It can work in 'hybrid' mode, pushing content to network edges

in order to allow terrestrial networks to continue to have enough bandwidth to deliver the standard Internet applications users expect.

Satellites first transmitted in Ultra HD (4K) during the FIFA world cup in 2014. Companies like Netflix, Google, Amazon have all started filming in 4K (e.g. Netflix filmed all second season House of Cards series in 4K), and 4K TV sets are also already available. The only issue not being addressed at policy level is what lays in between – namely the transmission and capacity issues.

ESOA would like to see policy incentives for terrestrial operators to be encouraged to cooperate with satellite operators under EU funding programmes to identify innovative ways of delivering content. At the moment terrestrial operators strongly resist to consider hybrid solutions. European Commission could also promote the hybrid approach by inserting appropriate references to hybrid satellite-broadcast broadband networks in all relevant legislative and non-legislative initiatives going forward, including but not limited to those related to the Digital Single Market, as an alternative to deliver Fast Internet Access (30 Mbps) when combining and integrating satellite broadcast with sub-30Mbps broadband access.

ESOA would like to request that the European Commission confirms the eligibility of hybrid broadcast broadband networks to EU public funds (e.g. EFSI, ESIF), favouring access to them and advocating the deployment of hybrid satellite-broadcast broadband networks in contexts where they are clearly more effective and cost-efficient than other solutions. And lastly, the European Commission should ensure continued and unfettered access to satellite radio frequencies that are essential to satellite broadcasting and broadband (here especially Ku and Ka band spectrum).

## Conclusions

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ESOA strongly supports incentives that aim to complete the Digital Single Market, recognizing the transformative power of digital technologies. For Europe to fully benefit from this transformation, technology mix that includes also satellites will enable a truly an inclusive, affordable, high-quality user experience. ESOA and its members look forward to working with all stakeholders in making this a reality.

With revolutionary 5G architecture still under development, a win-win solution to accommodate 5G requirements is possible with minimum or no impact on incumbent users and with the potential for global harmonisation of spectrum for 5G: that solution is in bands above 31 GHz. We also observe continuous rise of video content flowing through the Internet, with the risk of streaming interruptions, inadequate picture quality and other poor experience issues will increase. Again, these challenges can be resolved by revisiting the

assumption that only one network and only one delivery technology is the way to deliver highest standard consumer experience.