BEREC
Body of European Regulators for Electronic Communications

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BEREC's position on the Satellite Spectrum issues of the DNA

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Key messages

- **Clarify scope and avoid excessive centralisation of satellite spectrum authorisation:** BEREC considers the Commission's proposal overly broad and excessively centralising, as replacing national satellite spectrum authorisation with an EU-level regime risks undermining subsidiarity, national sovereignty, and Member States' ability to manage security, defence, and spectrum-related priorities. It is unclear whether the proposed framework would extend beyond large-scale satellite communications services providing end-user connectivity within harmonised frequency bands, as the relevant definitions and provisions, including Article 37, lack sufficient precision.

- **Maintain national competence in satellite spectrum framework:** Licensing related to the frequency use of national satellite networks and ground station operations should remain at the national level to ensure a flexible, rapid, innovation-friendly, and growth-supporting environment, while allowing consideration of local specificities. Satellite ground stations require both national and international coordination, which prevents a fully centralised EU-level licensing procedure. Clarifying the scope of definitions and licensing provisions related to satellites is essential in the further processing of the proposal. Existing coordination mechanisms through CEPT and ITU should continue to be relied upon where appropriate.

- **Harmonisation may be beneficial provided that it is targeted and proportionate:** BEREC acknowledges that further harmonisation may nevertheless be beneficial, provided that it follows a targeted and proportionate "softer harmonisation" approach rather than full centralisation. Such an approach could focus on EU-level minimum conditions and enforcement mechanisms, especially in bands where the spectrum is particularly scarce, while preserving national licensing authority and making use of existing frameworks and tools where appropriate.

Commission proposal:

Under Title II: "*Use of Radio Spectrum by Satellite"* (**Articles 36-45**), the Commission proposed a new centralised framework for managing satellite communications services and radio spectrum use in the EU, aiming to harmonise policies and ensure coordinated, effective use across Member States. National authorisations for use of spectrum and provision of satellite networks may be replaced with EU-level general authorisations granted by the Commission, though nearly all satellite network authorisations require coordination at both the national and international levels.

BEREC's assessment:

The harmonisation of spectrum management mechanisms for satellite services is a critical aspect of fostering a unified and efficient satellite communications market across the EU. Articles 36 to 45 of the proposed regulation provide a framework aimed at streamlining satellite spectrum harmonisation, which is intended to support the effective use of radio spectrum and potentially promote the growth of the satellite sector in the EU.

While the proposal sets out the general framework for satellite activities and licensing, there are some aspects of the proposal that remain ambiguous. In particular, the definitions related to satellite operations are not fully clarified, and the scope of the licensing requirements is left open to interpretations. This lack of precision may create uncertainty for stakeholders regarding compliance obligations and the overall implementation of the proposal.

Unlike the terrestrial telecommunications market, where services are generally confined within national borders and subject to local regulations, the satellite telecommunications market is inherently pan-European. The deployment cost for a satellite service is largely independent of the number of Member States it serves. In some cases, the marginal cost of expanding coverage across additional Member States may be relatively low, which could make cross-border services economically attractive for operators. However, the commercial feasibility can vary depending on the region and the specific satellite architecture. Notably, achieving broader coverage, particularly with additional Low Earth Orbit (LEO) satellites, could require significant investment. Thus, while the DNA proposal aims to simplify and lower regulatory barriers, operators must still weigh investment requirements against the economic benefit of wider service coverage.

Greater harmonisation of satellite spectrum frameworks could support EU-wide satellite services across the EU while maintaining national licensing, reduce inefficiencies and coordination challenges between Member States. A harmonised process may allow operators to provide services more seamlessly across borders and improve overall connectivity. At the same time, the scope of the DNA proposal may be broader than necessary, covering satellite provisions beyond large-scale operations aimed at end-user connectivity.

For satellite operators, harmonisation of the satellite spectrum framework that does not reduce administrative burden, make licensing conditions more predictable, and streamline processes for spectrum coordination is problematic. A consistent regulatory environment may encourage investment in satellite technology and infrastructure, driving innovation and expanding the scope of satellite services. It is also important that the regulatory framework provides opportunities and incentives for European operators, supporting the EU's sovereignty.

Ultimately, a more integrated and harmonised satellite spectrum framework could enable satellite services to play a stronger role in the EU's digital economy, supporting connectivity in remote areas, improving the resilience of communications networks, and contributing to the EU's overarching goals of sustainable growth and technological leadership, but it must not be any more complex or burdensome than the existing well-functioning, well understood framework.

In relation to the EU's satellite programmes:

- The IRIS² programme, based on Regulation (EU) 2023/588 ("the IRIS² regulation") and proposed budget of €10.6bn for the 2024-2036 period, foresees a multi-orbital system with worldwide coverage, serving all 27 EU Member States military and civilian institutional needs. Besides the use of military frequency bands, the system plans also foresee the use of commercial Ku-band, Ka-band and Q/V-band (MEO and high LEO) as well as integrating a part of the 2 GHz MSS band at low LEO orbits[1]. Related processes to secure spectrum, as well as harmonising authorisations, are already

[1] Commission proposes new authorisation for mobile satellite services

established, such as IRIS² administrative and license agreements, and the 2 GHz EU legislative process (following the publication of the Commission proposals to extend the existing framework beyond 2027).
- The Copernicus, the EU's space programme component for Earth observation and in-situ non-space data, is well established and served by a set of dedicated satellites (the Sentinel family), with a first satellite launched in 2014 and almost 20 satellites in orbit by 2023.

The frequency regulatory processes for above are well established and within the ITU framework for coordination and protection of EESS-related spectrum. Hence, there are no satellite spectrum issues which would need a further common European effort, further than what is already established.

While the Commission's proposal to harmonise the satellite spectrum management framework may bring efficiencies, it risks going too far in limiting Member States authority, especially in critical areas where national interests and policies intersect with the use of radio spectrum. While it might seem that satellite is synonymous with broad geographical coverage, some issues like the complementarity with terrestrial technologies on certain bands require more fine tuning at local level. For instance, good population coverage in Europe does not always equate to good coverage in specific regions, which may be specifically interested in satellite coverage say in northern regions. Conversely, in some areas with dense infrastructure and less likely use of satellite communication, there may be a high demand for spectrum to be used for purposes other than satellite communication. This issue, which is foreseeable for the use of D2D-IMT in a near future, might call for a more local governance of the topic. The common rules of an EU-wide authorisation must serve the interests of the Union as a whole, and it is of utmost importance to ensure that such services are made available throughout the entire EU.

Even though a more harmonised satellite spectrum framework could be justified for commercial use of spectrum in space in some cases, spectrum is far more than just a commercial commodity. Spectrum allocations affect sensitive areas such as defence, scientific research, business confidentiality, and have broader geopolitical implications. The Commission's centralisation proposal could undermine Member States' ability to retain control over these areas of national importance.

Article 36 of the Commission's proposal suggests that the Commission would have the sole responsibility for managing spectrum use for satellite services. This would transfer an exclusive competence to the Commission over satellite spectrum management, which raises subsidiarity concerns. Such a centralisation would have serious consequences not just for commercial satellite communications but for non-commercial services in critical sectors, including defence and national security. National authorities must retain their capacity to make independent decisions on issues of national security, where certain frequency bands or satellite services may be reserved for military or governmental use. For instance, some spectrum allocations are designated as military-only or shared civil/military use in National Frequency Allocation Tables (NFATs), and Member States may maintain additional allocations to support governmental or innovative applications. Centralising control at the EU level may risk creating conflicts between national well justified needs.

Furthermore, spectrum management relies heavily on a collaborative process between National Regulatory Authorities (NRAs) and stakeholders to identify solutions for spectrum sharing and coexistence. This process has been in place for decades and is well established,

ensuring the efficient use of the spectrum. If these processes were removed from national oversight, the risk of overlooking practical implementation challenges would increase, and the intricate coordination required for both commercial and non-commercial purposes could be disrupted.

Article 37 requires Member States to inform the Commission about all coordination requests with the International Telecommunication Union (ITU) and follow a Union-coordinated position when requests involve the same frequency band or orbital position. This intervention in Member States' relations with the ITU is both unnecessary and undesirable. Currently, Member States manage ITU filings successfully without the need for centralised oversight. Member States are already adept at managing their filings in compliance with ITU regulations, with the ITU process being highly procedural, automated, and largely transparent. For instance, in countries like Germany, with approximately 2,500 outgoing requests per annum, the process is mostly automatic, focusing on filings, modifications, extensions, and notifications under ITU rules. Centralising this process in the Commission would introduce unnecessary complexity and delays, hindering the efficiency of the ITU coordination process, which is already well-established.

Articles 38 to 44 propose to centralise authorisation of provision of satellite networks, including satellite ground stations and, where applicable, complementary ground and airborne components and of satellite communications services at the EU level, which could limit Member States' ability to impose specific, contextually relevant requirements for satellite spectrum licences. Member States should retain the authority to impose national conditions on spectrum licence holders, particularly concerning issues such as security, spectrum sharing, and availability.

As already indicated above, nearly all satellite network authorisations require coordination at both the national and international levels. It should also be noted that ground components (ground stations, gateway stations, user terminals) likewise require international coordination in some cases, particularly in areas close to the external borders of the EU or the European Conference of Postal and Telecommunications Administrations (CEPT) region. Without retaining national involvement, satellite operators may face unclear conditions or potential interference risks associated with spectrum use in a given area. This lack of clarity could affect investment in infrastructure, such as ground stations and satellite gateways, which are often costly to establish. The proposals in the Commission's regulation could inadvertently create obstacles for investment by not providing the necessary predictability and simplification for operators, leading to a situation where operators may be forced to delay investments until all conditions are clear and secure. This is particularly problematic in an industry where high capital expenditure is involved, and investors rely on certainty about regulatory conditions to justify the significant costs associated with infrastructure development.

When it comes to the duration of licenses, there are certain challenges in the model proposed by the Commission EC, in which licenses would be granted as open-ended / unlimited duration rights to use frequencies or as satellite communications authorisations. The communications market and technology are developing rapidly, and open-ended licenses could lock in the market situation for a long time and slow down the entry of new technologies or operators. Fixed-term usage rights create natural review points for the authorities, at which the

competitive situation can be assessed and market structures adjusted if necessary. In general, there should be more analysis on how open-ended licenses would affect the market.[2]

The existing processes at CEPT and at national level have been run for a long time and work well towards harmonisation of the various satellite services frequency bands. During the coordination processes and work to satisfy applications for satellite network use, the established interactions often achieve finding solutions which can be used for solving coexistence issues between radio services in place. Part of those processes are specific national issues that should be dealt with at the appropriate level, not at the EU level. These processes cannot be seen in a negative way or as 'unnecessary bureaucracy'. The processes will often find positive solutions and achieve the goal that investments in satellite infrastructure (teleports, gateways, other installations) is efficiently and effectively protected.

Alternative proposal:

An **alternative mechanism** could be put forward that focuses on defining, monitoring, and enforcing a set of minimal conditions at the EU level, given the need for European autonomy, while respecting the principle of subsidiarity at national level with regards specific aspects of spectrum allocation.

Before introducing this proposed mechanism, key procedures need to be carried out urgently in the current framework (see MSS 2GHz renewal).

In this mechanism, other MSS bands (as in those L- and S-bands scarcity of spectrum may need to be addressed, and additional operators and not only incumbents have developing interests, given the technical developments towards D2D) can also be reviewed within the existing well-functioning framework.

BEREC considers that CEPT will continue to play a significant role in European harmonisation, both technically and non-technically:

- Non-technical: Harmonising fees and license durations to ensure a consistent regulatory environment.
- Technical: Setting technical conditions for spectrum use, identifying spectrum for specific services, and ensuring proper spectrum sharing and coexistence.

Under this alternative, any satellite operator wishing to deploy a service in the European Union would register with the Office for Digital Networks (ODN) but is not authorised centrally by the EC, but by the Member States.

This registration process would ensure that the operator commits to complying with the conditions laid out in Article 38.3 (items a, b, c, and d) and Article 39.4 (all items). These provisions cover essential requirements such as the operator's establishment within the EU, compliance with ITU Radio Regulations, data retention obligations, and securing the integrity and resilience of the satellite networks. New aspects come into play such as fair competition between satellite operators and the need for additional coordination on the subject of D2D

[2] The implications of unlimited licence durations (and automatic renewals) for rights of use of radio spectrum are numerous, please also see BEREC's position on the General Spectrum Issues in the DNA including *inter alia* that such proposals reduce market contestability, increase barriers to entry and stifle innovation.

between terrestrial and satellite operators (Article 45). Information about related terrestrial and space services use can and is already be made available in existing tools such as the existing EFIS (European Communications Office Frequency Information System database (which is the official tool under EC Decision for making such information available on European wide level) or these tools can be expanded to cover the D2D-IMT or D2D-MSS use cases.

In addition, the mechanism may also be used to ensure certain essential service functionalities, such as emergency calls and/or messages.

By registering with the ODN, satellite operators would demonstrate their willingness to operate in line with EU standards and requirements, while ensuring that national authorities retain the power to regulate specific aspects of spectrum use that align with their national interests.

As a result, Article 44 of the Commission's proposal—concerning enforcement at the EU level—may be preserved. If an operator fails to comply with the conditions registered at the ODN, they would be subject to an enforcement mechanism that operates at the EU level. This mechanism, in line with the Radio Spectrum Policy Group (RSPG) proposals, would ensure that any breach of conditions results in proportional corrective actions, including suspension or withdrawal of rights to use the spectrum. This approach maintains a level of regulatory consistency across the EU while allowing Member States to retain control over the issuance of licences.

One of the most critical aspects of the alternative mechanism is the retention of spectrum licensing authority at the national level. Member States must have the ability to issue spectrum licences as radio spectrum is a scarce national resource and it is not a shared competence with Commission, so that Member States can best take into account national security, specific regional needs, and other strategic priorities. This would also mean Article 37, which centralises coordination and oversight with the Commission, should be withdrawn. The existing framework for coordination between national competent authorities, such as the National Frequency Allocation Tables (NFATs), already serves to protect national interests while fostering cooperation across borders. Removing the direct intervention of the Commission in these procedures would ensure that Member States maintain their independence in regulating satellite spectrum usage.

In addition to the previously proposed alternative mechanism, Article 39.3 could introduce a **coordinated selection procedure for spectrum bands** where scarcity is evident, such as the Mobile Satellite Services (MSS) bands. This procedure should take into account security concerns and issues related to strategic autonomy. The application of this centralised licensing procedure should be limited to large-scale satellite operations aimed at providing EU-wide end-user connectivity.

Certain frequency bands, particularly those allocated to MSS (e.g., some bands below 3 GHz), suffer from inefficiency and interference when different MSS operators from multiple countries are granted rights to use the same blocks of spectrum. Currently, in these MSS bands, satellite operators generally operate on a pan-European and global basis (e.g., all operators use the same MSS bands across Europe and/or globally). The limited availability of these spectrum bands makes them scarce resources that need to be used efficiently. This is clearly demonstrated in ongoing discussions such as the MSS 2 GHz debate.

The selection mechanism on carefully selected bands capable of providing ECS/ECN, based on spectrum scarcity and case-by-case selected applications, could be similar to that used for

the MSS 2 GHz spectrum, where operators are chosen based on strict criteria, which should include factors related to security and strategic autonomy. This mechanism would ensure that the use of these critical frequency bands aligns with EU priorities, such as maintaining secure communications networks and protecting national interests. At the same time, lessons from past MSS assignments indicate that criteria must be carefully designed to avoid disadvantaging in the use of spectrum.