# International Amateur Radio Union
# Region 1

## Response to EU Call for Evidence for an initiative on World Radiocommunication Conference 2023 – EU position

**About Us**

The International Amateur Radio Union (IARU) is a Non-Governmental Organisation representing the interests of Radio Amateurs. The amateur radio service is one of the oldest radio services recognised and regulated by the International Telecommunication Union (ITU) and pre-dates the regulation of radio communications. Having a strong Amateur Radio service has been recognised by Governments not only for the development of technical knowledge but as providing a network of radio stations which is geographically diverse and is able to assist in times of disaster.

IARU is active in CEPT Working Groups and also contributes to RSPG public consultations and workshops, as appropriate.

IARU welcomes this opportunity to express its views to the Commission on certain WRC-23 Agenda Items. For information, IARU also intends to respond to the Public Consultation on the Draft RSPG Opinion on ITU-R World Radiocommunication Conference 2023.

### General Remarks

As a long-standing user of radio spectrum, the amateur and amateur satellite services have a considerable respect for the ITU WRC process and the extensive efforts made by regulators in member states.

For WRC-23 we set out our principal concerns on specific agenda items below, with more detail in our related response to RSPG

In our view it is important that a proportionate and evidence-based approach is taken to all items, with sufficient flexibility left to member states and key stakeholders.

We are therefore concerned to see the Commission promoting the 2017 Court ruling that has been used to impose opinions and agenda items on member states. More recently we are also concerned that spectrum requirements are being supported by European organisations which have a weak or unfocussed approach for their precise choice/wishlist of frequencies.

## EU Policy Areas where we have particular concerns are:

### AI-1.2 IMT Identifications in the 3.3-10.5GHz range

Relevant EU Policy Areas

- Electronic Communication
- Security & Defence

The IARU opposes the identification of the band 10.0-10.5GHz for IMT in Region 2 as well as the introduction of a mobile service allocation in the region. The amateur allocation is widely used in much of the world and the amateur-satellite allocation is in heavy use for the downlink of the Es'hail 2/QO-100 geostationary satellite in Region-1.

Additionally we oppose the proposed changes to 3.3-3.4GHz in Region-1, which would be a necessary precursor to its identification for IMT.

Therefore the IARU recommend that the EU should supports the RSPG draft recommendation that the EU should oppose to any IMT identification in the bands 3.3-3.4GHz and 10-10.5GHz as a common policy approach, as well as any re-submission under AI-10 for IMT2030.

### Agenda Item 1.14 EESS (passive) 250GHz

Relevant EU Policy Area: Space (Copernicus)

This is an unfortunate and documented example where the EESS instrument design was based on arbitrary choices that were not aligned to existing ITU-R Radio Regulations. Unlike like some other instruments it did not need to have a very specific alignment to molecular resonant frequencies. Current proposals to significantly amend the frequency allocations of other services to accommodate this are a poor precedent.

Within this agenda item are the 241-248GHz amateur allocations that were made at ITU WARC-79 and so far have supported highly innovative experimental communications over paths of up to 114km. IARU seeks stability for ongoing amateur developments and urges the EU to take a more considered and flexible approach, whilst urging its agencies/associates to be more careful with frequency selections.

### Agenda Item 9.1a (and AI-10 - 2.6) Space Weather Sensors

Relevant EU Policy Areas: Space, plus impacts on Many Others!

Whilst IARU is comfortable with the potential treatment of this topic under the MetAids Service at WRC-23, we remain concerned that the spectral scope of this item remains far too broad impacting many incumbent allocations (both amateur and other services) as well as several EU Policy areas.

Priority should be given to ITU Recommendations/Reports and not Article-5 allocations as a way of fulfilling the requirement, particularly where sensors are on a limited number of national locations, or are opportunistic applications of existing services.

With respect to new potential new frequency allocations that may be considered under WRC-27, AI-10 Resolution 657 must be revised in a manner where a limited number of frequency bands are explicitly listed and prioritised in order to limit the scope of this item.

**AI 9.1b Review of RNSS and Amateur Services**

Relevant EU Policy Area: Space / Galileo

IARU along with the European Commission is actively engaged in addressing the WRC23 agenda item 9.1b concerning coexistence between the amateur and amateur satellite services and the radio-navigation satellite service (RNSS) including GALILEO in the range 1260-1300MHz. The IARU understands the regulatory status of the amateur services allocation in these frequencies but maintains its position that the potential for harmful interference from amateur services is being over-stated. Other services including fixed and mobile systems can operate in these frequencies too often on a national basis.

IARU has noted the information provided in presentations made within the CEPT arena (e.g. RSCOM22-24 RFI in GNSS letter to ITU and CEPT WG-FM CivMil(22)015) reporting on interference events occurring in the wider set of RNSS frequency bands beyond those allocated to the amateur radio services. The reports show that RNSS interference events can be numerous whereas usage data provided to the ITU-R shows that busiest use of frequencies in the 1240-1300MHz band by the amateur services amounts to less than 5% of time per year. This usage profile clearly underlines the low probability of harmful interference from amateur services. There are **only two confirmed cases of interference** that have been reported in Europe in the E6 band between amateur radio applications and RNSS which have both been dealt with on a national basis. Both these cases reported interference into well sited fixed GALILEO installations. Although the theoretical studies can easily predict co-frequency interference, in the real-world cluttered environment that mass market users will be operating in it will have a much lower probability.

For the E6 band, the ITU-R studies show that compromise will be required to allow all the spectrum users to continue to develop their respective services. The amateur radio community understands the need to ensure protection of the GALILEO services in the band 1260-1300MHz and how technical and operational conditions under development in the ITU-R study work can facilitate coexistence so long as the conditions are proportionate, realistic, appropriate and do not hinder the future development of amateur services in this important band.

The IARU notes that RNSS technology and chipset developers are continually improving the resilience of the RNSS receivers to interfering signals. It can be expected that these developments will improve the robustness of E6 band receivers to unwanted signals driven by a growing market for the GALILEO services offered in this band.

The amateur radio community places great value on the hands-on self-learning and training experiences that result from the amateur service privileges in this frequency band as evidenced by the variety of amateur radio applications detailed in the relevant draft ITU-R study reports. These applications provide technical learning and skills building opportunities and include experiments in spectrally efficient digital television, data networking and narrow band analogue and digital modulation techniques.

## AI-10 Future Agenda Items

Whilst recognising that some topics are subject to ongoing revision, we are especially concerned with:-

### 2.6: Space Weather (following on from AI-9.1a)

The latest spectral scope (derived from the CEPT Brief and draft ITU reports is too broad and continues to grow further, impacting many incumbent allocations (both amateur and other services) as well as several EU Policy areas.

Priority should be given to ITU Recommendations/Reports and not Article-5 allocations as a way of fulfilling the requirement, particularly where sensors are on a limited number of national locations, or are opportunistic applications of existing services.

With respect to new potential new frequency allocations, we strongly urge that Resolution 657 be revised in a manner where a limited number of frequency bands are explicitly listed and prioritised in order to limit the scope of this item.

### 2.9: 1300-1350MHz Land Mobile

IARU is concerned that any new mobile applications in this range would impact on the adjacent secondary amateur service allocation which has been extensively studied under WRC-19 AI-9.1b, as well as some national 1300MHz in-band amateur allocations.

IARU notes that the band is also important for Radiolocation and thus may impact EU Defence & Security policy.

### IMT 2030 (6G)

EU Policy Area: Electronic Communications

Terrestrial IMT 2030 (6G): Whilst we no doubt expect the EU to have a policy interest in this topic, we currently see no justification for additional mobile spectrum either in midband (~7-24GHz) or at millimetre waves, or repeats of bands that have been in the WRC23 AI studies.

A combination of numerous existing mobile allocations, significant path losses and hitherto unused 5G IMT designations mean there is already generous provision for services. Existing mmWave provision and reuse should be the focus instead, including by alternative mobile technologies (such as RLANS, and LEO Constellations).

Noting that AI-10 topics may develop further we urge that the EU/RSPG remain open to engagement.

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