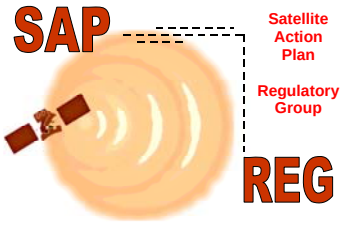


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**SAP REG Response to the Ofcom Consultation Document**

**"Award of available spectrum: 1452 – 1492 MHz"**

SAP REG, whose members[1] include most major satellite operators and manufacturers serving Europe, is pleased to contribute to Ofcom's consultation on the proceedings relative to the award of spectrum right licenses in the frequency band 1452 – 1492 MHz, published on 31st of March, 2006.

## 1. Introduction

SAP REG commends Ofcom's general position that the frequency band 1479.5 – 1492 MHz, designated in the CEPT for use by S-DAB services under the premises of ECC DEC/(03)02, should be treated as a "one block" resource in the framework of a possible award of spectrum license in the UK.

We note, however, that Ofcom does not concur with the proposal to reserve this frequency range exclusively for use by hybrid S-DAB operators in the U.K. – as was supported by this Association as well as by Alcatel, Inmarsat and WorldSpace[2] in the framework of the SFR:IP Consultation. As further elaborated in section 2 below, we believe that the proposed approach, coupling technological neutrality and auctions, is bound to raise a de facto barrier for S-DAB players to enter the UK market, would not necessarily optimise the use of the spectrum resource (section 3) and does not ensure its efficient use (section 4). SAP REG therefore would like to respectfully provide Ofcom with the following views, which we hope will constructively contribute to Ofcom's reflection on the matter, and allow for the development of S-DAB services in the UK and in Europe, in the most appropriate way.

## 2. The proposed approach is raising a de facto barrier to S-DAB entry in the UK

Hybrid satellite-terrestrial systems are ideally positioned to contribute to the development of innovative mobile multimedia services to consumers in Europe, by their ability to achieve unequalled nationwide coverage from their first day of operation. Among the various spectrum opportunities to accommodate such development, considering a wide range of possible technologies and services[3], the 1452 – 1492 MHz remains the only ITU allocation harmonised at global level for S-DAB, with the upper 12.5 MHz harmonised in Europe under the premises of ECC/DEC(03)/02[4] (the "ECC S-DAB Decision"). And indeed, after the commercial success of S-DAB services in North America (with already more than 10 million subscribers in about 5 years of operation), S-DAB services are now developing in Europe on the basis of this allocation.

A national auction process relying on a principle of "technological neutrality" would, de facto, filter out satellite-based services, which tend to be highly capital-intensive, have long gestation periods, and generally require access to multiple European markets in order to be viable. Purely terrestrial-based

[1] SAP REG members include Alcatel Alenia Space, Connexion by Boeing, EADS Space, Europa-Max, Eutelsat, France Telecom, Hispasat, Hughes Network Systems, ICO Global Communications, Inmarsat Ventures PLC, Intelsat, New Skies Satellites N.V., SES Global, Telespazio, Terrestar, Thuraya, Viatis Satellite Radio and WorldSpace

[2] ref. section 4.20 of the consultation document

[3] See sections " Potential uses" and "Substitute spectrum" pp. 11-14 of the Consultation Document

[4] ECC DEC/(03)/02 of 17 October 2003 on the designation of the frequency band 1479.5-1492 MHz for use by Satellite Digital Audio Broadcasting systems

services, by contrast, are not burdened with the cost of a space component, do not require a long lead-time from initial financing to service rollout, and generally can be viable based on a single national market.

Since terrestrial services would require lower levels of capital investment to be rolled out, e.g. related to the deployment of their infrastructure, such service providers would indeed be in a position to bid at higher levels without putting at risk the viability of their respective business plans, than those of higher capital demanding ones. In effect, an uneven playing field could be created between satellite and terrestrial service providers, requiring the former to forego the UK market. The resulting opportunity cost would be borne by satellite UK consumers, who may not benefit from the types of innovative satellite radio services currently enjoyed by more than 10 million of their counterparts in North America.

Moreover, hybrid satellite/terrestrial systems are designed to achieve national coverage on "day 1", providing equal access to urban and rural dwellers, whereas terrestrial systems are likely to focus, at least initially, on large urban areas. In this respect, hybrid terrestrial-satellite technologies, such as S-DAB, are clearly more efficient technologies than pure terrestrial ones to achieve nationwide mass market services, since the space component covers the entire geography of a country, and complementary terrestrial repeaters, which "close the link" where the satellite signal is blocked, can be limited to urban areas. Despite these inherent efficiencies, however, auctions that tend to favour terrestrial services are likely to preclude, and serve as a barrier against, innovative hybrid systems.

As noted above, an S-DAB initiative considered at European scale is highly capital intensive, notably because of investments related to the space segment to be used for accessing multiple markets. And indeed, economics of S-DAB systems rely on market access in multiple countries. This leads to consider relatively high financing efforts, which may not allow for a further financing related to a substantial spectrum fee investment in individual countries. As a result, the proposed process could both lead to put at risk the chances of success to complete the financing exercise for pan-European S-DAB initiatives, despite their ability to efficiently provide services in the market, with adequate underlying economics.

As a conclusion, Ofcom's proposed approach combining "technological neutrality" and auctions would act as a filter which would definitely favour national terrestrial initiatives that could be provided in other frequency bands, over satellite radio services that cannot be provided in any other band. In SAP REG's view, it is therefore not a true technology neutral approach as it would not permit a level playing field for all initiatives and technologies to access the spectrum resource, and this regardless of their efficiency, ability to access financing, or other consumer interest considerations. Rather, this approach is de facto raising a barrier to entry, and is anti-competitive as it would therefore prevent a European S-DAB operator developing in L band to compete in the UK with similar services either already provided, or which could develop using other technologies, in other frequency bands. In particular, SAP REG does not concur with the view that "an exclusive reservation of spectrum in favour of one type of user could also have the effect of distorting competition in downstream markets"[5]. A wide range of services, supported by various wireless technologies, are indeed already being provided or announced to soon enter the market, and would already provide room for competition down the value chain, among which T-DAB, T-DMB, DVB-H, DTH, but also multimedia networks such as WiFi/WiMax, 3G telephony, etc, whereas, the conditions under which spectrum was awarded to introduce such services has actually widely varied over the years. The current proposed auction rules could have the unintended effect of distorting competition, by ruling out the possibility of introducing satellite radio in the UK.

## 3. An optimal use of the spectrum?

SAP REG does not concur with the view that when some spectrum resource is proposed to be awarded by ways of auctions, market forces would necessarily "optimise" its use[6], other than on a purely economic perspective in terms of the auction fee. As elaborated in the previous section, a competitive

[5] ref. section 4.22
[6] ref. section 4.21

bidding approach in a technology neutral manner would indeed, and in effect, tend to favour purely terrestrial-based services that can reduce their capital investments by rolling-out services only in lucrative urban markets. In this context, the highest bid may not necessarily lead to the optimum use of the spectrum band, since one should also factor the potential opportunity cost of prohibiting – artificially – the introduction of an innovative service such as satellite radio in the UK.

With this, it is likely that the proposed proceeding for awarding spectrum in the L band would lead to the development of services which would be accessible solely to urban consumers, as opposed to the national population, if hybrid technologies and services are prevented from entry in the UK market. By contrast, UK citizens would be deprived of the opportunity to access innovative services which will develop in the rest of Europe. As an example, Greystone communications reported that S-DAB services in the US had grown more rapidly than MP3 players, cellphone, Internet or cable TV products, when those products were introduced[7], while recent market surveys have confirmed the existence of a comparable consumer appetite for S-DAB services in Europe and in the UK

The case is therefore not made in SAP REG's view that the proposed approach is the most adequate to "further the interest of citizens in relation to communications matters", which comes first in Ofcom's general duties[8], nor to secure "the availability throughout the UK of a wide range of services"[9], whereas the introduction of S-DAB services in Europe will be an opportunity to introduce new receiver features, and service innovations, beyond what exists today in North America, or in the UK if considering VHF based T-DAB services.

In particular, SAP REG believes that, whereas the upper part of the L-band represents the only opportunity for S-DAB to develop in Europe, and that S-DAB services are now indeed developing in Europe under the premises of the ECC S-DAB Decision, further considerations should be given to the existence of the wide range of spectrum substitutes, as reviewed in the consultation document, for the accommodation of services and technologies which could seek access to the same range of frequencies than S-DAB in the UK. We thus believe, contrary to the proposed approach, that Ofcom should give appropriate orientations concerning spectrum use in a phased and timely manner, and in accordance to European standards, with a view to furthering the interest of citizens e.g. in the matter of increasing consumer choices in the short, medium, and long term, on a national basis.

## 4. An efficient use of the spectrum?

SAP REG does not either concur with the view that the proposed auction process, when combined with technological neutrality, would necessarily lead to an efficient use of the spectrum resource in the UK[10]. We indeed note and commend Ofcom's vision that the operation of now emerging S-DAB services in Europe would dramatically constrain and limit other possible uses in the UK of the upper 12.5 MHz of the frequency band. Is this really the vision of an efficient use of the spectrum? SAP REG believes that because indeed of those limited potentials for other usages than hybrid S-DAB in the frequency band 1479.5 – 1492 MHz, Ofcom should take measures to indeed ensure that this frequency range be reserved for S-DAB use in the UK, in line with the ECC S-DAB Decision, harmonising this frequency range for S-DAB use in Europe.

Furthermore, SAP REG would like to confirm that the protection criteria regarding the protection of S-DAB services, which had been adopted by Project Team 32 of the Working Group Frequency Management of the ECC in 2002 in the framework of the preparation of the MA-02 Conference, are not conservative, but do correspond to the reality of standard S-DAB reception equipment, as today available in the market.

Yet, we believe that the case of potential interference from S-DAB emissions into UK other services is, on the contrary, quite optimistic. Technical analyses offered in the framework of this consultation[11]

[7] http://www.xmradio.com/newsroom/screen/pr_2002_01_07_surveys.html
[8] ref. section 3.2 (a)
[9] ref. section 3.2
[10] ref. section 4.21
[11] ref. section 6.1 of document "International interference analysis for future use of 1452-1492MHz range"

indeed consider levels of up to 36 dBµV/m (vehicle coverage case) to result over the UK territory from a typical European S-DAB satellite emission, whereas some projects do currently consider levels of 44 dBµV/m and more. High EIRP levels do indeed translate either i) in budget link margins, to allow for more robustness of the link for improved mobility reception, or ii) into an increase in capacity. This latter benefit is indeed foreseen as a way to eventually allow for serving a higher number of European countries in the satellite footprint, ultimately towards pan-European service roll out. SAP REG noted in this respect that the Communications Act 2003 requires Ofcom, when carrying out its spectrum functions, to act in accordance with the "six community requirements", among which the requirement to contribute to the development of the European internal market, and the requirement to promote the interests of all persons who are citizens of the European Union. SAP REG therefore trusts that Ofcom will take necessary measures to ensure that decisions on the use of the L band in the UK would not conflict with these requirements, and that in particular, these would be translated into appropriate technical criteria, as offered above, to indeed allow for the development of pan-European S-DAB services.

Also, we would like to draw Ofcom's attention to the fact that ITU filings supporting most of existing S-DAB projects in the L band do extend to the frequency band 1467 – 1492 MHz, and not only to the band 1479.5 – 1492 MHz. Whereas 12.5 MHz has been recognised as being a minimum spectrum requirement to ensure economic viability of one S-DAB system in Europe, in consistency of figure 2 of the consultation document, and since one player has now started to develop in the upper 12.5 MHz of spectrum, it shouldn't be excluded that a second European S-DAB system may wish to eventually develop in the frequency range 1467 – 1479.5 MHz, in conformity with the ITU allocation, and as permitted by the MA-02 arrangement[12]. Finally, SAP REG concurs with the Ofcom judgement that "it is also relevant that experience elsewhere in Europe in using frequencies in 1452-1492 MHz has been of limited success, and much less effective than use of lower frequencies (as in the UK)"[13]. This limited use of the MA-02 resource is, in our view, furthering an opportunity for S-DAB services to also deploy in the 1467 – 1479.5 MHz range.

## 5. Conclusion

SAP REG continues to believe that an award of spectrum rights through a "technology neutral" auction process is in effect bound to unduly favour some technologies and services with respect to some others, and is in particular likely to prevent S-DAB services to access the UK market and compete with other terrestrial players, already or about to offer similar services to consumers on the basis of various frequency bands and underlying technologies, thus creating a de facto barrier to entry.

Alternatively, SAP REG respectfully urges Ofcom to award spectrum rights in the 1479.5 – 1492 MHz frequency band in recognition of the ECC Decision harmonising this range for S-DAB use in Europe, thus allowing entry to such innovative market demanded services also in the UK, to the ultimate benefit of the consumer. We also believe that, because S-DAB is now bound to develop in Europe, only such a framework would enable an optimal and efficient use of this spectrum in the UK, if indeed considering the constraints that European S-DAB services would in any event put on any alternate terrestrial usage in the UK.

Finally, SAP REG believes that, in view of the nearly absence of usage of the frequency band 1467 – 1479.5 MHz in Europe, 4 years after the MA-02 Conference, and whereas hybrid satellite interests are now developing on the basis of the "ECC S-DAB Decision", due consideration should be given to the eventuality of accommodation of a second S-DAB system in this frequency range, in conformity with the original 1467 – 1492 MHz ITU allocation which harmonised this frequency range for S-DAB use at global level.

[12] The Annex 2 to the MA-02 Special Arrangement indeed foresees and addresses sharing of the frequency band 1452 – 1479.5 MHz between T-DAB and other services

[13] ref. section 4.29