Intellect Response to European Commission "Invitation for Comments" on possible European Commission Decision to open the 2.5 – 2.69 GHz band for IMT-2000 and other compatible technologies

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Introduction

Intellect had significant discussions on how to respond appropriately to the European Commission's 2.5 – 2.69 GHz band "invitation to comment" since we have Members with differing opinions and reaching this response has necessitated several compromises. Indeed, in order to progress with a response members decided to agree some initial "working assumptions" which involved agreeing what we understood as "*IMT-2000 only (exclusive)*" and "*IMT-2000 and technically compatible technologies*" (shown in the following paragraph titled "Working Assumptions). Our detailed response is based on these assumptions.

Intellect would like to confirm that it supports CEPT as the appropriate forum to discuss and approve decisions on frequency harmonization and associated technical rules in Europe. This response shall not therefore be read as a "disengagement" from CEPT. The mobile and wireless industry share as a common goal the desire to access more and more harmonized frequency bands in Europe as the main driver for innovation and growth. At the same time, Intellect would like to encourage and support the European Commission to continue working with CEPT through appropriate mandates and applauds the introduction of the 3 year "review clause" as a guarantee of increased regulatory flexibility for the market place as well as driver for innovation and take up of new technologies.

Working Assumptions

Intellect's defines "**IMT-2000 only (exclusive)**" as -

- the current air interfaces included in the IMT-2000 family
- their future evolutions, as specified by the relevant SDOs (e.g. ETSI, etc)
- any future air interfaces meeting the current ITU evaluation criteria that get accepted in the IMT-2000 family[1]

Intellect defines "**IMT-2000 and technically compatible technologies**" as -

- "**IMT-2000 only (exclusive)**" *plus*

[1] One area of concern is the timescales and process associated with including additional wireless technologies within the IMT-2000 family – maybe the timescales could be reduced and the process reviewed to avoid the adverse impact of possible delay in the ability to introduce new technologies.

- other "technically compatible technologies" (i.e. those that will not cause undue interference) that are not formally part of the IMT-2000 family
- Systems beyond IMT-2000
- technologies covered by ITU-R Q. 223-1/8

It is implied that any "IMT-2000 only (exclusive)" technology as well as any "IMT-2000 and technically compatible technologies" shall fully comply with any national licensing and regulatory compliance requirement as well as general competition laws and provisions.

"Justify and Quantify" Table

Intellect's position is summarised within the table below -

Justify and Quantify	IMT-2000 and technically compatible technologies	IMT-2000 only (exclusive)
What is the impact on competition in the internal market?	(A1): Additional (non-IMT-2000) technologies will in some aspects enhance competition because there may be alternative service providers competing for the same market opportunities but with different technically compatible technologies, e.g. possible new or alternative services delivered by new entrants or existing Operators using complimentary options. However this may be to some extent counter balanced by an opposite effect on competition as a result of the extra cost of changing service provider if a new terminal is needed, and a possible reduced choice in terminals per network if customer volumes for the IMT-2000 use was significantly lower in 2.5 GHz because of the introduction of the additional technologies. This issue might be addressed by multi-mode terminals similar to IMT-2000 and WiFi. (A2): Additional suppliers (non-IMT-2000 manufacturers) will have the possibility to access a new market that will develop with the arrival of new services and networks.	(B1): Interoperability within an IMT-2000 air interface enhances competition in both terminals and services, because of the ability to change either. Further developments in IMT-2000 global technologies and standards will also favour competition among IMT-2000 networks and technology manufacturers (and could be improved if the entry criteria for IMT-2000 was reviewed to incorporate IP based mobile technologies). In Europe in the case of GSM this has resulted in high penetration of mobile phones. (B2): Licensed 3G operators may rely, for their financials cases/ return on investment, on reliable additional spectrum capacity in the long run. IMT2000 "only" gives a predictable spectrum and technology path to licensees. (B3): However exclusion of particular technologies could harm competition in specific areas and reduce availability of services, e.g. in rural areas.

	Points (B1) and (in part) (B2) of the IMT-2000 (only) scenario also applies to this scenario.	
What is the impact on competitiveness of the EU in comparison with non-EU regions?	(A3): Would help ensure spectrum allocation efficiency if additional systems can be deployed in addition to IMT-2000 in the event that in some countries IMT-2000 in the whole band didn't turn out to represent the highest value use in the future. Point (B4) of the IMT-2000 only scenario also valid for this scenario.	(B4): EU is becoming strong in 3G/IMT-2000 market share (as well as it is in GSM) development and standardization, also providing induced opportunities for established small and medium companies with the acquired knowledge from GSM, as well as, for new companies in Europe benefiting from the proximity of GSM/UMTS experience to develop and compete with innovative applications on the global market.
What is the impact on innovation and research?	(A4): In addition to the benefits for IMT-2000 (exclusive), innovation is encouraged. (A5): New technological ideas can be more easily developed in a framework for access to spectrum which is more flexible and understood.	(B5): Investment and research is enhanced with the greater certainty of the standards deployed. Improvements, over a predictable and shared technology path, can be more easily valued and easily added in a framework which is well known and understood. (B6): Stressing the focus on IMT-2000 will favour continuing development of research and technical skills in IMT-2000, which can then be exported worldwide.
What is the impact on consumers?	(A6): Additional technology choice and potentially alternative and possibly lower cost applications and services. Additional access technologies could favour service integration (e.g. integration of fixed and mobile networks through IMS). (A7): A proliferation of standards could reduce competition because of the greater costs of changing service or terminal and this issue and therefore interoperability between the services will be the key of	(B7): A reduction of costs for the end user is predictable both from the point of view of IMT-2000 services and of IMT-2000 terminals, including from the point of view of decrease in cost for multi mode 2G/IMT-2000 terminals. This is crucial taking into account the number of existing EU 2G networks and how long they will be operated. (B8): Greater investments in IMT-2000 will also favour service integration, e.g. integration of fixed and mobile networks through IMS or through the Generic Access

	success. Points (B7, B8) also apply to this scenario	concept (which has already been standardised). It is important to realise that developments in the existing IMT-2000 technologies, if only implemented in 2.5 GHz, mean new services in 2.5GHz may not be available in the existing 3G core band. Therefore there are benefits to harmonisation of the new band also, whether exclusively designated to IMT-2000 or not. (B9): However, if there is market demand (based on business case decisions by operators), new wireless "efficient" technologies deployed in other parts of the world may not be available in Europe.
What is the impact on employment and the labour market?	(A8)In addition to point (B10), possible additional jobs if new operators enter the market and deploy new network infrastructure but also from the point of view of content and service creation/provision as there will be more networks.	(B10): Possible additional jobs if IMT-2000 operators extend their networks to cover an additional frequency band both from the perspective of network and equipment manufacturing but also from the point of view of content creation/provision since it has to be developed and made available on well known platforms – based on interoperable framework. Same scenario applies also in the case of new entrants.
What is the impact on social inclusion and protection of particular groups?	(A8): May enable new technologies to be deployed that can help bridge the "digital divide" and broader band services availability. This new technology would also be suited for expanding the availability of wireless broadband service in rural areas because it allows communications signals to travel long distances.	(B11): Predictable economies of scale help provision for groups such as the disabled as well as well as population living in sparsely populated areas. In fact, assuming that the provisioning of technical solutions purposely conceived to address social issues is mandated by regulators, the associated R&D cost is better diluted in an environment with a strong economy of scale.

The timing of a Commission Decision

A European Commission Decision clarifying the situation in Europe for the 2.5 – 2.69 GHz band licensing, including timing and conditions, is welcomed. The timing for such Decision needs to be coherent with licensing timescales.

Interoperability / Seamless Services

There is no interoperability within the current IMT-2000 family of air interfaces but in Europe 3G devices are almost all using W-CDMA so are generally interoperable. This enhances competition in terminals and services. Terminals based on IMT-2000 and other wireless air interfaces (e.g. WiMAX, WiFi) are beginning to become available for consumers, although this becomes harder as the number of interfaces increases.

Spectrum Harmonisation

Intellect supports spectrum harmonisation with respect to the CEPT and ITU-R channel plan for the 2.5 – 2.69 GHz band, noting that the ITU-R plan is not yet finally approved.

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