

IMT Roadmap

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1.1 Confidentiality

1.2 Declaration

I confirm that the information supplied on the cover sheet may be incorporated into a formal consultation response: it can be published by ICASA, unless otherwise specified on this cover sheet, and I authorise ICASA to make use of the information in this response to meet its legal requirements.

Signed at: Bryanston

Date: 07 October 2014



WIRELESS BUSINESS SOLUTIONS [WBS] (PTY) LTD SUBMISSION IN RESPONSE TO THE NOTICE IN TERMS OF SECTION 4(4) OF THE ELECTRONIC COMMUNICATIONS ACT READ WITH SECTION 38(1) OF THE ELECTRONIC COMMUNICATIONS ACT 36 OF 2005.

INTRODUCTION

Wireless Business Solutions (WBS) welcomes the opportunity to comment on the notice issued by the Authority inviting representations with regard to the Authority's Draft **International Mobile Telecommunications (IMT)** Roadmap for consultation in terms of section 2 and 4, read with sections 30, 31(4), and 33 of the Electronic Communications Act (Act No. 36 of 2005).

Our submission focuses mainly on the salient aspects of International Mobile Telecommunications Roadmap and does not address each and every point raised in the ICASA document.

2.1 IMT450

2.1.1 The Authority invites industry views on IMT usage in general in 450-470MHz.

[Wireless Business Solutions [WBS] (Pty) Ltd wishes to commend the Authority on reinitiating the long awaited process to unlock the much sort after Radio Frequency spectrum which will enable us to rapidly rollout Broadband to un-served and underserved areas of our country.]

WBS has always strived to give access to our range of Broadband service in these afore mentioned areas. However, due to costs associated with equipment on the technologies we have been deploying, this has not been affordable to the masses. We are of the view that by ICASA unlocking some of the spectrum which proves to be ideal to roll out much more affordable technologies, this will enable us to proceed on the work we have started in these areas.

We wish to bring to the Authority's urgent attention that with regards to the **IMT usage in 450-470MHz**, the Authority has recommended the freeing of this band by Transnet - free up 450-470 MHz and migrate to 406-426MHz.

The Authority has however overlooked the fact that WBS is licensed and occupies 413 - 418/423- 428MHz, 15 Contiguous Duplex Channels, each 12.5KHz in bandwidth. We believe that this is an omission by the Authority and we recommend that it should be rectified and reflected accordingly.]

2.1.2 The Authority invites industry views on IMT paired spectrum usage for PPDR.

2.1.3 The Authority invites industry views on IMT paired spectrum usage for the SA connect initiative.

2.1.4 The Authority invites industry views on IMT unpaired spectrum usage for M2M and smart energy/grid applications in South Africa.

2.1.5 The Authority invites industry views on the migration of incumbents (Transnet, SAA, Telkom, etc.) out of the 450-470 MHz band.

[WBS wishes to reiterate that the Authority should consider the fact that we are licensed and occupies 413-418/423- 428MHz. Thus any plan of migrating licensees in this band should be well thought-out so that the said allocations are not allocated to identified incumbents (Transnet, SAA, Telkom, etc.) when being migrated out of the 450-470 MHz]

2.1.6 The Authority invites industry views on the migration time line.

[WBS is of the view that any licensee identified by the Authority to be affected by any form of migration should have a one on one consultation programme with ICASA. This is premised on the fact that migrating out of any band will affect Operators differently on resources inclusive of financial implications.

We acknowledge the fact that the Authority has set proposed timelines. However, for one reason or another may be not met in accordance with the Authority's timelines due to reason as indicated above. We commend ICASA on its approach of targeted dates as this will ensure that the clearing of the earmarked IMT bands is realized.]

2.1.7 The Authority invites industry views on destination bands.

[WBS strongly recommends that ICASA should avoid allocating its 413-418/423- 428MHz to any incumbent as this will cause unnecessary interference and possibly leading to WBS not being able to use this band].

2.1.8 The Authority invites industry to give any other inputs that must be taken into consideration when finalising plans for the IMT 450 band

[WBS recommends that the entire IMT 450 band should be allocated for TDD use only]

2.2 IMT700

2.2.1 The Authority invites industry views on Option 1 (ITU Region 3).

[WBS is of the view that the Authority has clearly indicated that Option 1 permits 2x45 MHz in the 700 MHz band and has the advantage of a large ITU Region 3 Asia-Pacific Telecommunity (APT) ecosystem, specifically on network equipment and terminals availability. Furthermore, large parts of Latin and South America have chosen this option. However, the complexity of the APT-700 capable terminals and equipment is high because they need two overlapping duplexers of 30 MHz bandwidth. Should the Authority opt to go with this option, WBS will be exposed to similar challenges, specifically considering that we play a significant role in SADC.]

2.2.2 The Authority invites industry views on Option 2 and Option 3 (ITU Region 1).

[WBS notes that both Options 2 and 3 are adopted in ITU Region 1, and in most European countries for the IMT 800 MHz bands which permits 2x30 MHz in the 791-862 MHz and which partly overlaps with IMT700 APT channel plan.

Furthermore, the Authority has highlighted that Option 2, 2x33 MHz remains available for IMT700 as well. Due to the fact that this Option allows for the first 30 MHz of bandwidth to be accommodated in first duplexer of the APT Channeling plan, terminals of the APT ecosystem will also be usable in ITU Region 1 as well as Region 3. This will also assist in ensuring that the 30 MHz function as a global international roaming band which will boost the ecosystem significantly.

It is our considered view that, without a doubt, Option 2 and 3 offer the opportunity for 10(-25) MHz of unpaired spectrum in the band gap between the FDD blocks. In considering the fact that Spectrum is a finite resource we recommend that the Authority should consider Options 2 and 3 as these offer spectrum efficiency when compared to Option 1 when the TDD bands were to be implemented as well.]

2.2.3 The Authority invites industry views on Option 3 (ITU Region 1).

2.2.4 The Authority invites industry views on 2x3 MHz IMT band of ITU Region 1 solution.

2.2.5 The Authority invites industry views on other ITU Region 1 based suggestions.

2.3 IMT750

2.3.1 The Authority invites industry views on IMT unpaired spectrum in the coverage band of 750 MHz.

2.4 IMT800

2.4.1 The Authority invites industry views on Option 1 (ITU Region 3).

2.4.2 The Authority invites industry views on the 2x3 MHz IMT band of Option 1 (ITU Region 3).

2.4.3 The Authority invites industry views on Option 2 and 3 (ITU Region 1)

2.5 IMT850

2.5.1 The Authority invites industry views on the migration of incumbents (Neotel, etc.) out of the band.

2.6 GSM900 spectrum consolidation

- 2.6.1 The Authority invites industry views on spectrum consolidation.
- 2.6.2 The Authority invites industry views on guard bands.
- 2.6.3 The Authority invites industry views on the time line of spectrum consolidation, i.e. when it should be done.
- 2.6.4 The Authority invites industry views on demand for IMT migration of 5 MHz taking into consideration the spectrum for IMT available in the 700 and 800 MHz bands.
- 2.6.5 The Authority invites industry views on need-based differentiated spectrum assignments in the 880-915 MHz (paired with 935-960 MHz).
- 2.6.6 The Authority invites industry views on demand for IMT migration of 10 MHz, taking into consideration the new spectrum for IMT in 700 MHz and 800 MHz.

2.7 IMT2300 unpaired spectrum TDD

- 2.7.1 The Authority invites industry views on usage of 2380-2400 MHz.
- 2.7.2 The Authority invites industry views on usage of 2290-2300 MHz for IMT
[WBS recommends that the 2290-2300 MHz should be kept as TDD only. The 100 MHz could be allocated at 2 x40 and 1 x 20 or 5 x 20. A principle of introduction of a Guard band may be required or adjacent Channel interference may have to be managed by the operators.]

2.8 IMT2600 paired FDD spectrum

- 2.8.1 The Authority invites industry views on demand in the IMT2600 FDD band.
- 2.8.2 The Authority invites industry views on the migration of the incumbent (WBS), into 2380-2400MHz.**

[WBS is of the view that such a migration will pose a challenge for us an Operator as this proposed migration will leave us with spectrum coordination challenges as it is adjacent to the ISM band. With WiFi mash networks mushrooming in the ISM band we foresee challenges in dealing with these operators and may end up with our Quality of Service being compromised should we deploy a fully fledged Network on the identified upper band of the 2300MHz i.e. 2380MHz – 2400MHz]

2.8.3 The Authority invites industry views in-band migration of the incumbent (WBS), into IMT2600 unpaired spectrum.

[WBS notes that the publication includes several options regarding the spectrum assigned for WBS in the 2600MHz band earmark for either in-band migration or another identified band i.e. 2300MHz. **We wish to confirm to the Authority our willingness to embark on an in-band migration to occupy the TDD band (Phase 2 of ICASA's IMT2600 Migration Options). There is a likelihood that WBS can migrate in band and occupy this band (band 38) fairly quickly to the extent that it could be very much in line with the authority time table of the allocation process.**

Our proposed migration includes being allocated Block F (Inclusive of F1, F2 and F3) as well as Block E as per the Figures 1 and 2 1 below. This will allow us;

- 40MHz of usable capacity in the 2600MHz band,
- 2 X 5 MHz guard-bands at the edges of the TDD allocation to ensure non-interference with the proposed FDD bands, and
- Minimising the need for additional guard-bands.

Figure 1: Proposed TDD Band Split

2570				2620
Block E	Block F			
	F1	F2	F3	
20MHz	5MHz Guard-band	20MHz	5MHz Guard-band	

Figure 2: Proposed WBS Band 38 Allocation

2570			2620
WBS			
F1	F2	F3	
5MHz Guard-band	40MHz	5MHz Guard-band	

The combination of Blocks E and F constitutes the TDD allocation of the planned IMT2600 (2570MHz to 2620MHz). WBS is of the view that this will assist the Authority in planning and a fair distribution of the FDD band. An allocation of Block E alone to any entity will pose a serious challenge for rolling out a fully fledged network that can allow for future high capacity demands.

WBS will thus deploy an “Open Access” network, thus allowing the provisioning of services being supplied by any licensed service providers.

WBS is willing to engage with the Authority further on our proposed migration option and will commit to timelines in clearing the current allocation in an expedited manner. WBS is willing to pay spectrum fees for the **restricted spectrum** of 5 MHz guard band at each of edges of their allocation as if it were a normal assignment.

WBS is of the view that the Authority has based its decisions on the use of restricted spectrum (guard bands) referenced to the based on Block Edge Mask (BEM) as expressed in EC decision 2008/477/EC and ECC Report 131 which will **NOT** assist WBS in maximising the allocated guard bands effectively and efficiently.

WBS is of the view that the ECC CEPT report of January 2009 is specifically developed for derivation of Block Edge Masking (BEM) for Terminal Stations in the 2.6GHz Frequency Band (2500 – 2690MHz). The report only deals with the out-of-block part of the terminal station BEM which should be respected by any terminal station controlled by an operator in order to manage the risk of undue interference into adjacent spectrum assigned to another operator, unless operators reach a bilateral agreement to use a less stringent BEM. It is common knowledge that it is a complex process managing interference from end user terminals (Terminal Stations) rather than from the Network side.

WBS recommends that the Authority should rather, if necessary, refer to the Block Edge Mask Compliance Measurements for Base Stations “Recommendation ECC (11)06 of October 2011 recommendations which proposes new regulatory approach for the definition of a set of “common and minimal (least restrictive) technical conditions” optimised for, but not limited to, fixed/mobile communications networks.

In this case BEMs have been set into effect in order to provide a certain level of protection for wireless systems in adjacent frequency blocks and to reduce the necessity for coordination between the operators.

Further, it is critical that the Authority notes that these BEMs are not intended to replace or relax limits set in dedicated equipment standards, e.g. limits for spurious emissions.]

2.8.4 The Authority invites industry views on alternative destination bands for the incumbent (WBS).

2.9 IMT2600 unpaired TDD spectrum

2.9.1 The Authority invites industry views on demand in I MT2600 TDD band.

2.10 IMT3500 unpaired TDD spectrum

2.10.1 The Authority invites industry views on migration out of 3400-3600 MHz from FDD usage to TDD.

2.10.2 The Authority invites industry views on status and time line.

2.10.3 The Authority invites industry views on interest in TDD downlink focused spectrum.

2.10.4 The Authority invites industry views on interest in TDD uplink focused spectrum.

2.10.5 The Authority invites industry views on interest in the introduction of a Managed Spectrum Park.

2.11 Operators opinion on one TDD-operator instead of every operator having parts of TDD spectrum

2.11.1 The Authority invites industry views on the TDD spectrum bundling of IMT450, IMT750 and IMT2600 and assignment to one (wholesale) operator.

2.11.2 The Authority invites industry views on the operator interest in individual IMT3500 assignments per operator or in one assignment to one (wholesale) operator.

2.12 Universal service obligations for lower frequency bands (sub-1GHz)

2.12.1 The Authority invites industry views on universal service obligations for lower frequency bands (sub-1GHz).

[WBS is of the view that, should ICASA wish to introduce Universal Service Obligations (USOs) for the licensing of lower frequency bands (sub-1GHz), the Authority should ensure that such USOs are well thought out and implementable.]

[This is against the background where operators were given USOs and the Authority never managed the process of ensuring that all affected Operators had complied accordingly within stipulated timeframe. Although WBS has met its obligations it has been requested to relook and consider additional obligations.]

2.13 Capacity licence obligations for new and existing IMT bands

2.13.1 The Authority invites industry views on licence obligations for new and existing IMT bands, including infrastructure sharing.

2.14 Additional input

2.14.1 The Authority requests any other inputs that are deemed necessary and appropriate which should be taken into consideration.

[We wish to thank the Authority for affording us this opportunity to give our input, which we believe will assist in ensuring that as a Country we keep abreast with worldwide technology advancements].