

**Response from the GSM Association to the CONATEL  
Public Consultation Document concerning the  
introduction of Third Generation UMTS/IMT-2000  
services in Venezuela**

## 1. Introduction

1.1 The GSM Association welcomes the opportunity to comment on the consultative document, 'The Introduction of 3G in Venezuela', published by the CONATEL. However as an international organisation with a limitation of two plenary meetings per annum, the formulation of a detailed response to the individual issues raised in the document has not in every case been possible. Instead, the issues are addressed in a more general form, which nevertheless should permit an appreciation of the considerations and assessments of the GSM Association.

1.2 The GSM Association believes that evolution is the key to a successful transition towards the global mobile communications systems of the new millennia including multimedia but also embracing the more traditional forms of mobile communications such as voice and data. With over 500 million (and steadily growing number of) GSM customers world-wide, care must be taken to permit operators currently utilising the GSM platform to continue to build on the successes and investments in this global technology, not least in order to ensure that GSM's users may enjoy the fruits of third generation advances. Latter sections of this response will address some of the key issues in more detail.

## 2. The GSM Association

2.1 The GSM Association has its seat in Geneva, Switzerland and is a non-profit making organisation as defined within Articles 60 to 79 of the Swiss Civil Code. The Association also has a permanent Headquarters in Dublin, Ireland. As of 1 June 2001 there were some 535 members of the Association from 168 territories throughout the world. In addition to the current members every GSM 400, GSM 800, GSM 900, GSM 1800 (also known as DCS 1800), GSM 1900 (also known as PCS 1900) network operator, GSM satellite, UMTS operator and telecommunications administration can become a member of the Association. In addition, to ensure openness and to embrace industry wisdom, the Association has adopted an Associate Membership category for *inter alia* infrastructure, handset and support system suppliers.

2.2 All the GSM network operators in Venezuela are members of the GSM Association.

2.3 The GSM Association endorses UMTS as *the* key IMT-2000 Third Generation system. It is believed vital for GSM operators, manufacturers worldwide, the global economy and the persons employed in the industry that the introduction of Third Generation systems results from an evolutionary scenario. This should embrace the advantages of an evolved GSM platform coupled with the UTRA air interface developed by ETSI and currently being specified in the Third Generation Partnership Project (3GPP).

2.4 The GSM Association therefore urges regulatory authorities to ensure that an evolutionary approach to the introduction of Third Generation systems is sustainable, including not only the technology but also the assurance that existing and future GSM operators are given the possibility to enhance their operation and service with the capabilities and features of Third Generation systems, to the millions of existing GSM users.

### **3. Third Generation work within the Association**

3.1 The GSM Association started to analyse the possible evolutionary scenarios for the Third Generation concept in 1994.

3.2 The Association established a specialist body in order to:

- Secure the development of a Third Generation system, to ensure that in the longer term mobile operators can offer customers the same range of services as the fixed network operators, including broadband, high bit rate communications,
- Ensure a smooth evolutionary/migratory path for systems based on the GSM platform and its planned enhancements through to the eventual deployment of a Third Generation system,
- Liaise with all third generation standards bodies & forums, e.g. the UMTS Forum, ETSI, and the ITU.

3.3 The Association documented operator Third Generation requirements as they were identified, which included the possibilities of the advanced business environment, the home environment, the use of radio software, and the need for system modularity. Some 30 Permanent Reference Documents have been prepared for GSM Association members - all comprehensively reporting and recording development of such issues as:

- Policy,
- Commercial considerations,
- Market expectations,
- Service requirements,
- System requirements (Terminal equipment, radio, core network, management systems etc.),
- Security,
- Evolution,
- Testing & Validation.

These have to a large extent formed a basis for what is now being developed under the 3GPP enterprise.

### **4. Additional Third Generation Issues**

4.1 The following sections of the Association's response address additional policy issues, which have been prepared by the Association's membership. In addition the Association is a Market Representation Partner (MRP) in the 3GPP. The Association has furthermore recently established a high level approach to Third Generation issues and intends to be active in other appropriate Third Generation forums.

4.2 Policy issues fall into three main categories licensing, spectrum and standardisation. These are addressed in sections 5 to 7 below

4.3 An evolutionary approach to the transition from the GSM radio interface standard to Third Generation systems utilising an evolved GSM platform is considered essential. Additional to any considerations of a trade or regulatory nature, it is believed that ideally minimal costs would occur and optimal quality and roaming benefits to end users will be realised if a single standard were to be developed with minimal regulatory burden. The Association therefore fully supported the ITU activities to minimise the number of radio interfaces and network options within the IMT-2000 umbrella standard. Given this evolution, it is further considered essential that incumbent GSM operators become significant players in

the Third Generation environment. The well being of a high number of existing GSM users, which in many countries will reach penetration levels well above 50% by the time Third Generation is introduced, must be considered carefully in terms of minimum administrative disruption and inconvenience as well as enhanced service offerings. It is believed that this can be assured only through exploiting the technical possibilities of developing advanced features and services within existing GSM networks, which will evolve thereafter into Third Generation systems.

## **5. Licensing**

5.1 As we move forward and as described above, the evolution to Third Generation is clearly a natural extension of the current service offering to existing customers. The Association would therefore encourage administrations to determine that current GSM operators would be eligible to occupy spectrum identified for Third Generation applications in their home territories.

5.2 Therefore the Association's view is that any additional spectrum identified for Third Generation systems should be open on equal terms to incumbent GSM operators and potential new licensees.

5.3 It should also be noted that many non European members of the GSM Association consider that their existing licensing arrangements would naturally provide for the granting of new spectrum for their Third Generation services, hence we can expect major parts of the world to opt for an evolution of existing GSM networks/operators into Third Generation networks/operators.

5.4 Based on visibly negative results experienced by several members, the GSM Association is generally of the opinion that administrations should select Third Generation operators by a comparative process rather than through auctions or similar processes that degrades the importance of system quality. It is noted however that CONATEL has opted for an auction process for the award of 3G licences. Nevertheless all administrations have been urged wherever possible to minimise the costs for operators building Third Generation networks, as for example any additional start-up cost outside the necessary system costs would negatively impact on a quick and qualitative roll-out of Third Generation systems. This request might be taken into account for example in the setting of any annual fees and charges for access to spectrum or numbering series etc.

5.5 The GSM Association would also wish to mention that if in the event not all of the existing GSM operators receive a IMT-2000/UMTS Third Generation authorisation, then fair competition must be guaranteed between all 3 categories of operator e.g. GSM operators, Third Generation operators and GSM/Third generation operators.

## **6. Spectrum**

The GSM Association supports the UMTS Forum's published strategy, and in particular the minimum bandwidth figures. In the light of paragraph 5 above, it is imperative that any UMTS/IMT-2000 Third Generation licensee, including both existing operators and new entrants, has access to a minimum of two paired bands of 15 MHz plus 5 MHz of un-paired spectrum, from within the IMT-2000 core band. The GSM Association therefore fully supports the activities of some regional regulatory authorities to ensure the release of sufficient and appropriate spectrum in a timely manner. The Association is also of the opinion

that in congested areas a substantial amount of additional third generation spectrum will be required in the not too distant future. In some countries a minimum of 160 MHz (and in others substantially more) of extra spectrum will be needed as early as 2005 in addition to the IMT-2000 core frequency band and the bands currently used for 1<sup>st</sup> and 2<sup>nd</sup> Generation public mobile systems. This additional spectrum to be used for IMT-2000 should not impact on the commercial activities of existing GSM operators, thus the changeover from 2G to 3G services in the 900 MHz and 1800 MHz extension bands identified at WRC-2000 should not be contemplated without the full involvement and agreement of existing GSM operators.

## **7. Standardisation**

7.1 Again, this is a crucial element for the future of GSM as a successful platform for Third Generation systems. The 3GPP and the ITU are currently progressing with work in this field. The GSM Association in the past has fed its own requirements to ETSI SMG and to the UMTS Forum, and has now established a co-operative approach with the 3GPP as an MRP. As a basic principle the Association wishes to see future standards based on open interfaces, not proprietary solutions. Proprietary solutions would not create a healthy climate of competition, which would impact on customers and would not, it is believed, meet the needs of operators, regulators or service providers, and would as a result provide for a less than satisfactory overall service for the end users.

7.2 Standardisation must be substantially independent of frequency and therefore any standards developed should be designed to function over the complete range of spectrum envisaged for IMT-2000 as well as on existing GSM and IMT-2000/UMTS frequencies. It must also allow for 'soft migration' with evolutionary options to suit each operator's plans and interests.

## **8. Comments on Specific Questions in the context of the foregoing sections**

Answers to several questions have not been provided, as they seem to be specific to the Venezuelan market.

### ***1.1 Do you agree with the proposed assignment of spectrum to 3G mobile licences? Please detail.***

As stated in Section 6 above the Association believes that any UMTS/IMT-2000 Third Generation licensee, including both existing operators and new entrants, should have access to a minimum of two paired bands of 15 MHz plus 5 MHz of un-paired spectrum, from within the IMT-2000 core band

### ***1.2 Do you have any alternative suggestions on how the 3G mobile spectrum should be assigned?***

No. The Association is fully in agreement with the proposed arrangement of two paired bands of 15 MHz plus 5 MHz of un-paired spectrum, from within the IMT-2000 core band.

### ***1.3 Do you agree that incumbent operators and new operators that obtain 3G mobile spectrum should receive equal amounts of 3G mobile spectrum?***

As stated in Section 6 above the Association believes that any UMTS/IMT-2000 Third Generation licensee, including both existing operators and new entrants, should have

access to a minimum of two paired bands of 15 MHz plus 5 MHz of un-paired spectrum, from within the IMT-2000 core band.

***1.4 Is it appropriate that TDD spectrum is assigned at the same time as FDD spectrum?***

In view of the spectrum requirement, which includes both FDD and TDD spectrum, it is considered necessary to allocate the TDD spectrum in the same licensing process that allocates the paired FDD frequency bands.

***1.5 What considerations should be taken into account when assigning TDD spectrum?***

The following are believed to be pertinent parameters with respect to this question and are taken from CEPT ERC Decision - ERC/DEC/(99)25:

- TDD carrier spacing between public operators should be a minimum of 5.0 MHz. TDD carrier spacing within a public operators spectrum sub-band should be variable, based on a 200 kHz raster, and may be less than 5.0 MHz,
- Carrier spacing between TDD and FDD carriers should be a minimum of 5.0 MHz between public operators,
- The carrier nearest to 1900 MHz should be centred at 1902.4 MHz or above.

***1.6 How should the spectrum in 1885-1900 MHz and 2010-2025 MHz bands be assigned?***

The GSM Association would propose that the question of TDD in these sub-bands should be deferred for the time being. It could be useful to consider these bands in the light of experience in other countries, terminal availability and future discussions surrounding the frequency bands to be used for IMT-2000 expansion.

***2.1 Do you agree with the proposed assignment of 2X15 MHz in 1800 MHz spectrum bundled with the IMT-2000 spectrum, to a new market entrant?***

***2.2 Do you agree with the proposed assignment of 2X5 MHz in 1800 MHz spectrum, bundled with IMT-2000 spectrum, to one existing operator or new operator?***

The Association's view on 2.1 and 2.2 is as follows. The spectrum identified for Third Generation systems should be open on equal non-discriminatory terms to both incumbent operators and potential new licensees. The GSM Association would also wish to mention that if in the event not all of the existing GSM operators receive an IMT-2000/UMTS Third Generation authorisation, then fair competition must be guaranteed between all 3 categories of operator e.g. GSM/2G operators, Third Generation operators and GSM/Third generation operators.

On the question of providing 2G spectrum at 1800 MHz to 2 of the 4 3G licensees, one of which would be a new entrant, a number of factors are relevant. The GSM Association in principle advocates that all the available frequencies suitable for GSM at 900 and 1800 MHz should be assigned to operators, subject to commercial demand. The Association therefore welcomes the possibility of introducing GSM 1800 services

in Venezuela. The Association also recognises the difficulties of applying a cohesive policy to a multi-standard environment.

Nevertheless the Association still favours a proportionate approach and would propose that frequencies at 1800 MHz should be associated with all of the 4, 3G licences. This is because all 5, 800/900 MHz operators are assumed to be utilising either paired bands of 7 MHz (GSM) or paired bands of 12.5 MHz (CDMA/TDMA). The Association further understands that the GSM regional operators in addition to providing fixed and mobile services in the smaller towns also provide service in the major cities and are now experiencing congestion. The same situation probably arises for 2G operators using technologies other than GSM. It would therefore seem opportune to provide at least 2 x 7.5 MHz bands at 1800 MHz included with the 3G licences. But the Association would additionally propose that CONATEL consider introducing the possibility of secondary trading of spectrum within the public mobile telecommunications sphere. Such a policy would ensure that non-GSM operators could benefit in the case of successfully obtaining a 3G licence but did not wish to implement an 1800 MHz network for whatever reason. Such operators might then be able to trade their 1800 MHz spectrum to operators wishing to further develop their 2G-network prior to 3G launch.

The policy suggested by the GSM Association would ensure sufficient 2G spectrum for all, would stimulate additional competition, obviate the need for national roaming whilst still permitting (if required) the reservation of one licence for a new entrant to the Venezuelan market.

***3.1 Do you support the incorporation of guard bands within the licensed spectrum assignments?***

Appropriate guard-bands would seem to be necessary dependent on the technology chosen by the applicants.

***3.2 Do you agree that the spectrum assignments should be independent of the choice of IMT-2000 standard? (please provide supporting argument if you do not agree)***

Yes a technology neutral approach would seem appropriate. However in terms of services to be offered to the public it could be argued that it is in the public interest to reduce the number of technology variants as much as possible whilst ensuring a competitive market in the provision of infrastructure, terminals and services. Harmonisation facilitates roaming which has been a great success for GSM and the global community.

***3.3 Do you support the requirement for bidders to declare their chosen radio access network standard at the pre-qualification stage of the auction (i.e. before the auction commences)?***

Yes, such an approach will ensure that operators bidding will recognise the significance of their choice of spectrum with respect to operators bidding for neighbouring spectrum resources.

***It is not considered appropriate for the GSM Association to answer questions 4.1 to 4.4.***

***4.5 Should one licence be reserved for a new operator?***

As stated in 2.2 above, the Association's view is that spectrum identified for Third Generation systems should be open on equal non-discriminatory terms to both incumbent operators and potential new licensees.

***4.6 Should existing and new operators be treated equally with regards to the assignation of licence?***

Please see the answer to 4.5 above.

***It is not considered appropriate for the GSM Association to answer questions 4 and 6.***

***7.1 Should each individual operator choose the standard it will deploy for 3G or should CONATEL mandate a single 3G standard for the Venezuelan market?***

Operators in general should be free to choose the standard they wish to deploy within guidelines set by the regulator. Standards within the ITU IMT-2000 family should be chosen.

***7.2 Should the standard of at least one of the spectrum licences to be awarded be predetermined?***

Such a policy may facilitate roaming, however because of the technology situation within the country it is probably better left to the market to determine the approach to standards.

***7.3 If CONATEL mandates a single 3G standard, what would be the implications for the existing operators given that there are multiple standards in play for 2G?***

See 7.2 above.

***7.4 Should the standard(s) deployed be one of those approved by the ITU in order to ensure compatibility with 3G networks in the rest of the world?***

Yes, the Association would advocate licensing systems using technologies specified within the ITU family of IMT-2000 systems.

***It is not considered appropriate for the GSM Association to answer 8.1 and 8.2.***

***8.3 How important is international roaming for 3G operators?***

International roaming will be an essential element of the 3G technologies to which operators utilising GSM and EDGE technologies migrate. There will also be a need for roaming between 3G networks based on W-CDMA (where no GSM option exists) and GSM networks in other geographical regions. Roaming is not only a feature which GSM users now take for granted; it provides many operators with a significant amount of revenue. The facilitation of GSM roaming has been at the core of the GSM Associations objectives since the original Memorandum of Understanding was signed in 1991, the promotion of 3G roaming and 3G to 2G roaming will therefore be an essential part of the Association's business in coming decades. The GSM Association is also active in encouraging roaming between other 2G technologies and GSM. Such situations are foreseen in 3G environments as well, provided the stringent commercial, operational, security and technical criteria of the Association's members are fully met.

*It is not considered appropriate for the GSM Association to answer 8.4 to 14.6*

## **9. Conclusions**

The GSM Association has provided a response to a number of issues and overall policy principles, which it believes to be important in the CONATEL Third Generation consultative process.

The GSM Association would of course be prepared to respond to any questions of clarification that arise after perusal of this document.

The GSM Association looks forward to welcoming Third Generation members from Venezuela into the GSM Association before too long.