



15 January 2014

Gibraltar Regulatory Authority
Attn. Mr Joseph Torres
Head of Operations
Suite 603
Europort
Gibraltar

Dear Joe,

Public consultation on the licensing of 4G mobile services & liberalisation of mobile bands in Gibraltar (Public Consultation 3/13)

Enclosed please find Gibtelecom's submission on the Authority's call for stakeholder input on the licensing of 4G mobile services and liberalisation of mobile bands in Gibraltar (Public Consultation 3/13).

The Company is sharing this submission with Telekom Slovenije mobile experts. In the event they want to add any further comments, Gibtelecom will immediately pass these on to the Authority in the hope they can be taken into consideration.

Yours sincerely,



Dwayne Lara
Corporate & Regulatory Manager

Enc.

**Gibtelecom submission to Gibraltar Regulatory Authority public consultation
dated 2 December 2013 on the licensing of 4G mobile services & liberalisation of
mobile bands in Gibraltar.**

Introduction and general comments

1. Gibtelecom is presenting its comments in response to the Authority's public consultation 3/13 published on 2 December 2013. The Company notes that the main thrust of the consultation is the allocation and licensing of 4G mobile communications services in Gibraltar. The document also puts forward proposals related to the Authority's plans for mobile wireless services and spectrum more generally.
2. Gibtelecom broadly finds the Authority's proposals for the licensing of 4G spectrum acceptable. However, in one or two aspects the Company puts forward different views to those being set out by the Authority and seeks clarification in other areas.
3. Gibtelecom believes the Authority should acknowledge the Gibraltar Government's declared policy on the constraints surrounding the siting of mobile masts and propagation of mobile signals. This should be reflected in the service criteria set out under question 11 below as well as the Authority's other proposals across the consultation document.
4. As requested, Gibtelecom's comments and/or questions are being referenced to the Authority's questions.

Specific GRA questions

Question 1: Do you agree with the GRA's evaluation of the 900 MHz band?

Gibtelecom does not share what appears to be the Authority's absolute view that there is no available spectrum to allow a second local operator to have a reliable 2G network in this band.

The Company recognises that channel use is currently fragmented, but considers that, from a technical perspective, it could be possible to consolidate all used spectrum within the 900MHz band to its upper ranges. This would assist in freeing up a number of contiguous channels in this band for use by an alternative mobile operator. It should be noted that, due to the known levels of interference in the 900MHz band, it is highly implausible for spectrum to be split, proportionately or otherwise, between more than two operators. The same would apply to the 1800MHz band (see our response to question 2 overleaf).

Following this 'consolidation' approach would also mean Gibtelecom being able to retain its existing assignment of 900MHz channels, which the Company deems of critical importance for the correct operation of its extant GSM system. As recognised by the Authority under 3.11.1 of their consultation paper, channel migrations are costly, more so when moving across bands. Gibtelecom has already made substantial and material capital investments in hardware/licensing/infrastructure etc to operate in the 900MHz band, and the Company would find it uneconomical to have to face the further costs associated with re-farming this spectrum range. Given its commercially sensitive nature, Gibtelecom will separately be providing the Authority with information on the levels of capital and other expenditure associated with the Company's provisioning of GSM services.

Before considering any move away from the 900MHz band, as alluded to under Section 3.12 of the consultation paper with the intention of "equalising" spectrum usage across the industry, Gibtelecom is of the view that the Authority should indeed carry out a detailed cost-benefit feasibility study. Apart from the more obvious financial analysis, the study would also need to consider the availability of replacement spectrum, as well as the impact on Gibraltar consumers of such a migration. Only if there is a net economic benefit to Gibtelecom and the wider industry would the Company be supportive of any initiative to re-farm the 900MHz band. Gibtelecom also refers the Authority to the Company's response to question 9.

Question 2: Do you agree with the GRA's evaluation of the 1800 MHz band?

Given that there are already two mobile operators with assignments under this band (Gibtelecom and Eazitel), the Company agrees that providing the spectrum slots necessary to offer the higher bandwidths associated with UMTS (3G) or LTE (Long Term Evolution, or 4G) services would be challenging. Gibtelecom also shares the Authority's view that it would be difficult, from a technical standpoint, to accommodate a third mobile operator under the 1800MHz range. As with the 900MHz band, the interference issues would make it impracticable for spectrum to be allocated efficiently between more than two operators.

However, with regards re-farming of this band, as is being proposed by the Authority under section 3.12, Gibtelecom's views are the same to those put forward in its response to question 1 above. The mobile networks and infrastructure of the two existing mobile operators are designed and constructed to operate under this spectrum. Any deviation away from this frequency range could have negative financial and operational repercussions for Gibtelecom, as well as adversely affecting Gibraltar consumers. The Authority would need to demonstrate that there is a net economic benefit to any migration. Please see our response to question 9.

Question 3: Do you consider this band suitable for 4G (2100MHz)?

Whilst Gibtelecom recognises the fact that the 2100MHz range is defined as global LTE (Long Term Evolution) band 1 by the ITU (International Telecommunications Union), this band has not yet been widely adopted throughout the industry.

As of December 2013, only eight carriers (four in Africa, three in Asia, one in Europe) have established LTE band 1 networks. This lack of implementation to date may steer user equipment manufacturers away from developing handsets for said band, making it difficult for mobile operators and the industry in general to promote services within this band. Additionally, the lack of implementation will certainly pose problems in relation to roaming agreements (as roaming partners are certain to favour mobile operators who share the same bands as those being used by consumers). It is therefore essential that handset compatibility first be ensured, particularly to allow roaming customers access to 4G services whilst in Gibraltar.

Gibtelecom does not therefore consider the 2100MHz band suitable, or optimal, for the provision of 4G services, and would strongly recommend against its use. The alternative would be to have a capacity and speed layer for 4G services operating under the 2600MHz band. Please see our response to question 6 below.

Question 4: Do you agree with the GRA's evaluation of the 800 MHz band?

Yes. Gibtelecom acknowledges the use of LTE band 20 (800MHz), as defined by the ITU, as a global harmonised band for the provision of International Mobile Telecommunications (IMT) services. The Company also acknowledges that a global 60MHz (2 x 30MHz) allocation is deemed sufficient for the provision of "base" LTE services.

However, the Authority should note that 2 x 5MHz assignment blocks under the 800MHz band would not be sufficient to provide a full coverage layer with satisfactory data speeds. This is more relevant when considering the Authority's proposed service criteria to be met by operators being awarded 4G spectrum. Gibtelecom is of the view that the only way to provide appropriate data speeds would be to have 2 x 10MHz assignment blocks, as is the emerging practice across the EU and elsewhere, such as most recently the Isle of Man. Having 2 x 10MHz blocks would need a review, in Gibtelecom's mind, of the Authority's proposed new spectrum usage charging structure. Please see our response to question 10 below.

Gibtelecom also welcomes the Authority's stance that any interference problems in the bands below 790MHz will be dealt by the Authority via international agreements with neighbouring countries.

Question 5: Should the channel plan be the same as the UK for the 2600MHz Band?

It is Gibtelecom's view that there is no overt reason why the Authority's channel plan for the 2600MHz band should differ from the UK's.

The Authority should note that, whilst the TDD (Time Division Multiplex) assignment (2570-2620MHz) band may not necessarily be required, it would make sense for this 'centre gap' to be automatically granted to the successful applicant of FDD (Frequency Division Multiplex) spectrum in the 2600MHz band.

Question 6: Do you agree with the GRA's evaluation of the 2600 MHz band?

Gibtelecom supports the use of LTE band 20 (2600MHz) for the provision of a capacity and speed layer.

This would be working in conjunction with an LTE base layer working in the 800MHz band (see our response to question 4 above).

As with the assignment of spectrum blocks under the 800MHz band, Gibtelecom would also like to point out that 2 x 5MHz blocks would not be sufficient to offer satisfactory data speeds. As a capacity and speed layer, assignments under the 2600MHz band should instead be made available as 2 x 20MHz blocks.

Question 7: Should the GRA proceed to liberalise the mobile bands?

Although Gibtelecom has no operational or commercial need at this time to take advantage of any liberalisation of the mobile bands, the Company is supportive of the notion of making spectrum technology agnostic. To ensure optimal spectrum use, the decisions on which

service to provide in which band should be made with regards the economic and technical impact these have on the Company.

For instance, benefits could be realised in the longer term should it make sense at the time to use current 2G GSM frequencies to provide UMTS services. There could be a scenario in future where GSM technology (under the 900 and 1800MHz bands) could be phased out in favour of a UMTS circuit-switched base layer for in-building voice services.

Question 8: Do you agree with the GRA's position regarding the 700 MHz band?

No. As in our replies to questions 4 and 6 above, it is Gibtelecom's view that 4G services could be introduced in the 800 and 2600MHz bands. The Company does not therefore foresee a requirement for the use of the 700 MHz band for mobile services and will therefore not be in a position to support any further costs related to offsetting current services on said spectrum.

Question 9: Should the GRA research in detail the potential of Spectrum Equalisation between local mobile operators before re-farming the 900 MHz & 1800 MHz bands?

On the specific question of whether a detailed study should be carried out before considering the equalisation of bands, Gibtelecom agrees to this. It would be in the interests of transparency and ensuring regulatory confidence for the Authority to first research in detail the re-farming of the 900 & 1800 MHz bands. It is Gibtelecom's view that for any re-farming exercise to be supported by the industry, the detailed study would need to clearly show that doing so would carry a net economic benefit, particularly as Gibtelecom would be the only party that would be required to relinquish spectrum in the 900MHz band.

However, as explained in our responses to questions 1 and 2, it is questionable whether licensing a third operator, and equalising the usable spectrum, in such a small jurisdiction will positively contribute to the limited market and Gibraltar consumers in general. Doing so will only further limit a scarce resource and serve to exacerbate the technical constraints being imposed on current operators as a result of the current interference on the 900 & 1800 MHz bands.

Question 10: Do you agree with the proposed fee structure?

It is in Gibtelecom's opinion that the proposed fees do not reflect the reality of operating, in Gibtelecom's case, three distinct mobile networks over five spectrum allotments.

The Authority should bear in mind that the current 2G GSM network must remain in-situ to provide (specifically with regards the 900MHz range) umbrella voice services over LTE. It must be noted that LTE has not been defined with a voice provision. As an innate packet switching standard, voice services are accommodated by falling back onto GSM or UMTS circuit-switched systems.

A method of providing voice via the LTE air-interface is referred to as Voice-over-LTE (VoLTE). This requires the introduction of IP Multimedia Subsystem (IMS) and handsets that support VoLTE. Industry analysts conservatively predict that VoLTE handsets will not

become mainstream until at least 2015 or thereabouts. Until such a time, the GSM bands (900MHz, in particular) must be utilised in tandem with any LTE deployment.

It must be further noted that the 10-15MHz LTE channel assignments suggested in section 3.2 will not be conducive to meeting the minimum service requirements stipulated in section 5.3 (i.e minimum download speeds of 5 megabits per second). Fulfilment of such criteria will require a collective 30MHz of spectrum (10MHz @ 800MHz and 20MHz @ 2600MHz).

The introduction of LTE would require a substantial financial investment by the Company, possibly running into millions of pounds, for a technology which, for all intents and purposes, will simply extend Gibtelecom's current UMTS infrastructure. There is no new application or service provision that requires 4G that cannot already be achieved using 3G HSPA+ services. The investment is made even more significant given the relatively small Gibraltar population and market. This reality reduces the potential for any Gibraltar operator to adequately recover any type of investment over a reasonable time period. Should spectrum fees not reflect this reality, this will only serve to erode incentives for the industry to invest in 4G services.

Taking this into consideration and the fact that all bands may be liberalised, Gibtelecom suggests that 900 and 1800MHz bands are priced at the same level as the proposed fee for the 2100MHz allocation. Furthermore, the fees for the 4G spectrum should be structured in a manner that will allow operators to maximise the LTE speed offerings. The GRA should give consideration to modifying their proposed pricing schedule so that the cost of acquiring 30MHz (2 x 10MHz in 800MHz and 2 x 20MHz in 2600MHz) of 4G spectrum remains as per the cumulative cost of the proposed 4G fees.

Question 11: Do you agree with the GRA proposal to include a number of service criteria in the areas outlined above within the 4G licences? Respondents are invited to provide views on the proposed characteristics, including what parameters they believe would be appropriate for each and on the award process.

Gibtelecom supports the idea of having service criteria set within the 4G license, as this will certainly aid the speed at which LTE services are rolled-out and also ensure the customer has a predefined quality of service. Having transparent and practicable service criteria will also go a long way to ensuring only applications from operators who are genuinely capable of complying with 4G rollout obligations are received by the Authority.

Although Gibtelecom is broadly in agreement with the type of criteria being proposed by the Authority, the Company does have reservations on aspects of the measures being suggested. Primarily, it is the Company's belief that such criteria can only realistically be met if no more than two 4G licenses are awarded. It would be financially unviable to meet the proposed criterion if the already small Gibraltar mobile market and customer base is distributed even further.

With regards each individual criterion, Gibtelecom can provide the following comments.

- 1) **Service launch within nine months of award** – Gibtelecom considers nine months too short a time period, given that equipment procurement times set by manufactures are typically defined as twelve to sixteen weeks. This equipment must

then be installed, ratified, commissioned and trialled prior to launching the service. Such activities may take up to an additional six months. From our experience in installing mobile networks in Gibraltar, the elapsed time from the decision to invest, to ordering, receiving, installing, and commissioning the equipment and service would be more than the nine months being proposed. Gibtelecom therefore considers a period of eighteen months after being awarded a 4G license to be a more realistic and achievable timeframe.

- 2) **70% of population coverage at launch** – Gibtelecom deems this to be achievable, subject to receiving any necessary planning authority approvals for the siting of mobile equipment and propagation of signals. Furthermore, it is not clear whether “coverage” refers to indoor or outdoor coverage. Can the Authority provide some guidance on this?
- 3) **95% population coverage within 2 years of service launch** – Gibtelecom considers this to be a realistic target subject to receiving any necessary planning authority approvals for the siting of mobile equipment and propagation of signals. Furthermore, it is not clear whether “coverage” refers to indoor or outdoor coverage. Can the Authority provide some guidance on this?
- 4) **Minimum download speeds of at least 5mbps** – Gibtelecom would like some clarification from the Authority as to how it intends to apply this criteria. The Company is concerned that such download speeds may not be achievable at all times across the whole of Gibraltar for a number of reasons. These could be the type of handset/mobile device being used; how many customers are hooked onto a certain mobile cell site at a certain time; where in the network the measurement of the download speed is being taken; and how close a customer is to a cell site. Gibtelecom is aware that in regulatory circles a “lightly loaded” measurement is applied to determine acceptable download speeds. The UK regulator, Ofcom, has defined this as a *“single user demanding service within the serving cell, and the surrounding cells of the network are loaded to a light level (by which we mean the common channels only are transmitting at 22% of the maximum cell power)”*.¹ Would the Authority be following this approach?

Gibtelecom would also like some clarification as to how the Authority, in providing “regulatory oversight”, proposes to assess compliance with the service criteria.

With regards the awards process, Gibtelecom welcomes the Authority not entertaining a comparative selection procedure. In the Gibraltar market, doing so would undoubtedly place considerable financial and operational burdens on operators seeking to acquire 4G spectrum.

Notwithstanding this, the Company has some concerns as to how the Authority intends to filter out possible spurious applications. It is noted that an application fee will be invoked, but this will not happen until the “Award” stage. The Authority is proposing to make it conditional for applicants to confirm they accept the service criteria as part of the “Application” Stage. However, an applicant could simply “tick this box” to get through to the next stage of the process, but without subsequently meeting the conditions. In other

¹ Ofcom 4G Coverage Obligation Notice of Compliance Verification Methodology: LTE of 24 July 2012

jurisdictions, as well as in Gibraltar, there is evidence of organisations agreeing to meet conditional licensing and other service criteria in order to take them through the hoops, and then not satisfying these. How will the Authority ensure any commitments made at the Application stage will be followed through?

Indeed, there is also little clarity on what would happen should successful applicants not meet the service criteria. Can the Authority please elaborate how it plans to address this and safeguard Gibraltar's reputation as a robust and transparent regulatory jurisdiction? Without such protection, the Authority could receive, and push through, more applications than is sustainable – hence unnecessarily triggering the "Sealed Bid" stage.

As a concluding remark, Gibtelecom finds the Authority's consultation process useful in taking forward what could be an important development in the small Gibraltar mobile data communications market. The Company would welcome the opportunity to further discuss some of the points raised in this submission ahead of the Authority publishing its final decision.

End of submission

