



**CABLE & WIRELESS**

**Expression of Interest in 2,600 MHz Spectrum**

Response to Consultation Paper 2009-T01  
Distribution of Spectrum in 2600MHz Band  
issued by the Jersey Competition Regulatory  
Authority on 3 June 2009

Non-Confidential Version

**1 July 2009**



## **Introduction**

Cable and Wireless Jersey Limited (C&WJ) welcomes the opportunity to respond to the Jersey Competition Regulatory Authority's (JCRA's) Consultation Paper 2009-T01 issued on the 3 June 2009, which calls for Expressions of Interest in acquiring spectrum packages available in the 2,600MHz band.

C&WJ asks that the JCRA accepts and notes this response as a formal Expression of Interest in acquiring an allocation of the 2,600 MHz spectrum. It has responded to the specific issues raised in the JCRA's Consultation Paper below. C&WJ has tried to respond in as much depth as possible but emphasises that it is not possible to provide some of the level of detail and specifics requested at this early stage.

## **Proposed Usage of any additional spectrum received**

The JCRA states that the spectrum will not be subject to any specific technological restrictions and may be used to provide a range of innovative telecommunications products. C&WJ welcomes this statement given that 2,600MHz spectrum is of potential application and relevance to both "mobile operators going indoors" and "fixed operators going outdoors".<sup>1</sup> [CONFIDENTIAL]

## **Current or prospective demands for telecommunications services that would be satisfied by an allocation of additional spectrum to C&WJ**

In Europe especially, 3G mobile service providers are looking to utilise the 2,600MHz spectrum for, but not necessarily limited to, 4G/LTE (Long Term Evolution) products and services. Indeed, the European Union (EU) has recognised the importance of the 2,600MHz spectrum to the continued improvement of wireless services in the Community, through its adoption of the Decision<sup>2</sup> on the harmonisation of the 2,600MHz band, which obliges Member States to open up the 2500-2690 MHz band on a technology neutral basis. Even though Jersey is not part of the EU, and therefore not obliged to comply with or adopt such decisions, it is important that the JCRA and licensed operators are seen as striving to offer customers in Jersey the same innovative services as will be available throughout Europe. At this stage, it is not possible to quantify exactly what the prospective demand for 4G/LTE services will be in Jersey although the sophisticated nature of the Jersey economy and customer base suggests it is likely to be significant.

## **Why additional allocation of spectrum to C&WJ would be in the short-term and long-term best interests of users of telecommunication services in Jersey.**

As mentioned above, it will be important to ensure that customers in Jersey are able to enjoy the same range of 4G/LTE services as will be available to customers in Europe. 4G/LTE services are regarded as offering the potential for customers to enjoy the same experience and applications over wireless networks as over fixed wireline networks, with services that can be supported over 4G/LTE networks

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<sup>1</sup> Refer to Appendix 1 for a diagrammatical representation of this

<sup>2</sup> Commission Decision of 13 June 2008 on the harmonisation of the 2500 - 2690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community, (2008/477/EC), Official Journal of the EU, L163/67, 24 June 2008.

including VoIP, video streaming, mobile TV, etc. As important will be the ability of 4G/LTE networks to offer the capacity to support the huge increase in demand for connectivity that will result from the new generation of mobile devices that will be introduced to support new mobile applications.

An allocation of spectrum in the 2,600MHz range will therefore be essential to C&WJ if it is to be able to meet the demands of Jersey customers to enjoy such new and innovative services at affordable prices.

### **How the allocation of additional spectrum to C&WJ would contribute to the efficient use of spectrum in Jersey.**

4G/LTE services are regarded as being more efficient in their use of spectrum than previous generations of mobile service. Further, Nortel<sup>3</sup> estimates that 4G/LTE will deliver three to five times greater capacity than the most advanced 3G networks.

To ensure maximum efficiency, C&WJ recommends that the JCRA adopts the technical standards detailed in Ofcom's Statement on the award of the 2.6GHz and 2010 MHz bands published in April 2008.<sup>4</sup> The 2.6 GHz/2,600MHz band offers an important opportunity for the development of mobile data services in the UK, across Europe and in a number of other countries worldwide. Consultation on technical principles with interested parties on use of the band, in CEPT and EU regulatory groups, with the EC, industry members and other EU Member States cannot be ignored.

Furthermore Ofcom researched the impact of interference from TDD terminal stations to FDD terminal stations in the 2.6 GHz band and detailed its findings in its April 2008 Consultation document.<sup>5</sup>

C&WJ therefore believes the structure of the 2500-2690 MHz band as outlined by Ofcom and endorsed by the CEPT ECC Decision 05(05) for UMTS/IMT-2000<sup>6</sup> should be adopted. Indeed, C&WJ notes that the JCRA has stated that potential licensees should be aware of the band plan for this frequency as set out in this ECC Decision. C&WJ fully understands the technical findings, conclusions and recommendations of this Decision and has also considered other jurisdictions outside of Europe for completeness.

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### **Why an additional allocation of spectrum to C&WJ would be in Jersey's best economic interests**

As already outlined above, it will be important that businesses and residential customers in Jersey have access to the latest range of innovative telecommunications services as will be available throughout Europe. Mobile services offered over 4G/LTE will enable customers to experience greater performance and throughput than even the most advanced 3G services currently available.

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<sup>3</sup> Nortel White Paper, Long-Term Evolution (LTE): the vision beyond 3G, July 2008

<sup>4</sup> Award of available spectrum: 2500 – 2690 MHz, 2010-2025 MHz, Ofcom Statement, 4<sup>th</sup> April 2008

<sup>5</sup> On the impact of interference from TDD terminal stations to FDD terminal stations in the 2.6 GHz band, Ofcom Statement, 21 April 2008.

<sup>6</sup> ECC Decision of 18 March 2005 on harmonised utilisation of spectrum for IMT-2000/UMTS systems operating within the band 2500-2690 MHz (ECC/DEC/(05)05)

For example, Ericsson reports<sup>7</sup> that LTE will be able to offer downlink peak rates of at least 100Mbit/s and speeds of over 200Mbit/s. In addition, LTE supports flexible carrier bands from below 5MHz up to 20MHz and also supports both Frequency Division Duplex (FDD) and Time Division Duplex (TDD). LTE radio networks have a number of features that will simplify the building and management of next generation networks, including plug and play, self-configuration and self-optimization. These features will simplify and reduce the cost of network rollout and management. Ericsson also reports that a wide range of terminals will incorporate LTE embedded modules, including mobile phones and consumer electronic devices such as computer games, notebooks and cameras. Because LTE supports handover and roaming to existing services, this means that all such devices will be able to have ubiquitous mobile data coverage from the start.

The use of mobile data is expected to continue to increase as customers place increasing value on the ability to access data services wherever they may be. This means that the same type of high bit rate capability that is available today in fixed networks and facilitates, for example, fluent Internet usage, also needs to be provided in mobile networks.

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4G/LTE services offered over the 2,600MHz spectrum will enable operators to offer Jersey business and residential customers ubiquitous broadband coverage and roaming capability and will ensure that the Jersey economy enjoys access to technologies and innovative services that are on a par with what is available anywhere else in Europe, if not the world.

### **A summary of C&WJ's financial resources available to utilise any additional spectrum allocated to it**

[CONFIDENTIAL]

**Additional infrastructure requirements, including but not limited to erection of new transponder sites that C&WJ would require to utilise any spectrum allocated to it**

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### **The timescale within which any additional allocation would be used**

The development of 4G/LTE services is still at a relatively early stage of development worldwide. Coupled with the ongoing uncertainty surrounding the industry and the wider economic environment this means it is unlikely that any additional allocation would be used [CONFIDENTIAL]

### **Other issues**

It is imperative that the spectrum packaging structure adopted by the JCRA in conjunction with Ofcom enables licensed operators to evolve and develop services

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<sup>7</sup> Ericsson White Paper, Long Term Evolution (LTE); an introduction, October 2007

for customers. C&WJ considers it vitally important for the JCRA/Ofcom to recognise spectrum harmonisation not just across Europe but also across the Channel Islands. The harmonised availability of 2,600MHz spectrum across Europe and the Channel Islands will further develop market opportunities and importantly, will allow customers to roam as easily as they are accustomed to on other networks. More locally this stimulates and further enhances the value of the MNP investments. C&WJ has the general view that the whole mobile community, including users, operators and vendors, benefit from harmonized spectrum usage. A harmonized approach guarantees the timely availability of cost efficient equipment due to economies of scale and also brings more choice for customers in terms of handset device brands and models.

The 2,600MHz band should be used by IMT-2000 technologies including WCDMA/HSPA/LTE and WIMAX. The equipment will be available in 2009 in line with the time schedules of countries that have already licensed the band for IMT (Sweden, Norway) and operators' business plans.

While a range of different applications, or networks that enable different applications, could be encouraged, a range of incompatible standards would limit the choice of terminal equipment for any one network. Compatibility thus stimulates competition both in terminals and in choice of networks.

C&WJ has included below the band layout for 2,600 MHz that applies in a number of jurisdictions. C&WJ firmly believes that the JCRA/Ofcom should adopt Europe banding. Note this allocation allows for TDD and FDD allocations – that is, both WIMAX and LTE technologies - enabling a flexible and rich technology choice to meet market demands.



