



Case T-085

Defragmenting the 3.4-3.8 GHz
spectrum band

Proposal for consultation

Document No: JCRA 23/04

Publication date: 15 February 2023

Closing date: 31 March 2023

Jersey Competition Regulatory Authority
2nd Floor Salisbury House, 1-9 Union Street, St Helier, Jersey, JE2 3RF
Tel 01534 514990

Web: www.jcra.je

Contents

1	Overview	1
2	Introduction and legal framework	3
3	Proposal to defragment the 3.4-3.8 GHz spectrum band	10

1 Overview

- 1.1 The duties of the Jersey Competition Regulatory Authority (the **Authority, we, us or our**) include protecting and furthering the short-term and long-term interests of users of telecoms services in Jersey. We are presently considering how best to ensure Islanders can access and rely on high-quality next generation mobile services which means examining and potentially reviewing the allocation of local radio spectrum in the 3.4-3.8 GHz band.
- 1.2 Radio spectrum is an invisible finite resource used to connect mobile phone users with the mobile networks of telecoms companies. International standards bodies have decided that the 3.4-3.8 GHz spectrum band is ideal for deploying 5G services, with recommendations that telecoms companies have access to large contiguous spectrum blocks to achieve the most efficient services.
- 1.3 We are presently progressing the awarding of spectrum licences to local telecoms companies planning to provide 5G services but there are limits to the amount of spectrum available because of historic licensed spectrum allocations in the 3.4-3.8 GHz band.
- 1.4 After considering options for addressing this situation, our provisional view is that requiring these historic licensees to move within the 3.4-3.8 GHz band or removing their spectrum allocations with due notice may be appropriate in order to discharge our duties to protect and further the interests of Islanders. It is also our provisional view that this would likely be an acceptable approach within the legal framework covering spectrum allocation and licensing in Jersey.
- 1.5 This document sets out for consultation our draft proposals in this matter, which in summary is for us to recommend to Ofcom that:
 - (a) The licences for spectrum presently held by Clear, Newtel and Sure in the local 3.4-3.8 GHz band are revoked subject to a three-year notice period;
 - (b) Subject to accepting the revocation notice stated in (a) above, existing historic licensees receive new 'Limited Service' spectrum packages, as defined in the 5G Spectrum Award: Updated Statement of Intent¹, containing contiguous spectrum blocks within the 3.4-3.8 GHz spectrum band; and

¹ Intended for potentially limited coverage networks providing either publicly available or private services for a potentially limited number of users, with each package having – see <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-2022/t-064-5g-spectrum-award-process-2022-updated-statement-of-intent/>

(c) New 5G licensees are permitted to access any unused 3.4-3.8 GHz spectrum during this notice period, following agreement with existing historic licensees over sharing arrangements necessary to avoid interference between services.

1.6 We welcome comments on our analysis, views in respect of these draft and, we stress, provisional proposals, which will be carefully considered and taken into account before any final decisions are taken. In particular, responses are invited to the following questions:

Question 1: Do you support our provisional view that 5G spectrum is ideally provided in large contiguous spectrum blocks? If not, please explain why.

Question 2: Do you support our provisional view that the best method for defragmenting 5G spectrum is to potentially move existing historic licensees within the 3.4-3.8 GHz band or remove them? If not, please explain why.

Question 3: Do you agree with our approach to the legal framework relating to spectrum defragmentation and timetable for completion? If not, please explain why.

Question 4: Do you have any comments on our initial assessment of the need to defragment Jersey's 3.4-3.8 GHz spectrum band?

Question 5: Do you have any comments about our proposed draft approach to defragmenting Jersey's 3.4-3.8 GHz spectrum band?

1.7 The closing date for comments is 31 March 2023 with information in section 3.23 on how to submit them.

2 Introduction and legal framework

2.1 This section introduces the consultation, explains the background for considering defragmentation of the 3.4-3.8 GHz spectrum band in Jersey and the legal basis upon which we would carry it out if needed. Its contents are:

- [Introduction](#)
- [Spectrum defragmentation context](#)
- [Legal framework](#)

Introduction

2.2 Radio spectrum is an important and finite resource used to wirelessly connect users with the networks of telecoms operators. Our modern communication needs increasingly rely on wireless services for both personal and business reasons, with demand projected to grow in the future.² One important duty of any regulator is managing the demand for radio spectrum with the aim of ensuring enough is made available through licensing to meet any future demand.

2.3 We have begun the process of ensuring spectrum is available for next generation wireless services, both in the short-term and long-term. Fifth Generation, or 5G, which is the latest mobile standard, requires additional spectrum to deliver higher download speeds and lower latency services along with enabling a wide range of potential new applications such as the Internet of Things (IoT).

2.4 In 2022, we carried out a process allowing local telecoms companies interested in providing 5G services to apply for available spectrum and plan to conclude with new spectrum licenses being issued to successful applicants in 2023.³

2.5 The two successful applicants, JT and Sure, both stated a requirement for 100 MHz of contiguous spectrum⁴ in the 3.4-3.8 GHz band, on the basis this allocation will be needed to meet demand for mobile data services, which broadly aligns with recommendations made by international standards bodies and industry representative organisations.

2.6 We intend to re-run the application process in 2023 in relation to a currently unallocated third block of contiguous spectrum in the same band designated for a new 'Full Service' spectrum package, as defined in the 5G Spectrum Award: Updated Statement of Intent.⁵

² UK communications regulator Ofcom expect demand for mobile data to grow annually by 40%, for example, in a medium growth scenario – see https://www.ofcom.org.uk/__data/assets/pdf_file/0017/232082/mobile-spectrum-demand-discussion-paper.pdf

³ See <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-2022/> for more information.

⁴ See section 2.14 for more information on contiguous spectrum.

⁵ Intended for Island-wide networks providing publicly available services for the maximum number of users – see <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-2022/t-064-5g-spectrum-award-process-2022-updated-statement-of-intent/>

- 2.7 However, historic licensed allocations within Jersey’s 3.4-3.8 GHz band limits available spectrum and the capacity to create large contiguous spectrum blocks. As a result, we could only offer 5G spectrum packages with limited contiguous blocks, but with a stated intention to increase allocations as and if more spectrum becomes available.⁶
- 2.8 Making more 5G spectrum available in contiguous blocks requires defragmentation of Jersey’s 3.4-3.8 GHz band, specifically moving or removing existing historic licensed allocations. In this document we explain our provisional view is that it is necessary to carry out this defragmentation, explain why we have reached it, and set out for consideration our draft proposals for doing so.

Spectrum defragmentation context

About 5G spectrum

- 2.9 5G is a next generation technology standard specified by the International Telecommunication Union (ITU)⁷ and developed by the 3rd Generation Partnership Project (3GPP)⁸ as radio access standards. Based on these standards, the European Union recommended that member states adopt a coordinated approach to developing new 5G services using harmonised spectrum bands, designated as low, mid and high⁹.
- 2.10 In line with these recommendations, UK communications regulator Ofcom has made the spectrum bands below available for the development of 5G services, which are also the bands being allocated for Jersey:¹⁰

Low 700 MHz Band	80 MHz of spectrum in the 694 - 790 MHz low frequency range, which is well suited for providing mobile coverage over wide areas and indoors.
Mid 3.4-3.8 GHz Band	390 MHz of spectrum in the 3.4–3.8 GHz medium frequency range, which is well suited for providing a significant uplift in capacity and supporting low latency applications over large areas.

⁶ Providing additional spectrum also requires licensed operators to launch and roll-out a 5G network.

⁷ The ITU is United Nations specialised agency responsible for matters relating to information and communication technologies - see <https://www.itu.int/en/itu-telecom/Pages/default.aspx>

⁸ 3GPP is a cooperative global initiative created to develop specifications for mobile telecommunications including radio access, core network and service capabilities – see <https://www.3gpp.org/>

⁹ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions – 5G – an Action Plan (2016) – see <https://digital-strategy.ec.europa.eu/en/policies/5g-action-plan>

¹⁰ At this stage Ofcom is focused on the 700 MHz and 3.4-3.8 GHz bands – the 26 GHz band is under consideration for later licensing.

High 26 GHz Band	3.25 MHz of spectrum in the 24.25 - 27.5 GHz high frequency band (also known as the mmWave band) which is well suited for providing very high data capacity and speeds within a limited range.
---------------------	--

The need for sufficient 5G spectrum capacity

- 2.11 The ITU noted in a 2017 document, ‘Minimum requirements related to technical performance for IMT-2020 radio interface(s)’, that 5G requires a bandwidth allocation of at least 100 MHz of spectrum.¹¹
- 2.12 The EU concurs, noting in its ‘5G for Europe: An Action Plan’ that a major requirement for European regulators is to make large contiguous bandwidths of spectrum (up-to-100 MHz) available in appropriate frequency ranges to provide higher wireless broadband speeds.¹²
- 2.13 Industry representative body the GSM Association (GSMA) also states that the full capabilities of the 3GPP’s new radio access standard are best achieved through the widest channel sizes in new 5G spectrum bands, and that while 5G supports carrier aggregation (see section 2.15 below), making spectrum available in the largest contiguous blocks available supports faster, lower latency services. One of the organisation’s key 5G statements contained in its 2022 5G Spectrum: GSMA Public Policy Position is that national regulators should aim to award at least 80-100 MHz of contiguous spectrum per operator in the 3.4-3.8 GHz band.¹³

Contiguous v non-contiguous spectrum

- 2.14 Contiguous spectrum is created through aligning adjacent radio channels, or carriers, to form one block of spectrum within the band into a single enlarged channel for awarding to a licensed operator.
- 2.15 Non-contiguous spectrum is separated radio channels provided to a licensed operator, which can use carrier aggregation to overcome these limitations. This technology was introduced as part of 3GPP’s 4G LTE standards but has also been included within the 5G radio standard, as a means of improving the throughput data rate for users and allowing operators to deploy services where there is separation between allocated spectrum bands.

¹¹ see https://www.itu.int/dms_pub/itu-r/opb/rep/R-REP-M.2410-2017-PDF-E.pdf

¹² 5G for Europe: An Action Plan (2016), p4, section 3.2 – see https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=17131

¹³ 5G Spectrum: GSMA public policy position (2022) - see <https://www.gsma.com/spectrum/wp-content/uploads/2022/06/5G-Spectrum-Positions.pdf>

2.16 The Global Mobile Suppliers Association (GSA)¹⁴, which represents the principal companies involved in the supply of mobile telecoms infrastructure, and CITA¹⁵ which represents US companies, notes the benefits of contiguous 5G spectrum over non-contiguous as being:

- (a) Contiguous blocks lower the transmission cost per gigabyte;
- (b) Spectrum efficiency is lower with non-contiguous blocks than with one contiguous block; and
- (c) Non-contiguous blocks increase complexity and cost through additional signalling overheads and reduced flexibility, and increase power consumption in handsets.

2.17 In addition, if the non-contiguous blocks are separated by 200 MHz or more, multiple 5G antennas may be needed on base stations to utilise them, which will increase the cost to the mobile operator and the visual impact of mobile phone masts.

Spectrum defragmentation approaches taken by other regulators

2.18 In a 2020 document on awarding spectrum in the 700 MHz and 3.6-3.8 GHz band, UK communication regulator Ofcom notes ‘...There is a consensus that optimal deployment of 5G is best achieved with large contiguous blocks of spectrum’.¹⁶ To achieve this, it has incorporated opportunities for spectrum trading within its licencing process¹⁷ and plans to align historic licence conditions¹⁸ to facilitate the creation of contiguous 5G spectrum allocations.

2.19 In approaching its allocation of 5G spectrum, Isle of Man regulator CURA noted the importance of creating large contiguous blocks of 100 MHz in the 3.4-3.8 GHz band, and that the licences of two existing companies would need to be revoked to create the necessary contiguous spectrum for new licences.¹⁹ Following a spectrum auction, this revocation process is taking place through engagement and local licence changes.

¹⁴ GSA View of 5G Spectrum Awards in the 3400-3800 MHz in Europe (2019) – see <https://gsacom.com/paper/5g-spectrum-awards-april-2019/>

¹⁵ CTIA publication ‘Spectrum Considerations for 5G (2019) – see https://www.google.co.uk/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwir8fWbp5z7AhWTSMAKHdV7DCoQFnoECBIQAQ&url=https%3A%2F%2Fapi.ctia.org%2Fwp-content%2Fuploads%2F2019%2F03%2FSpectrum-Considerations-for-5G.pdf&usq=AOvVaw3Dlpl_oYfTePI_Pwbek1Hh

¹⁶ Statement on the final regulations for the award of spectrum in the 700 MHz and 3.6-3.8 GHz frequency bands (2020), p18, section A2.37 – see https://www.ofcom.org.uk/__data/assets/pdf_file/0021/205554/statement-final-regulations-700mhz-3.6-3.8ghz-spectrum-award.pdf

¹⁷ Ofcom, Statement on the final regulations for the award of spectrum in the 700 MHz and 3.6-3.8 GHz frequency bands (2020) – see https://www.ofcom.org.uk/__data/assets/pdf_file/0021/205554/statement-final-regulations-700mhz-3.6-3.8ghz-spectrum-award.pdf

¹⁸ Ofcom, Aligning license terms in the 3.4-3.8 GHz Band (2022) – see https://www.ofcom.org.uk/__data/assets/pdf_file/0020/245162/Statement-Aligning-licence-terms-in-the-3.4-3.8-GHz-band.pdf

¹⁹ https://www.cura.im/media/1657/20190912_consultation-future-use-of-spectrum-final.pdf

Our provisional view on spectrum allocations and the potential need for defragmentation

- 2.20 We believe the evidence examined supports the request of recently successful applicants for 5G Spectrum for large allocations (100 MHz) of spectrum in the 3.4-3.8 GHz band, and that this is ideally provided in contiguous blocks.
- 2.21 Creating large contiguous spectrum blocks requires defragmentation of the 3.4-3.8 GHz band, an approach being followed by other comparable telecoms regulators. In other jurisdictions, it may be possible to achieve defragmentation through spectrum trading, such as the UK where it is encompassed within section 30 of the Wireless Telegraphy Act but not extended to Jersey, which means we must consider alternative methods.
- 2.22 The best alternative method is to consider proactively defragmenting the spectrum through asking or mandating that existing historic licensees within the 3.4-3.8 GHz band either move within the band or have their spectrum licences revoked.

Question 1: Do you support our provisional view that 5G spectrum is ideally provided in large contiguous spectrum blocks? If not, please explain why.

Question 2: Do you support our provisional view that the best method for defragmenting 5G spectrum is to potentially move existing historic licensees within the 3.4-3.8 GHz band or remove them? If not, please explain why.

Legal framework

Powers to amend spectrum licences

- 2.23 Companies operating a wireless telecoms network in Jersey require two licences:
- (a) A valid telecoms licence that we have issued under the Telecommunications (Jersey) Law 2002 (the **Jersey Law**) allowing the provision of telecoms services in the Island; and
 - (b) A valid spectrum licence issued by Ofcom under the Wireless Telegraphy Act 2006 (the **WTA**) allowing the use of specific spectrum bands.
- 2.24 Although we have no statutory powers in relations to issuing spectrum licences, under Article 22 of the Jersey Law we are able to cooperate with Ofcom, which includes recommending the issue of spectrum licences to local companies. Under agreement, Ofcom expects us to make recommendations after following an appropriate consultation and assessment process to underpin and justify any decisions and subsequent recommendations we make.
- 2.25 The WTA provides Ofcom powers for the ‘granting, revocation and variation of wireless telegraphy licences’, with the spectrum licences issued to Jersey licensed operators containing a section stating that variation and revocation can take place:

*For reasons related to the management of the radio spectrum, provided that in such case the power to revoke or vary may only be exercised after at least one year's notice is given in writing and after Ofcom has considered any pertinent factors;*²⁰

2.26 When considering the management of radio spectrum, the WTA states that:

*Ofcom may not revoke or vary a wireless telegraphy licence unless the proposed revocation or variation is objectively justifiable.*²¹

2.27 Under existing agreement and working arrangements with Ofcom, we would expect to consider pertinent factors on behalf of Ofcom and make recommendations to revoke or vary a Jersey spectrum licence based on reasons that can be demonstrated as being objectively justifiable.

The duties of the Authority

2.28 When carrying out its duties, the Authority must act in accordance with its statutory obligations which include a primary duty to ensure that telecommunication services are provided within Jersey to satisfy all current and prospective demands for them. Part 3 of the Jersey Law includes several specific duties including:

(a) To protect the short-term and long-term interests of Islanders using telecoms services; and

(b) To further the economic interests of Jersey;

2.29 We place particular weight on points (a) and (b) in section 2.28 above in respect of this document and the proposals contained, interpreting the former as an obligation to ensure that the maximum number of Islanders can access future mobile data services and the latter as an obligation to ensure Jersey has future mobile services that would be beneficial to customers / increase consumer welfare.

The process we follow and planned timetable

2.30 Although the subject of this consultation does not relate to a specified statutory function, we intend following a structure based on the process set-out in article 11 of the Jersey Law.

2.31 The timetable, which may be subject to change, for completing the process is:

Feb 2023	Issue defragmenting the 3.4-3.8 GHz spectrum band proposals for consultation
----------	--

²⁰ Jersey Licences issued under the Wireless Telegraphy Act 2006, section 3 (f) – see <https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/mobile-wireless-broadband/jersey-licences>

²¹ Wireless Telegraphy Act 2006, schedule 1, Notification of proposed revocation, section 6 (a) – see <https://www.legislation.gov.uk/ukpga/2006/36/schedule/1/crossheading/revocation-or-variation>

Mar 2023	Close consultation and consider responses
May 2023	Issue outcome of consultation and confirm any plans for defragmenting the 3.4-3.8 GHz spectrum band
Jun 2023	Make any appropriate spectrum management recommendations to Ofcom

Question 3: Do you agree with our approach to the legal framework relating to spectrum defragmentation and timetable for completion? If not, please explain why.

3 Proposal to defragment the 3.4-3.8 GHz spectrum band

3.1 This section introduces the present situation with the 3.4-3.8 GHz spectrum band in Jersey, considers the case for and against defragmentation, explains our proposed approach to defragmentation, subject to consultation:

- [Introduction](#)
- [Assessing the need for defragmentation](#)
- [Proposed approach to defragmentation](#)
- [Next steps](#)

Introduction

3.2 As explained earlier in this document, spectrum in the 3.4-3.8 GHz band has been designated for use with 5G services, with 390 MHz within this band potentially available for allocation in Jersey.

3.3 However, before designation as ideal 5G spectrum, certain blocks within the band were historically licensed for other services such as fixed-wireless access (FWA) broadband. Typically the equipment for these earlier services uses Frequency Division Duplex (FDD) radio technology requiring separated spectrum blocks designated for upload and download. This contrasts with the 5G recommended approach of contiguous blocks using Time Division Duplex (TDD) radio technology.

3.4 Historic licensing activity in Jersey means there are three existing operators with spectrum in the 3.4-3.8 GHz band – Clear Mobitel (Jersey) Ltd (**Clear**), Newtel Ltd (**Newtel**) and Sure (Jersey) Ltd (**Sure**) - each with FDD allocations. Allowing for guard bands to prevent interference between FDD and TDD allocations²² leaves only limited opportunities to create large contiguous spectrum blocks available for allocation for new 5G services - see Figure 1 below for a

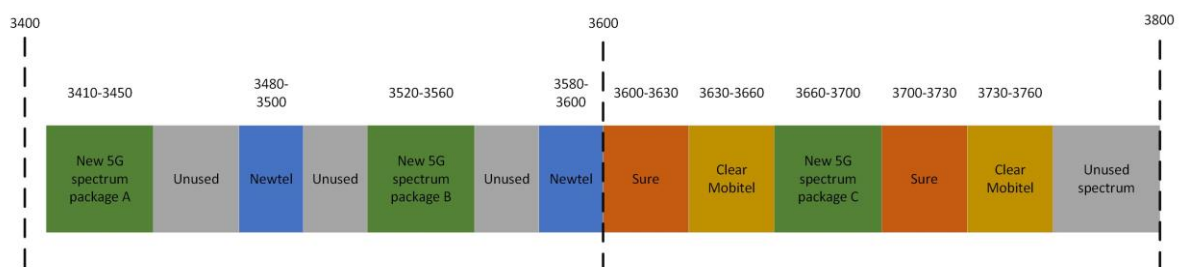


Figure 1: Present allocations in the Jersey 3.4-3.8 GHz spectrum band

diagrammatic representation.

²² A guard band is typically a narrow spectrum block between allocated spectrum blocks that is left clear to prevent interference between services.

- 3.5 Clear Mobitel and Sure are presently not using their spectrum allocation to provide any commercial services. Newtel are providing an FWA service using WiMAX technology²³ to provide broadband connections to customers within a limited geographic area.
- 3.6 Additional spectrum in the 3.4-3.8 GHz band is likely to become available following completion of the present 5G spectrum award process as conditions in the 5G Spectrum Award: ITT²⁴ requires existing historic licensees applying for new contiguous spectrum allocations to work constructively with us on spectrum defragmentation. However, this will still not allow the creation of contiguous 100 MHz spectrum blocks.
- 3.7 It should further be noted that as only two of the three 'Full Service' spectrum packages²⁵ offered in the recent 5G Spectrum Award ITT were allocated, the immediate demand for spectrum is reduced, although the need for potential defragmentation remains because the present situation prevents the creation of two contiguous 100 MHz spectrum blocks. However, we believe it remains important to ensure enough spectrum is available to allow three 'Full Service' 5G operators in Jersey, with a further ITT planned in 2023 to offer the remaining 'Full Service' spectrum package, either to another existing licensed operator or potentially a new market entrant.

Assessing the need for defragmentation

The projected development of mobile data services

- 3.8 Islanders have been able to access mobile telecoms services since the 1970s, primarily for voice at first, but following the development of successive mobile standards, increasingly use for mobile data as well. 5G is the latest of these standards, developed to enhance existing mobile data services through greatly increasing data throughput and coverage and enabling a range of new services expected to emerge in the coming years.²⁶
- 3.9 The speed of roll-out and take-up of these enhanced and new services is difficult to predict, especially in a location like Jersey which enjoys widespread high-quality 4G mobile services. However, a role for regulators is to predict trends as far as reasonably possible and pre-empt potential barriers to service growth through timely regulation.

²³ Worldwide Interoperability for Microwave Access – see <https://wimaxforum.org/Page/Initiatives/WiMAX-Advanced>

²⁴ See <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-2022/t-064-5g-spectrum-award-2022-itt-outcome-information-note/>

²⁵ Intended for Island-wide networks providing publicly available services for the maximum number of users – see <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-2022/t-064-5g-spectrum-award-process-2022-updated-statement-of-intent/>

²⁶ The Internet of Things (IoT) and driverless vehicles are cited as examples.

- 3.10 The most recent Channel Islands telecoms statistics and market report shows that data volumes have continued to increase in both Islands.²⁷ In Guernsey, the volume of data increased by 25.2% and in Jersey by 4.6% in 2021. This followed a respective 38.2% and 25.6% increase reported in 2020.²⁸
- 3.11 Ofcom notes that the UK has seen an average 40% year-on-year growth in mobile data services in recent years and expects the demand will continue to grow driven by trends including:²⁹
- Widespread availability of 5G enabled handsets;
 - Demographic shifts leading to more mobile data consumers; and
 - Innovative mobile data applications.
- 3.12 Ofcom further notes the 40% growth trend as being the most likely scenario, but that the reality may be lower or higher. If the latter, Ofcom predicts that operators may run out of capacity within five years, although they can minimise this risk by using additional spectrum.³⁰
- 3.13 We believe it would be reasonable to accept Ofcom’s most likely trend figure as applying to the potential growth in demand for mobile data in Jersey over the next five years, with factors such as the Island’s limited geographic size and the universal availability of fibre broadband reducing the chance of it being considerably higher – although this cannot be ruled out entirely. On this basis, the Authority should ensure sufficient spectrum is available to satisfy prospective future demand.

The implications of not defragmenting

- 3.14 As noted above, there is widespread endorsement among international standards bodies, other regulators and industry representative groups that providing large blocks of contiguous spectrum in the 3.4-3.8 GHz band (or equivalent mid-band frequencies) is the best way to satisfy prospective future demand, through the most efficient, economic and effective means available. Local telecoms operators presently engaged in the 5G ITT process also hold this view.
- 3.15 Providing large contiguous spectrum blocks is the approach being pursued in the UK, the approach implemented in the Isle of Man and the most likely approach to be followed in Guernsey. Not taking the same approach in Jersey could put the Island at a future disadvantage compared with these jurisdictions, and offer Islanders reduced quality services.

²⁷ JCRA, Telecommunications Statistics and Market Report 2021 – see <https://www.jcra.je/media/598594/telecommunications-statistics-and-market-report-2021.pdf>

²⁸ JCRA, Telecommunications Statistics and Market Report 2021 – see <https://www.jcra.je/media/598356/telecommunications-statistics-and-market-report-2020.pdf>

²⁹ Ofcom, Mobile networks and spectrum: Meeting future demand for mobile data (2022) – see https://www.ofcom.org.uk/__data/assets/pdf_file/0017/232082/mobile-spectrum-demand-discussion-paper.pdf

³⁰ *ibid*

3.16 Not defragmenting could also create a disadvantage for local operators providing services across the Channel Islands. It should be noted that a presently shared view between the Authority, Guernsey Competition and Regulatory Authority (GCRA) and Ofcom is that aligned allocations are preferable.³¹ The path to creating large contiguous spectrum blocks in the 3.4-3.8 GHz band is more straightforward in Guernsey given its fewer historic licensees, particularly in the lower half of the band.³² Not defragmenting the spectrum in Jersey may challenge the practicality of aligned spectrum holdings in both islands.

Factors against defragmentation

3.17 While there appear compelling reasons for defragmenting the 3.4-3.8 GHz band in Jersey, there are also reasons for us taking a different approach to spectrum management - principally and understandably the impact on existing historic licensees within the band.

3.18 Requiring operators that are using existing historic licensed spectrum for commercial services to move to alternative frequencies within the band and change from FDD to TDD technology may involve considerable expense if existing telecoms equipment cannot be modified. Any additional expense may be passed on to customers through price rises, which may also reduce the competitiveness of existing products. Customers may also suffer disruption while new equipment is installed.

Conclusion

3.19 Without defragmentation of the 3.4-3.8 GHz band, it is not possible to provide 100 MHz contiguous allocations in this important mid-spectrum band to any operator. While this situation will allow prospective short-term demand to be met, it may not provide sufficient capacity for the long term. Alternative non-contiguous arrangements will be less efficient, economic and effective for local licensed operators. On this basis, we believe defragmenting the 3.4-3.8 GHz spectrum is justifiable.

3.20 However, recognising the potential impact of this on existing historic licensees, we propose to establish a suitable notice period allowing time to either move within the band or vacate it.

3.21 We also note that existing historic licensees are either not using their spectrum allocations in the 3.4-3.8 GHz band to provide commercial services or are offering services within a limited geographic area. We therefore propose allowing newly licensed 5G operators to access unused spectrum during the notice period, subject to suitable arrangements needed to avoid interference between services.

³¹ A position also expressed by existing licensed operators with networks in both islands.

³² Newtel has no spectrum licence in Guernsey.

Question 4: Do you have any comments on our assessment of the need to defragment Jersey's 3.4-3.8 GHz spectrum band?

Proposed approach to defragmentation

3.22 We plan to carefully review responses to this consultation and engage further with historic licence holders that would be affected by any defragmentation of the local 3.4-3.8 GHz spectrum band. Following this, and subject to our decision on the issue as to whether defragmentation is the appropriate approach, our provisional view would be to recommend to Ofcom that:

- (a) The licences for spectrum presently held by Clear, Newtel and Sure in the local 3.4-3.8 GHz band are revoked subject to a three-year notice period;
- (b) Subject to accepting the revocation notice stated in (a) above, existing historic licensees receive new 'Limited Service' spectrum packages, as defined in the 5G Spectrum Award: Updated Statement of Intent³³, containing contiguous spectrum blocks within the 3.4-3.8 GHz spectrum band; and
- (c) New 5G licensees are permitted to access any unused 3.4-3.8 GHz spectrum during this notice period, following agreement with existing historic licensees over sharing arrangements necessary to avoid interference between services.

Question 5: Do you have any comments about our proposed approach to defragmentation?

Next steps

3.23 We are inviting written comments on the views and proposals contained in this document. All responses should be submitted in writing, clearly marked 'T-085: Defragmenting the 3.4-3.8 GHz spectrum band', and received by us before 5.00 pm on 31 March 2023. Submissions can be sent by email to info@jcra.je or alternatively in writing to:

Jersey Competition and Regulatory Authority
2nd Floor Salisbury House
1-9 Union Street
St Helier
Jersey
JE2 3RF

³³ Intended for potentially limited coverage networks providing either publicly available or private services for a potentially limited number of users, with each package having – see <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-2022/t-064-5g-spectrum-award-process-2022-updated-statement-of-intent/>

- 3.24 It would be helpful if any response includes direct answers to the questions asked in this document. It would also help if you can explain why you hold your views and how our proposals would impact on you, supported by any quantitative or qualitative evidence that you hold.
- 3.25 In accordance with our policy, non-confidential responses to the consultation may be made available on our website (www.jcra.je). Any material that is confidential should be put in a separate annex and clearly marked as such.
- 3.26 Once this consultation has closed, we will review responses which may be taken into account within a final proposal published on this matter, with the intention being to do so in line with the timetable shown in section 2.31.