



Case T-064

5G spectrum award

Updated Statement of Intent

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1 Overview and summary

- 1.1 The duties of the Jersey Competition Regulatory Authority (the **Authority**) include assessing demand for radio spectrum needed to operate certain local mobile and wireless services and making subsequent recommendations to UK communications regulator Ofcom for any required spectrum licences. The Authority is presently progressing the award of spectrum for use by 5G services¹.
- 1.2 The process for awarding Jersey's 5G spectrum began in 2018 under the Channel Islands Competition and Regulatory Authority (**CICRA**) and followed publication of telecoms strategies by the Guernsey and Jersey governments (the **Original Process**). In 2019, CICRA published draft and final Statements of Intent setting out the planned approach to the pan-CI 5G spectrum award process.
- 1.3 Because of the developing Covid-19 pandemic and concerns expressed over the security of 5G infrastructure, the Authority placed the award process on hold in 2020, shortly after which CICRA was dissolved. In July 2021, the Minister for Economic Development, Tourism, Sport and Culture requested the re-established Authority restart the 5G spectrum award process, now solely for Jersey (the **Restarted Process**).
- 1.4 Given time passed since the 5G spectrum award Original Process, and in view of several key influencing factors emerging since it was placed on hold, the Authority began the Restarted Process by issuing 5G Spectrum Award: Consultation to Reassess Interest and Demand² (the **Consultation**), which closed on 29 April 2022.
- 1.5 Having received and considered Consultation responses, and engaged with key stakeholders, the Authority is now beginning the next stage in the 5G spectrum award process, which is issuing this updated 5G Spectrum Award: Statement of Intent, which sets out the Authority's intended approach to creating 5G spectrum packages, the conditions attached to them and the application process for interested parties. In summary, these are:
 - (a) To ensure Islanders have access to widescale quality 5G services through issuing three 'Full Service' spectrum packages each containing up-to-100 MHz of contiguous spectrum in the 3.4-3.8 GHz band and 2 x 10 MHz of paired spectrum in the 700 MHz band;
 - (b) To create opportunities for Islanders or local organisations to receive specific innovative 5G services through offering several 'Limited Service' packages each containing up-to-30 MHz in the 3.4-3.8 GHz range;

¹ For brevity, consistency and clarity, this document will refer to '5G services' and '5G spectrum' throughout. For avoidance of doubt, however, the Authority is not advocating the use of any particular technology or services.

² Document No: JCRA 22/18, 5G Spectrum Award Process: Consultation to reassess interest and demand - <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-process-2022/t-064-5g-spectrum-award-process-2022-consultation/>

- (c) To encourage a commercially-based and environmentally sensitive roll out of 5G networks and services through placing reasonable, but minimal licence conditions on the 'Full Service' packages; and
 - (d) To base recommendations to Ofcom for awarding Full Service spectrum packages using a comparative selection process through which applicants must demonstrate intent and capability for operating a widescale 5G network and services in Jersey.
- 1.6 This document contains the full updated 5G Spectrum Award: Statement of Intent, together with a summary of received and analysed Consultation responses, upon which the Statement of Intent is based. This will form the basis upon which the Authority will approach recommending Ofcom issue 5G spectrum licences for Jersey.
- 1.7 Alongside, the Authority is issuing a draft 5G Spectrum Award: Invitation to Tender (**ITT**) document, which sets out for consultation the Full Service package application process, including proposed detailed licence conditions and minimum assessment requirements.

2 Introduction and context

2.1 This section introduces and provides context for the updated Statement of Intent. Its contents include:

- About 5G
- Spectrum licensing and the Authority's role
- 5G spectrum available for allocation
- The Authority's policy objectives
- Legal and regulatory framework
- The original 5G spectrum award process
- The restarted process

About 5G

2.2 Since first becoming available in the 1970s, mobile phones and the cellular telephony networks they use have evolved to offer increasingly sophisticated services. Underpinning this development path has been a series of common international mobile standards, broadly termed First Generation, or 1G, Second Generation, or 2G, and so on. The most recent is Fifth Generation, or 5G.

2.3 Responsibility for defining these mobile telecoms standards rests with the 3rd Generation Partnership Project (**3GPP**), which is a consortium formed from regional standards bodies and industry participants. It released the 5G standard in 2016, with widespread 5G network deployment starting in 2019³ and leading to at least 170 5G commercial networks operating globally by the start of 2022⁴.

2.4 For telecoms operators and mobile users, 5G offers a major step forward for mobile data services with the potential for higher connectivity speeds, much greater capacity for data traffic and lower latency on connections. This allows the continuing development of mainstream services including mobile broadband and IoT (Internet of Things), and potential for future niche or vertical services in sectors such as transport, medicine and logistics.

5G spectrum licensing and the Authority's role

2.5 Radio spectrum is an invisible but essential resource required to provide numerous wireless services ranging from electronic car key fobs through to broadcast television channels. There are constraints on the amount of overall spectrum available for these and other services,

³ <https://www.3gpp.org/release-15>

⁴ https://www.gsma.com/futurenetworks/ip_services/understanding-5g/

however, and limitations within the bands allocated for specific purposes, including to enable mobile services.

- 2.6 For mobile services, spectrum allows connections between mobile phones / terminals and a mobile operator’s network transmitters or base stations. To enable the development of 5G, international standards bodies have identified several spectrum bands, including those presently being considered for allocation in Jersey.
- 2.7 UK legislation governs the allocation and use of spectrum in Jersey. Under the Wireless Telegraphy Act 2006 and the Communications Act 2003, which are extended to cover the Island⁵, communications regulator Ofcom awards the licences for spectrum needed to operate 5G services in Jersey. This follows recommendations made by the Authority subject to them being consistent with Ofcom’s own legal responsibilities. The award by Ofcom of a spectrum licence is also conditional on the operator holding an appropriate telecommunications licence from the Authority, which may contain specific conditions relating to holding and using spectrum in Jersey.
- 2.8 There is a longstanding agreement between the Authority and Ofcom covering the local spectrum licensing process. Under this, the Authority carries out a structured assessment of demand for available spectrum using an approach best suited to local circumstances. Once complete the Authority makes a recommendation for Ofcom to issue licences, which it does subject to any recommendation being consistent with its legal responsibilities.

5G spectrum available for allocation

- 2.9 Ofcom has made new spectrum available for the development of 5G services, designated within the following ranges:

The 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. Allowing for necessary guard bands to prevent interference allows 60 MHz (2 x 30 MHz paired blocks) of spectrum to be awarded and a 20 MHz block available as supplementary downlink.
The 3.4-3.8 GHz Band	390 MHz of spectrum in the 3400 – 3800 MHz medium frequency range, which is well suited for providing a significant uplift in capacity and supporting low latency applications over large areas. Allowing for necessary guard bands to prevent interference provides 390 MHz of contiguous spectrum to be awarded.

⁵ By the Communications (Jersey) Order 2003.

The 26 GHz Band	3.25 GHz 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.
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- 2.10 The Authority intends awarding available spectrum in the 700 MHz Band and 3.4-3.8 GHz Band, which aligns with the approach taken by Ofcom in the UK. The Authority does not intend awarding spectrum in the 26 GHz Band at this time, but will consider doing so as interest and demand develops.
- 2.11 Some spectrum in the 3.6 GHz band has already been awarded to local operators, prior to its designation for the development of 5G services. As the GSMA recommends the award of at least 80-100 MHz of contiguous spectrum per operator in the 3.4-3.8 GHz band⁶, the Authority intends continuing with the proposal set out in the Original Process⁷ to potentially vary or revoke these allocations, with any variation or revocation undertaken constructively but with the firm objective of ensuring the Authority is able to meet future demand and expectations of Islanders for mobile / wireless data services.

The Authority’s policy objectives

- 2.12 One of the Authority’s strategic goals is to deliver effective supervision of regulated sectors, including telecoms, with the objective of ensuring ‘secure, resilient and good value telecommunications’ for ‘Jersey consumers, citizens, businesses and the economy’, and encouraging ‘sustainable competition, which will deliver innovation, value for money and service development for the benefit of consumers’ and through ensuring ‘investment in next generation services’.⁸
- 2.13 Through its published strategic plan, the Authority is also committed to ‘working collaboratively with Government, through identifying and focusing on areas of critical importance to it’.⁹
- 2.14 In 2018, the Government of Jersey (GoJ) published a Telecom’s Strategy¹⁰ with the objective being to build on Jersey’s current advanced telecoms network in a way that supports the ongoing development of digital infrastructure. Having reviewed with GoJ, the Authority is satisfied its intended approach to the licensing of 5G spectrum is consistent with present Government policy expectations.

Legal and regulatory framework

⁶ <https://www.gsma.com/spectrum/5g-spectrum-guide>, p2

⁷ Document No. CICRA 19/21: 5G Spectrum Statement of Intent - <https://www.jcra.je/cases/2019/t1462gj-5g-spectrum-statement-of-intent/t1462gj-5g-statement-of-intent/>, p

⁸ <https://www.jcra.je/media/598402/strategic-plan.pdf>, p14

⁹ <https://www.jcra.je/media/598402/strategic-plan.pdf>, p18

¹⁰ <https://www.gov.je/Industry/TelecomsStrategy/Pages/index.aspx>

2.15 The Telecommunications (Jersey) Law 2002 (the **Law**) requires the Authority to carry out its functions in such manner as it considers is best calculated to ensure that (so far as is reasonably practicable) telecommunication services are provided, both within Jersey and between Jersey and the rest of the world, as to satisfy all current and prospective demands for them.

2.16 Consistent with the requirement above, the Authority shall:

- (a) Promote competition among telecoms operators in Jersey, while minimising restrictions placed upon them;
- (b) Promote efficiency, economy and effectiveness in the commercial activities of telecoms operators;
- (c) Further the economic interests of Jersey; and
- (d) Ensure that telecoms operators have sufficient financial and other resources to conduct their activities.

2.17 The Authority shall further have regard to considering whether services are accessible and affordable to the maximum number of users, are innovative, high quality and reliable.

UK legislation relevant to spectrum licensing in Jersey

2.18 The use of spectrum in Jersey is governed by UK legislation that has been extended to the Island (and other Crown Dependencies) to ensure compliance with international agreements and to avoid interference across borders.

2.19 The UK communications regulator Ofcom carries out spectrum licensing in Jersey under powers awarded through the Wireless Telegraphy Act 2006 (WTA) and the Communications Act 2003, which sets out the principal duties of Ofcom in this matter including:

- To further the interests of citizens in relation to communication matters, by promoting competition where appropriate;
- To ensure the demand for and optimal use of spectrum, including its future use; and
- To consider promoting the benefits of efficient spectrum use and development of innovative services.

3 Approach to awarding 5G spectrum

3.1 This section explains the past process and present approach taken by the Authority to award 5G spectrum in Jersey. Its contents include:

- The Original Process
- The Restarted Process
- Consultation to reassess interest and demand

The Original Process

3.2 The governments of both Jersey and Guernsey published strategies in 2018 setting out policies to shape the broad development of telecommunications in respective islands¹¹. Both emphasised the desirability of achieving an early launch of 5G services and the benefits of network sharing arrangements to avoid the proliferation of new network infrastructure.

3.3 Taking government policies into account, pan-CI telecoms regulator CICRA¹² subsequently commenced a process in 2019 to establish demand for 5G spectrum in Guernsey and Jersey and then make a recommendation to Ofcom for awards to be made and licences issued.

3.4 This process resulted in a 5G Spectrum: Draft Statement of Intent published in May 2019 for consultation¹³, with its prominent proposal being that Ofcom award 5G spectrum to one operator in Guernsey and one in Jersey, with other service providers gaining access to the single radio network through commercial agreement.

3.5 Taking on feedback received on the published draft Statement of Intent, CICRA published a final 5G Spectrum: Statement of Intent in November 2019¹⁴. This determined the principle of single networks was impractical, moving to offering multiple spectrum awards instead and setting out minimum application conditions. Criteria for selection was included, based on a comparative selection, or ‘beauty parade’, process rather than spectrum auction¹⁵. CICRA subsequently consulted on a draft Invitation to Tender (**ITT**) document in November 2019 in preparation for publishing a final ITT in Q1 2020.

¹¹ For Guernsey see: <https://gov.gg/CHttpHandler.ashx?id=113783&p=0> | for Jersey see: <https://www.gov.je/Industry/TelecomsStrategy/Pages/index.aspx>

¹² In 2012, local regulators in Guernsey and Jersey merged to form the Channel Islands Competition and Regulatory Authority (CICRA). In April 2020, this organisation demerged, reinstating the Guernsey Competition and Regulatory Authority (GCRA) and the Jersey Competition Regulatory Authority (JCRA) as independent organisations.

¹³ <https://www.jcra.je/cases/2019/t1462gj-5g-spectrum-statement-of-intent/t1462gj-5g-spectrum-statement-of-intent-draft-consultation/>

¹⁴ <https://www.jcra.je/cases/2019/t1462gj-5g-spectrum-statement-of-intent/t1462gj-5g-statement-of-intent/>

¹⁵ The term ‘Beauty Parade’ commonly refers to an award process that involves applications from interested parties being judged through a comparative evaluation process, and the term ‘Spectrum Auction’ commonly refers to a process that involves applicants submitting financial bids for available spectrum.

3.6 In April 2020, CICRA was dissolved at the Jersey Government’s request with the Authority reconstituted as a solely Jersey-focused regulator. Shortly after, in the context of the developing Covid-19 pandemic and concerns expressed regarding the security of 5G infrastructure, the Authority put the process of awarding 5G spectrum on hold¹⁶.

The Restarted Process

3.7 In July 2021, the Minister for Economic Development, Tourism, Sport and Culture¹⁷ requested the Authority restart the 5G spectrum award process, in view of the pandemic’s diminishing impact and increasing clarity on telecoms security requirements.

3.8 Subsequently, and in line with a business plan commitment, the Authority restarted the process of awarding 5G spectrum in Jersey in January 2022 through issuing an Information Note¹⁸ and establishing a provisional timeline, which may be subject to change, for completion as follows:

Mar 2022	Launch consultation to reassess interest and demand
Jun 2022	Publish updated Statement of Intent and draft ITT for consultation
Sep 2022	Publish final ITT and invite applications
Q1 2023	Announce tender winners and make recommendations for spectrum award to Ofcom
H1 2023	Complete required local enabling activities for tender winners and Ofcom issue spectrum licences

Consultation to reassess interest and demand

3.9 In view of time passed since the Original Process, the Authority issued a consultation on 2 March 2022 to reassess interest in and demand for spectrum designated for use by 5G services. The responses received would help shape a revised Statement of Intent to be issued setting-out the Authority’s planned approach to recommending the award of 5G spectrum.

3.10 The consultation closed on 29 March 2022, with the responses summarised in this document and published on the Authority’s website at the same time.¹⁹

¹⁶ <https://www.jcra.je/cases/2019/t1468gj-5g-spectrum-award-process-on-hold/>

¹⁷ Jersey Government minister with responsibility for development of island telecoms policy.

¹⁸ Document No. JCRA 22/09: Information Note 5G Spectrum Award Process - <https://www.jcra.je/cases/2022/t-064-5g-spectrum-award-process-2022/t-064-5g-spectrum-award-process-2022-information-note/>

¹⁹ Non-confidential versions of responses are published on the Authority’s website alongside this document

4 Consideration of consultation responses

4.1 This section summarises responses received to the 5G Spectrum Award Process: Consultation to reassess interest and demand. Its contents include:

- Responses received
- Summary of responses to consultation and the Authority's analysis and conclusions
- Engagement with key stakeholders

Responses received

4.2 The Authority is grateful for the time and effort given to the consultation, which received responses from:

- Clear Mobitel (Jersey) Limited (**Clear**)
- Homenet (**Homenet**)
- Jersey Airtel Limited (**JAL**)
- J Rabasté (**J Rabasté**)
- JT (Jersey) Limited (**JT**)
- Public responses x three (**Public**)
- Sure (Jersey) Limited (**Sure**)

4.3 These responses are summarised below with full non-confidential versions published by agreement on the Authority's website alongside this document.

Specific responses to consultation questions and the Authority's analysis and conclusions

Question 1: Do you support the Authority's planned approach to restarting the 5G spectrum award process or have views on alternative approaches?

Summary of responses

- 4.4 Clear provides information on the global development of 5G and draws attention to potential benefits of adopting a shared radio access network approach in Jersey.
- 4.5 Homenet draws attention to the potential impact of reallocating its presently allocated spectrum within the planned 5G spectrum award process, noting the impact on services it already provides using this spectrum and expressing strong concern that decisions will be made without meaningful dialogue taking place.
- 4.6 JAL supported the Authority's approach to restarting the 5G spectrum award process.
- 4.7 J Rabasté broadly supports the introduction of 5G in Jersey, but advances an approach counter to that arrived at in the Original Process, comprehensively advocating the consideration of a

shared radio access network (RAN) which would remove the need for multiple potentially costly individual operator-owned networks, which potentially leads to base station proliferation or at least retains the present number of radio masts, as new 5G networks are rolled out.

- 4.8 J Rabasté asserts that a shared RAN approach has the potential to reduce operating costs, which could result in lower prices for consumers, and the potential for service quality to increase over that presently provided by multiple 4G networks.
- 4.9 J Rabasté further reminds of earlier policy statements made by Government of Jersey on preferences for a shared 5G network, and that more regulatory consideration could be given to the needs of consumers, which are assumed broadly to want better services without an increase in price.
- 4.10 JT supports restarting the 5G spectrum award process as soon as possible for Jersey, noting that much of the information submitted in the Original Process remains relevant but other points now need taking into consideration. JT further recommends that all available spectrum should be allocated, rather than a two-stage approach as originally planned, and that award should be on the basis of comparative selection, which has worked well in the past.
- 4.11 JT further considers coverage / quality of service obligations attached to 5G spectrum awarding, supporting their inclusion but cautioning against conditions that are too onerous, and advocating the simultaneous award of spectrum in the 700 MHz and 3.4-3.8 GHz bands to help coverage and speed.
- 4.12 JT further expresses views that any licenses should be network/technology neutral, allowing network operators to decide approaches for deploying 5G and believes it essential to defragment the 3.4-3.8 GHz band to allow awards of contiguous spectrum, noting the same approach is widespread elsewhere.
- 4.13 JT finally asks several questions around specific spectrum blocks, in the 700 MHz, 3.4-3.8 GHz and 26 GHz bands.
- 4.14 While broadly supportive of the Authority's planned approach to restarting the 5G spectrum award process, Sure disagrees with simply updating the final 2019 Statement of Intent, proposing a pause in the process to allow a thorough re-examination of the business case for 5G in Jersey to take place. The reasons advanced for this include the need for final clarity from GoJ on telecoms security requirements (**TSRs**) and removal of high risk vendor (**HRV**) equipment, and uncertainty over consumer and business demand for 5G services in Jersey.
- 4.15 Sure further questions the validity of minimum licence conditions and additional commitments contained in the final 2019 Statement of Intent, in view of the suggested need for continued work to define TSR requirements and replace HRV equipment, and corresponding investment cost in both short- and long-term 5G technical solutions.

Authority analysis

- 4.16 Homenet's expressed concerns on the possibility of reallocating spectrum designated for 5G services are noted, and dealt with by the Authority's response to Question 7 below.
- 4.17 The Authority welcomes J Rabasté's submission, and appreciates many of the points contained. Those relating to considering the 5G spectrum award process from a consumer perspective have particular validity – one of the Authority's published strategic goals encompasses safeguarding consumers, which involves helping markets work in the best interest of Jersey as a whole. However, the Authority does not regulate mobile services in the Island, which has a competitive mobile market working on behalf of local consumers and business, and which, it is assumed, will continue doing so in the future.
- 4.18 J Rabasté's points on the potential benefits arising from adopting an approach leading to a single shared 5G radio access network (**RAN**) have been carefully considered by the Authority. A first consideration is that the potential merits and drawbacks of this option have already been extensively rehearsed during the Original Process and through consultation on the Authority's draft Statement of Intent issued in March 2019. It was widely challenged or discounted at that time by existing licensed operators²⁰, chiefly for technical or commercial reasons, and therefore not subsequently pursued by the Authority. Reviewing present consultation responses received from the same licensed operators, there is some potential support expressed for network sharing, or variants of it, or at least the option of considering. For clarity, the Authority is not opposed in principle to one form of network sharing or another, subject to due consideration of competition law requirements. But, having explored and moved away from a single network approach in 2019, the Authority does not intend to actively lead a pursuit of this approach again. However, potential discussions between applicants and conclusion of network sharing arrangements can take place during the 5G award process and subsequently.
- 4.19 The Authority notes JT's comments on reviewing certain elements of the original Statement of Intent and associated conditions, which is also advocated by other respondents, and will take this into account.
- 4.20 The Authority further notes JT's request for clarification on plans for certain specific spectrum blocks, confirming it only plans to licence 60 MHz (2 x 30 MHz paired) of spectrum in the 700 MHz band and 390 MHz contiguous in the 3.4-3.8 GHz band at this time. The remaining 20 MHz block considered suitable for supplemental download uses in the 700 MHz band will not be considered at this time, but may be offered at some point in the future along with spectrum in the 26 GHz band.
- 4.21 Sure's arguments for delaying the 5G licence award process have received careful consideration. The Authority fully recognises the challenges faced in addressing the planned TSR and HRV requirements, and that while the process for concluding these is ongoing there

²⁰ <https://www.jcra.je/cases/2019/t1462gj-5g-spectrum-statement-of-intent/t1462gj-5g-spectrum-statement-of-intent-draft-consultation/>

may be uncertainty over finalising technical and commercial plans. However, the Authority does not believe moving ahead with awarding 5G spectrum at this time complicates matters further, providing the approach taken recognises the associated challenges. Further, the Authority hopes awarding licenses now will help operators' decision-making through providing a degree of investment certainty. Considering Sure's second key point on uncertainties surrounding the commercial business case for 5G, the Authority notes the concerns advanced, while also reminding that 5G has already been launched by more than 170 operators globally, many of which presumably faced or face similar risk and reward considerations. However, the Authority does recognise the peculiar economic conditions found in smaller jurisdictions may increase investment uncertainty, and will take into account within the updated Statement of Intent.

Authority conclusion(s)

- 4.22 The Authority will not proactively pursue an approach to awarding 5G spectrum based on a single RAN or network sharing – whether active or passive – but equally not aim to prevent applicants exploring or deciding a technical or commercial approach based on some form of network sharing arrangement, subject, as noted in 4.16 above, to competition law requirements.
- 4.23 The Authority will move ahead with revising the original 2019 Statement of Intent taking into account changed circumstances, in line with the timetable set out in the Consultation. The revisions included will reflect changed circumstances noted by respondents wherever practical, aiming to create conditions that provide potential 5G operators with reasonable flexibility around 5G launch and roll-out while ensuring Islanders are in a position to benefit from the new technology's potential.

Question 2: Please comment on the relevance of these key influencing factors or provide others that you believe the Authority should be taking into account in developing a Revised 5G Spectrum: Statement of Intent?

Summary of responses

- 4.24 Clear notes that the impact of delaying the award of 5G spectrum in Jersey may be advantageous, allowing consideration of a fresh and innovative approach, expanding to state that 5G allows greater potential for aggregating network infrastructure.
- 4.25 Homenet refers again to impact of potentially reallocating spectrum, noting the importance of allowing a smooth migration of its network and customers into 5G.
- 4.26 JAL provides extensive information in response to Question 2, proposing the Authority help the effective roll out of 5G through prioritising the availability of fibre backhaul products, supporting planning reform, providing price reliefs on electricity for base stations and incentivising infrastructure and network sharing. JAL supports its points with reference to numerous local and other published documents and reports.

4.27 J Rabasté reiterates and summarises extensive points made in his submission explaining that a shared RAN approach should lead to cost savings.

4.28 Commenting on the key influencing factors highlighted in the Authority's consultation, JT explains that:

- Given delay in awarding 5G spectrum, it is essential this now goes ahead to enable network performance improvement in Jersey.
- Although there is presently no pan-CI alignment in approach, the award of 5G spectrum in Jersey should move ahead regardless.
- The focus of the restarted process should be on supporting mobile services now widely available on existing handsets rather than attempting to establish Jersey's reputation as an early 5G adopter.
- The 5G spectrum award should take place alongside procurement of new equipment to replace HRV equipment that needs removing to comply with impending telecoms security requirements.
- Deploying new 5G network infrastructure is likely to be hampered by Jersey's planning approach, which makes no allowances for mobile network requirements in contrast with Guernsey and the UK. JT would welcome the Authority's support in this area.

4.29 Sure agrees that the Authority's influencing factors are relevant, proposing that a lack of interest in 5G should also be taken into account, and that the Authority should review and update the Statement of Intent to reflect changed circumstances.

Authority analysis

4.30 The Authority notes and thanks respondents for all of the various points and proposals made in response to this question, and will take as many as possible into account when considering revisions to the original Statement of Intent.

4.31 Considering JAL's extensive submissions specifically, some of which are supported by other respondents, the Authority offers the following responses:

- That extensive engagement and effort has been devoted to reducing the cost of business connectivity, and the potential development of a mobile backhaul product. The Authority is pleased to note progress in this area;
- That the Authority has ensured awareness within GoJ of the potential planning requirements associated with rolling-out a new 5G network, and recognises that operators may need to further engage with the GoJ Planning Department on this matter, in which case the Authority would be willing to offer support to any operator-led initiative;
- The Authority has no powers to bring about reduction in electricity prices for 5G base stations; and
- The Authority refers to section 4.16 above in response to the point on infrastructure regulation and sharing.

Authority conclusion(s)

4.32 The Authority will revise the Nov 2019 Statement of Intent to reflect the key influencing factors noted in the Consultation, taking into account further points raised by respondents where possible and reasonable.

Question 3: Please provide information on yourself or your organisation, and explain your interest in the awarding of 5G spectrum in Jersey.

Summary of responses

- 4.33 Clear explains its present position as a licence holder and keenness to develop new and innovative services for users.
- 4.34 Homenet draws attention to its customer base and services they receive, and the opportunity to invest and deploy 5G mobile services.
- 4.35 JAL draws attention to its track record of providing mobile services in Jersey, states its interest in 5G and refers to verifying sources.
- 4.36 JT states its longstanding involvement in mobile services in Jersey and its present strong market share in 4G connections, and underlines the importance of 5G in enabling the continued provision of quality customer services.
- 4.37 Sure notes its longstanding involvement in the Jersey market, drawing attention to 5G trials already concluded.

Authority analysis

- 4.38 The Authority recognises the historic commitment shown by respondents to the Jersey market and welcomes stated broad intentions to continue through the provision of 5G service, which if pursued indicates that Islanders will have the opportunity to continue having long-term access to a competitive mobile market.
- 4.39 The Authority further notes an absence of interest from potentially new market entrants, for providing neither mainstream or limited networks and services. While not considered definitive, it may indicate the shape of demand for 5G spectrum in Jersey, which should be taken into account within the revised Statement of Intent.

Authority conclusion(s)

4.40 The revised Statement of Intent should aim to ensure expressed interest and demand is accommodated as far as reasonably possible.

Question 4: Taking into account the key influencing factors explained in this document, or others that you believe should be taken into account, please state if you are interested in applying for local 5G spectrum through the planned Restarted Process.

Summary of responses

- 4.41 Clear expresses an intention to be involved in any spectrum award process in order to develop its 5G strategy.
- 4.42 Homenet expresses interest in applying for 5G spectrum, setting out several expectations on the process used, in particular that it should not facilitate the removal of low-cost services from the market place.
- 4.43 JAL refers to information already provided in its response to Question 2.
- 4.44 JT remains interested in applying for 5G spectrum, in both 700 MHz and 3.4-3.8 GHz bands.
- 4.45 Sure is interested in applying for local 5G spectrum through the Restarted Process.

Authority analysis

- 4.46 The Authority welcomes the interest expressed.

Authority conclusion(s)

- 4.47 The revised Statement of Intent should aim to ensure expressed interest and demand is accommodated as far as reasonably possible.

Question 5: Considering the specific subject of pan-Channel Islands 5G spectrum alignment, please explain any particular challenges you anticipate if this is not achieved.

Summary of responses

- 4.48 Clear does not expect any issues given Ofcom's spectrum management mandate, which encompasses all the Channel Islands.
- 4.49 Homenet would prefer that 5G spectrum would be pan-CI.
- 4.50 JAL recommends a pan-CI alignment of 5G spectrum to support capital investment economies of scale, operational efficiencies, consistent customer experience and spectrum consistency.
- 4.51 JT refers to an earlier response given to Question 3, reiterating importance of moving ahead with the 5G spectrum award process for Jersey. However, JT highlights several challenges that will arise if spectrum allocated in the two islands is different.

Authority analysis

- 4.52 The Authority concurs with expressed preferences for an aligned approach to 5G spectrum between Jersey and Guernsey, but reminds that there may be factors within the individual bailiwicks that may mean this is not practically possible. The Authority further concurs with JT that moving ahead now with awarding 5G spectrum in Jersey is important, while aiming to achieve alignment.

Authority conclusion(s)

4.53 The Authority will proceed with the process for awarding 5G spectrum in Jersey, while liaising closely with the Guernsey regulator to ensure understanding of plans and the potential for an aligned approach as far as practically possible.

Question 6: If interested in 5G spectrum, please state the services you would initially envisage providing or would like seen provided by others.

Summary of responses

4.54 Clear notes the potential development of a range of new services alongside traditional voice and text.

4.55 Homenet would potentially offer high-speed mobile access, mobile broadband and mobile voice along with pursuing opportunities to partner with local governments.

4.56 JAL refers to information already provided for Question 3.

4.57 J Rabasté reminds that while not opposed to the introduction of 5G, Islanders already have access to a good 4G network and that any upgrade will incur additional expense.

4.58 JT states it plans to quickly launch commercial services, updating existing base stations to provide coverage with potential applications including enhanced mobile broadband and IoT, services to verticals and broadband to the home.

4.59 Sure states an initial objective of providing customers 5G-ready tariffs and 5G-enabled handsets, with an expectation that new services will arise as 5G use-case trials and initiatives take place in the future.

Authority analysis

4.60 The Authority thanks respondents for the information on potential 5G services, concurring that initial opportunities relate to developing existing services including enhanced mobile broadband and IoT, and that new services will emerge as technology, applications and demand develops.

Authority conclusion(s)

4.61 The revised Statement of Intent should reflect present service demand, but not create barriers to future 5G services development.

Question 7: If planning to provide 5G services, please state your ideal spectrum allocation requirement for providing them.

Summary of responses

4.62 Clear hopes to be treated equally in any spectrum award process.

4.63 Homenet would like to retain its present spectrum allocations in the 3.4-3.8 GHz band and expresses interest in the 700 MHz band.

- 4.64 JAL requests 25 MHz in the 700 MHz band and 100 MHz contiguous spectrum in the 3.4-3.8 GHz band.
- 4.65 JT states its minimum spectrum requirement as 2 x 10 MHz in the 700 MHz band and contiguous 100 MHz assignment in the 3.4-3.8 GHz band.
- 4.66 Sure requests 100 MHz contiguous spectrum in the 3.4-3.8 GHz band and ideally 30 MHz of available spectrum in the 700 MHz band.

Authority analysis

- 4.67 The Authority notes requests from JAL, JT and Sure for spectrum in the 3.4-3.8 GHz and 700 MHz bands, which broadly concur with GSMA recommendations. Fully meeting all the demand will require the defragmentation of the 3.4-3.8 GHz spectrum band, sections of which have been historically awarded to local licensed operators, including Homenet, which has stated a requirement to continue using.
- 4.68 In making its spectrum recommendations, the GSMA notes that 5G success requires the cooperation of governments, regulators and the mobile industry, needing 'significant new harmonised spectrum so clearing prime bands should be prioritised to meet market demand.' The GSMA further notes that regulators should aim to award at least 80-100 MHz of contiguous spectrum per operator in the 3.4-3.8 GHz band.
- 4.69 The Authority recognises the need to find a balance between fulfilling all demand and requirements expressed by respondents, along with meeting its obligations to islanders, local businesses and governments. The same balance needs finding between the cooperative approach advocated by the GSMA and its assertion that prime bands, i.e. the 3.4-3.8 GHz spectrum, needs clearing.

Authority conclusion(s)

- 4.70 The Authority's approach to awarding 5G spectrum will include defragmentation of the 3.4-3.8 GHz band, to ensure the GSMA recommended contiguous allocations will be available in Jersey.
- 4.71 Achieving this will require a cooperative approach from existing holders of licences in 3.4-3.8 GHz spectrum, the needs of which the Authority expects to address constructively and with due consideration of the needs of existing licensed operators and their customers, and with the firm objective of ensuring the Authority is able to meet future demand and expectations of Islanders for mobile / wireless data services.
- 4.72 Allowing this approach will equally need the cooperation and understanding of all operators requiring spectrum.

Question 8: Are there any further points you would like to make or information you believe valuable and relevant to the Authority for taking into consideration during this consultation process?

Summary of responses

- 4.73 JAL draws attention to treating inter-island backhaul as local connectivity requiring regulation, to support pan-CI 5G commissioning and requests the Authority regulates the cost of ISP connectivity.
- 4.74 While not specifically submitted in response to this question, Public A, Public B and Public C submitted concerns about possible health impact of 5G, with Public A including supporting reports.

Authority analysis

- 4.75 The Authority notes JAL's points on inter-island backhaul, but finds the matter beyond the scope of its plans for awarding 5G spectrum given the focus is now on Jersey only.
- 4.76 The Authority thanks the respondents for the comments on health concerns and information presented in support, but reminds respondents of its responsibilities which are to assess demand for and recommend the licensing of 5G spectrum in Jersey. Any concerns over potential health impacts of 5G should be primarily directed at GoJ, which has requested the Authority award 5G spectrum in Jersey, and potentially the Health and Community Services Department, which may be able to respond directly to some of the concerns raised.
- 4.77 The Authority further assures that any operators with 5G networks in Jersey will be required by the terms of their licence to comply with internationally accepted guidance on maximum non-ionising radiation levels²¹, which the Authority systematically monitors to ensure compliance.

Authority conclusion(s)

- 4.78 The revised Statement of Intent will not include any reference to inter-island backhaul.
- 4.79 The Authority will continue to ensure local mobile phone networks comply with internationally recognised health and public protection standards.

²¹ As published by the International Commission on Non-Ionising Radiation Protection (ICNIRP) in RF EMF Guidelines 2020 (<https://www.icnirp.org/en/activities/news/news-article/rf-guidelines-2020-published.html>)

5 5G spectrum award: updated Statement of Intent

5.1 This section sets out the packages created by the Authority from the available spectrum, the minimum conditions associated with them, and the outline application approach. Its contents include:

- [Approach to updated Statement of Intent](#)
- [Spectrum packages available](#)
- [Minimum associated licence conditions](#)
- [Outline proposed application process](#)

Approach to updated Statement of Intent

5.2 Taking its duties, guiding policies and legal responsibilities into account, and having carefully considered consultation responses alongside feedback and guidance through engagement with key stakeholders during the Restarted Process, the Authority will update the 5G Spectrum: Statement of Intent issued in November 2021²², and that the informed principles guiding modification are:

- (a) That Islanders presently benefit from a competitive mobile / wireless market provided by locally-based and committed licensed operators. The spectrum award process should ensure as far as reasonably possible that this continues to be the situation following the licensing of 5G spectrum; and
- (b) That Jersey no longer has any first mover advantage in this area, and is increasingly out of step with most other jurisdictions, that have now launched 5G, including the UK which many Islanders and local businesses may use as a point of reference. The spectrum award process should minimise the potential for further delay through adopting a pragmatic, frictionless approach wherever reasonable; and
- (c) That as many of the business drivers and potential applications for 5G are still emerging, the immediate benefits for Islanders will be to potential incremental enhancements of existing mobile and wireless data. The spectrum award process should recognise this shorter-term situation, while not limiting nor discouraging potential future development; and
- (d) That Islanders will want to receive the benefits of 5G through an acceptable level of environmental impact caused by increasing the number or density of mobile mast

²² [https://www.jcra.je/cases/2019/t1462gj-5g-spectrum-statement-of-intent/t1462gj-5g-statement-of-intent/Document details](https://www.jcra.je/cases/2019/t1462gj-5g-spectrum-statement-of-intent/t1462gj-5g-statement-of-intent/Document%20details)

infrastructure. The spectrum award process should seek to avoid the overt proliferation of mobile masts, above that necessary to provide 5G benefits; and

- (e) That assuring 5G network investment and rapid network roll-out is linked to several recognised constraining / enabling factors, including planning permission for new infrastructure, alignment with the Guernsey 5G spectrum award process, the adoption of new telecoms security policies, the investment in developing required mobile backhaul capacity. The spectrum award process should aim to accommodate potential initial constraints wherever practically possible; and
- (f) That the long-term success of 5G requires regulators to make contiguous spectrum available in the key bands internationally designated for the purpose, principally a recommended 80-100 MHz in the 3.4-3.8 GHz band. The spectrum award process should accommodate this position as far as practically possible, to include the creation of suitable spectrum packages through the defragmentation of key bands where needed, and with the firm objective of ensuring the Authority is able to meet future demand and expectations of Islanders for mobile / wireless data services.

Spectrum packages available

5.3 The Authority intends recommending that Ofcom award two forms of spectrum package:

Up to three x **Full Service spectrum packages**, intended for island-wide networks providing publicly available services for the maximum number of users, with each package having:

- a) Up-to-100 MHz contiguous spectrum in the 3.4-3.8 GHz band; and
- b) 20 MHz (2 x 10 MHz paired) spectrum in the 700 MHz band

Each package will have an initial allocation of 40 MHz contiguous spectrum in the 3.4-3.8 GHz band, increasing incrementally and equally for all package holders to 100 MHz subject to:

- a) Effective defragmentation of spectrum in the 3.4-3.8 GHz band to create the required contiguous spectrum; and
- b) 5G service launch within a defined period of Ofcom awarding a spectrum licence and roll out of a minimum stated number of 5G equipped base stations²³; and

²³ Defined period and minimum number of base stations to be confirmed through Draft 5G Spectrum Award ITT consultation.

- c) Demonstrable evidence presented that spectrum already awarded is being efficiently used.

Multiple **Limited Service spectrum packages**, intended for potentially limited coverage networks providing either publicly available or private services for a potentially limited number of users, with each package having:

- a) Up-to-30 MHz contiguous spectrum in the 3.4-3.8 GHz band

Each package may be subject to specific agreed terms and conditions, including limited time availability and usage restrictions.

Minimum associated conditions

5.4 Successful **Full Service spectrum package** applicants must:

- (a) Hold a Class II or Class III telecoms licence; and
- (b) Launch a service using the initial allocation of 5G spectrum within a defined period of time of Ofcom awarding the spectrum licence and roll out a minimum number of 5G equipped base stations²⁴ prior to requesting incrementally additional spectrum, subject to:
- Incremental spectrum being available to all Full Service spectrum package holders through the Authority's spectrum defragmentation process; and
 - Satisfactory demonstration that spectrum already provided is being efficiently used.
- (c) Work constructively and in good faith with the Authority on defragmenting the 3.4-3.8 GHz band (if applicable), and acceptance that incremental spectrum above the initial award is dependent on the Authority's ability to achieve defragmentation; and
- (d) Pay licence application fees which will be set-out in the 5G Spectrum Award: Draft ITT; and
- (e) Complete the Ofcom application process and pay any applicable Ofcom fees.

5.5 Successful **Limited Service spectrum package** applicants are required to:

- (a) Hold a Class I, II or Class III telecoms licence; and
- (b) Not be applying for or have received a Full Service spectrum package; and

²⁴ Defined period and minimum number of base stations to be confirmed through Draft 5G Spectrum Award ITT consultation.

- (c) Accept any specific licence conditions applied by the Authority; and
- (d) Pay licence application fees which are an initial non-refundable payment of £20,000 upon application; and
- (e) Complete the Ofcom application process and pay any applicable Ofcom fees.
- (f) Work constructively and in good faith with the Authority on defragmenting the 3.4-3.8 GHz band (if applicable).

Outline proposed application process

- 5.6 The Authority intends consulting on the full application process, submission requirements and evaluation criteria, with proposed approach set-out in the 5G Spectrum Award: Draft ITT issued alongside this updated Statement of Intent.
- 5.7 The Authority intends limiting applications for **Full Service spectrum packages** to existing Class II or Class III telecoms licence holders only. If there are less than three applicants for Full Service spectrum packages, or less than three applicants able to demonstrate their suitability and commitment, the Authority may consider running a second, subsequent application process open to non-existing Class II or Class III telecoms licence holders.
- 5.8 The Authority intends continuing with the originally planned comparative selection ('beauty parade') approach to applications, with recommendations to Ofcom for **Full Service spectrum packages** based on applicants being able to demonstrate their suitability and commitment through submissions confirming they have:
- (a) The financial means and readiness required to invest in and sustain a full service 5G network and associated services; and
 - (b) The technical intent and capability required to develop and operate a full service 5G network; and
 - (c) The operational and commercial experience required to provide and support a full service 5G network.
- 5.9 Additionally to these submissions, applicants for **Full Service spectrum packages** may provide supplementary supporting information in response to the following questions²⁵:
- (a) Please explain how your receipt of 5G spectrum will generally benefit islanders, local businesses and Jersey as a whole; and
 - (b) Please explain how your receipt of 5G spectrum will specifically enhance the mobile or wireless experience of islanders and local businesses; and

²⁵ Guiding information on expectations will be provided on request.

(c) Please explain how your receipt of 5G spectrum will not significantly cause an environmental impact through the proliferation of new network infrastructure.

5.10 In the event of more applications than Full Service spectrum packages available, the Authority will use responses to the above requirements, alongside information provided in submissions against questions shown in section 5.8, to evaluate applicants and choose which receives 5G spectrum.

5.11 The Authority will review and assess applications for **Limited Service spectrum packages** on a case-by-case, first-come, first-served basis, assessing each on its merits, backing and benefits to Islanders, local businesses and Jersey as a whole.

6 Next steps

- 6.1 Having restarted the 5G spectrum award process, and consulted to reassess interest and demand and engaged with key stakeholders, the Authority considers the updated Statement of Intent contained within this document as the final approach to creating 5G spectrum packages and the minimum conditions attached to them.
- 6.2 This document also sets out the outline proposed approach to the 5G spectrum award application process for interested parties. The Authority intends consulting on the full application process, submission requirements and evaluation criteria, with proposed approach set-out in the 5G Spectrum Award: Draft ITT issued alongside this updated Statement of Intent.
- 6.3 The timetable for progressing and completing, which may be subject to change, work on this case is:

Mar 2022	Launch consultation to reassess interest and demand
Jun 2022	Publish updated Statement of Intent and draft ITT for consultation
Sep 2022	Publish final ITT and invite applications
Q1 2023	Announce tender winners and make recommendations for spectrum award to Ofcom
H1 2023	Complete required local enabling activities for tender winners and Ofcom issue spectrum licences