



5G SPECTRUM: DRAFT STATEMENT OF INTENT

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1. EXECUTIVE SUMMARY

- 1.1 The Channel Islands Competition and Regulatory Authority (CICRA) comprises the Jersey Competition Regulatory Authority (JCRA) and Guernsey Competition and Regulatory Authority (GCRA). For spectrum management purposes, and to the extent allowed by legislation, CICRA deals with the Jersey and Guernsey Bailiwicks as a single economic and social entity.
- 1.2 CICRA's role in this area is to ensure the optimal use of spectrum in the Channel Islands. It ascertains the level and nature for available spectrum, and then make a recommendation to Ofcom for an award to be made. If it is satisfied that CICRA's recommendation is in line with its own duties, Ofcom will then issue spectrum licences. Where it identifies that demand exceeds supply, CICRA will carry out a selection process to ensure that the optimal use is made of spectrum.
- 1.3 This consultation seeks feedback on a proposed Statement of Intent on the allocation of spectrum for 5G, specifically in the 700MHz and 3.4 – 3.8GHz bands. This document should be read alongside any published statements of policy by the States of Jersey and States of Guernsey, which will also be taken into account when finalising the Statement of Intent. **CICRA is not bound to follow this draft Statement of Intent or any responses received to it.**
- 1.4 This consultation also serves as notice to operators with existing spectrum within these bands that it may be necessary as part of this process to seek to amend their current Ofcom licences for spectrum management purposes. This eventuality will be the subject of separate discussion with those operators.
- 1.5 The consultation also seeks responses on the types of conditions which may be attached to the issue of this spectrum. These conditions will be developed further during the eventual award process.
- 1.6 CICRA intends to issue a final Statement of Intent in July / August 2019, before issuing a draft Invitation to Tender in September 2019. A recommendation on the award of spectrum will be made to Ofcom during the first part of 2020, with the new licences and specific 5G rollout conditions coming into force in the middle of the year.

2. STRUCTURE OF THIS DOCUMENT

2.1 This document is structured as follows:

Section 3:	Background to this draft Statement of Intent
Section 4:	5G Spectrum for the Channel Islands
Section 5:	Issues for Consideration
Section 6:	Proposed Statement of Intent
Section 7:	Next Steps
Annex A:	Legislative and Licensing Background

2.2 Interested parties are invited to submit comments to CICRA in writing or by email on the matters set out in this paper to the following addresses:

CICRA
2nd Floor, Salisbury House
1-9 Union Street
St Helier
Jersey
JE2 3RF
Email: info@cicra.je

CICRA
Suite 4, 1st Floor
La Plaiderie Chambers
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2.3 All comments should be clearly marked “5G Spectrum: Draft Statement of Intent” and should arrive by 5 pm on 14 June 2019.

2.4 In line with CICRA’s consultation policy, the Authority intends to make responses to the consultation available on the CICRA website (www.cicra.je), the combined website of the GCRA and JCRA. Any material that is confidential should be put in a separate annex and clearly marked as such so that it may be kept confidential. CICRA regrets that it is not in a position to respond individually to the responses to this consultation.

3. BACKGROUND TO THE DRAFT STATEMENT OF INTENT

5G for the Channel Islands

- 3.1 For an increasing number of consumers, mobile connectivity is now an everyday necessity. 5G is the next generation of mobile technologies and is being designed to provide greater capacity, greater reliability, and deliver extremely fast data speeds, enabling innovative new services. The first wave of commercial products is expected to be available in 2021, with pre-commercial deployments expected to start in 2019
- 3.2 Spectrum is a critical component of wireless networks. It makes up the 'airwaves' that underpin communication services such as mobile, WiFi and TV. The diverse set of applications enabled by 5G will require access to different spectrum bands with different characteristics:
- Spectrum at lower frequencies, to enable 5G coverage to wider areas
 - Spectrum at higher frequencies with large bandwidths, to provide the necessary capacity to support a very high number of connected devices; and
 - Spectrum at very high frequencies above 24GHz with very large bandwidth, providing ultra-high capacity and very low latency. Cells at these frequencies will have very small coverage. It is likely that build-out of 5G networks in millimetre wave bands will be focused on areas of high traffic demand, or to specific locations or premises requiring services with very high capacity.
- 3.3 The effective use of the radio spectrum for telecommunications purposes is a matter of public interest for the Islands and, in this context, allocation of spectrum goes beyond the interests of one or more telecommunications operators. It is important that licences to use spectrum are granted in such a way as to make the most efficient use of it and render the maximum benefit to the Islands.
- 3.4 The governments of Jersey and Guernsey have policies on the introduction of 5G in their respective jurisdictions (see below). CICRA is commencing this programme of consultation to support these policy objectives, and that will enable it to make decisions on the allocation of spectrum for 5G. Issues which are being considered include:
- identification of the allocation process most likely to yield benefits for the Channel Islands
 - role and form of competition between existing and new operators
 - uses to which spectrum may be put
 - impact on the environment and health and safety
 - timing of any awards
 - supply chain security for telecommunication services
- 3.5 This process is expected to conclude with a recommendation to Ofcom of the award of 5G spectrum to successful applicant(s) at the end of 2020. An Invitation to Bid (ITB) seeking formal applications for spectrum supporting the provision of 5G services will be issued later in 2019.
- 3.6 Following an assessment of responses to this consultation, CICRA will develop the framework for the allocation of spectrum which will be the subject of the competitive process in 2020.

Q1	What '5G services' foresee could be delivered through this allocation of spectrum? What economic and social benefits will these bring to the Channel Islands?
Q2	In what timescale do respondents believe these services and benefits can be delivered?

Government Policy Considerations

JERSEY

- 3.7 In 2018, the Government of Jersey published a Telecom's Strategy (**Jersey's Strategy**)¹, Jersey's Strategy objective is to build on Jersey's current advanced telecoms network in a way that supports the ongoing development of digital infrastructure. Developed in line with Government policy and the Strategic Plan for Jersey, Jersey's Strategy set out five policy principles and recommendations.
- 3.8 Two policy principles are of particular relevance to the development of 5G services in Jersey:
- Policy principle 1 – Promote the path to next generation connectivity building on the current advanced digital infrastructure already in place, including by:
 - Being a fast adopted of next generation technologies that have been tested.
 - Incentivising mobile network sharing and rollout of mobile next generation technologies such as 5G.
 - Policy principle 2 – Promote retail competition (not network competition) as the most effective way of delivering the benefits of next generation connectivity to consumers and businesses, including by:
 - Ensuring fair and reasonable, non-discriminatory access to the gigabit fibre network for mobile backhaul
- 3.9 Jersey's Strategy recommends that government and CICRA should encourage mobile network sharing (see section 4.1.3) and describes example of the different types of network sharing which have been used in different jurisdictions.
- 3.10 The Action Plan which has been developed from Jersey's Strategy² lists a number of actions relating to the rollout of next generation networks, including 5G. Under this heading, there is a specific action for CICRA to develop and manage a forward-looking spectrum strategy to ensure future spectrum needs are met in line with government policy.
- 3.11 CICRA believes that the draft statement of intent in this document is in line with the current Government of Jersey policy and this consultation will ensure that CICRA takes into account industry feedback on the most efficient use of spectrum for Jersey and the timing for the rollout of 5G services. The feedback from this consultation and further discussion with the Government of Jersey will influence the final statement of intent.

¹ The States of Jersey Action Plan can be found at:

<https://www.gov.je/Government/Pages/StatesReports.aspx?ReportID=3377>

² <https://www.gov.je/Industry/TelecomsStrategy/Pages/JerseyTelecomsStrategyActionPlan.aspx>

GUERNSEY

- 3.12 The States of Guernsey has also published a telecoms strategy³ which includes its objectives for next generation mobile technology (5G), namely ‘the provision of next generation mobile technology in line, or earlier than the UK.
- 3.13 While the States of Guernsey will not seek direct involvement in the technology options for 5G, it will positively influence through innovative policy and regulatory strategies:
- Deliver future networks innovatively and with optimal economics: All stakeholders will strive to cost-effectively deliver better quality networks either independently or through sharing and partnerships
 - Drive growth in new use cases for massive IoT and critical communications services: 5G networks will support the massive rollout of intelligent IoT nodes for a multitude of scenarios and provide a competent platform to support the widespread adoption of critical communications services
 - Ensure delivery of 5G to Guernsey at least as fast, if not earlier, than the mainland UK.
- 3.14 The government in Guernsey has sought to encourage a consolidated view from the telecoms companies in response to the objectives in Guernsey’s telecoms and economic development strategies, but that has not been achieved over the past nine months. The Committee for Economic Development is now in the process of issuing a policy letter in July for debate by the States in Guernsey in September 2019.
- 3.15 The Committee supports the issue of this draft Statement of Intent, which will ensure that the policy letter takes into account industry feedback on the most efficient use of spectrum for the Bailiwick and timing for the rollout of 5G services.

Q3	Are there any potential opportunities for existing or new operators to partner with government(s) to enhance the economic value of the 5G network or to better meet the policy ambitions in either or both jurisdictions?
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CICRA Policy Objectives

- 3.16 CICRA has a stated objective **to support the path to next generation connectivity (5G)**. The Channel Islands need a legal and regulatory framework which will facilitate the development of next generation connectivity (5G).
- 3.17 During 2019, CICRA will develop the regulatory and licensing framework required to deliver 5G in line with government policy objectives. It will work with government and the telecoms companies to incentivise the development of the most effective network sharing architecture. CICRA is also working to ensure the availability of the correct backhaul products for mobile sites for all mobile operators to support government policy.

³ <https://www.gov.gg/article/165851/The-Future-of-Telecoms-Strategy>

CICRA Spectrum Allocation: Recommendations to Ofcom

- 3.18 In terms of spectrum management for the Channel Islands, CICRA's role is to manage and monitor the efficient use of spectrum and number allocation.
- 3.19 CICRA has previously proposed the following objectives to guide process and criteria for joint allocation of spectrum in the Channel Islands:
- To further consumers' interests in the short and long term, having regard to prices and costs, and the availability and range of services suitable to consumers' different needs
 - To promote competition as a mechanism to further its consumer interest objective
 - To have regard to and, where it lies within its powers and is practicable, to lessen the impact of the spectrum dependent activities it regulates on the environment
 - To the extent allowed by legislation, to deal with the Jersey and Guernsey Bailiwicks as a single economic and social entity
 - To seek to ensure the processes and criteria adopted by CICRA are consistent with Ofcom's duties, including the duty to secure the optimal use of wireless telegraphy of the electromagnetic spectrum
- 3.20 The first three objectives summarise the duties that CICRA has, in one form or another, in Jersey and Guernsey legislation. The last one is necessary to ensure that Ofcom is able to act on CICRA's recommendations, as they need to be made in furtherance of similar objectives to those assigned to Ofcom.
- 3.21 For the purposes of the spectrum relevant to this consultation, the respective roles of CICRA and Ofcom in coordinating the award of spectrum licences in the Channel Islands are as follows:
- CICRA ascertains the level and nature of demand for the spectrum. It identifies where demand exceeds supply and a selection process is needed. Eventually when the assessment and selection process is completed, it recommends an allocation to Ofcom
 - Ofcom may issue licences for spectrum use under the WTA where it is satisfied CICRA's recommendation is consistent with its own statutory duties.

5G Spectrum Allocation Process in the Channel Islands

- 3.22 Developments around available spectrum has wide-ranging implications for services provided in the Channel Islands, which raises a number of questions on how those benefits can best be harnessed for Jersey and Guernsey and, in particular for the purposes of this consultation, how they might inform a decision framework and basis for spectrum allocation.
- 3.23 The precise nature of the benefits of allocating the spectrum will depend on innovation, design and availability of new applications, which may not yet be on the market. It is however appropriate that CICRA at this stage gives consideration to the development of a decision framework and basis for recommendations of spectrum allocation rather than wholly adopt approaches elsewhere.
- 3.24 It is possible that bids ask for more spectrum than is available to allocate at the time. In such a case, CICRA will need to use a mechanism – some form of competitive process – that enables it to satisfy some of the bidders but not others.

- 3.25 Essentially, two approaches are open to CICRA - an auction based approach or a comparative selection process, often referred to as a 'beauty parade'. Larger jurisdictions have awarded spectrum often on the basis of an auction, however this has not been the approach taken in the Channel Islands in the past.
- 3.26 CICRA's provisional view is that allocation should not be by means of an auction. A key reason for this is that the set-up costs are of a scale more appropriate to larger markets and may not be justified in a small jurisdiction where the set-up costs are potentially disproportionate to the benefits. Another reason is that CICRA is keen to ensure funds should not be diverted away from investment in networks and services that will benefit local consumers.

Q4	Respondents are asked to consider the most appropriate means for the allocation of 5G spectrum for the Channel Islands – an auction, a comparative selection process ('beauty parade') or alternative method.
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4. 5G SPECTRUM FOR THE CHANNEL ISLANDS

Spectrum Available for Allocation

- 4.1 Ofcom is making new spectrum available for the development of 5G services. Details of Ofcom's work in this area can be found at: www.ofcom.org.uk/spectrum/spectrum-management. This Statement of Intent covers the future allocation of spectrum in the 700MHz and 3.4-3.8GHz bands.
- 4.2 Both the bands which will be awarded are likely to be used to meet increasing demand for mobile broadband services, and to invest in deploying technical advances, including 5G. Specifically:

LOW FREQUENCY SPECTRUM: 700MHZ

- 4.3 700MHz spectrum is likely to be deployed initially as 4G because devices using this band are already widely available. This band is well suited for providing mobile coverage over wide areas and indoors. Spectrum in this band can be used to improve the level of mobile coverage, including mobile voice and data coverage. This band should become available for mobile use in mid-2020. 80 MHz of spectrum is available for award in this band.

MEDIUM FREQUENCY SPECTRUM: 3.4 – 3.8GHZ

- 4.4 The evolution of 4G and 5G in this range will involve both evolutionary and revolutionary services by providing a significant uplift in capacity and supporting low latency applications over large areas. Bands in such a range are also capable of supporting low latency applications requiring high reliability such as industrial automation and robotics. This has been identified as the primary band for 5G in Europe, delivering capacity for new services.
- 4.5 This band is also particularly suitable for the provision of mobile services. This has been identified as the primary band for 5G services in Europe. This spectrum will allow network operators to support high data rates and provide high capacity to large numbers of connected devices. This band should be available for mobile use by mid- 2020. 120MHz of additional spectrum is available within the 3.6 – 3.8 GHz band, in addition to spectrum already allocated or available in the 3.4 – 3.6 GHz band.
- 4.6 Some spectrum has already been allocated to operators in this band⁴. As part of this process, it may be necessary to vary or revoke these allocations for spectrum management purposes. Where possible existing allocations will be varied so that operators can continue to offer existing services, whilst taking into account the need to implement government policy intentions.

Q5	Respondents are asked what spectrum allocation would be necessary and in what bands for an operator to offer the services and provide the benefits described in Question 1.
Q6	Would this demand for spectrum vary depending on whether there were single or multiple networks developed in future, or as technologies develop in future?

⁴ Current Channel Islands spectrum allocations can be found at:

www.ofcom.org.uk/data/assets/pdf_file/0014/100670/channel-islands-frequency-chart-january-2018.pdf

5. PROPOSED STATEMENT OF INTENT ON SPECTRUM ALLOCATION

- 5.1 CICRA is considering making the following Statement of Intent for spectrum allocation in the 700MHz and 3.4-3.8GHz bands which is intended to meet government policies in both Jersey and Guernsey. This consultation aims to gather feedback from interested parties.
- 5.2 A final Statement of Intent will be made following consideration of responses to this consultation and after further detailed discussion with the governments of Jersey and Guernsey. The final Statement of Intent may differ between the two jurisdictions.

DRAFT

CICRA intends to recommend that Ofcom award 5G Spectrum (in the 700Mhz and 3.4-3.8GHz bands) to one operator in Jersey and one operator in Guernsey, which may be the same operator or a consortium of operators.

New conditions will be included in operator(s) licence to operate a 5G network and provide services in Jersey and / or Guernsey.

CICRA may then consider a recommendation that the remaining spectrum in these bands is issued to other operators after a period of exclusivity.

- 5.3 For the avoidance of doubt, if spectrum is allocated on an exclusive basis, no further allocations will be recommended to Ofcom for these two bands until the end of the exclusive period. CICRA will undertake a new consultation during the exclusive period for the remaining spectrum.

Q7	Does this Draft Statement of Intent support and align with the policies of the States of Jersey and Guernsey? If not, what alternative approach could CICRA take to implement government policies?
Q8	Respondents are asked to comment on the issue spectrum initially only to one operator in Jersey and one operator in Guernsey, which may be the same operator.
Q9	What period of exclusivity would be sufficient to ensure a fair return on investment for a single operator before the remaining spectrum became available for allocation?

6. LICENCE CONDITIONS ON SPECTRUM ALLOCATION

Retail Competition

6.1 Changes will be required to CICRA's current standard telecoms licences to ensure that retail competition is encouraged during the period of exclusivity.

Q10	Respondents are asked to consider the types of conditions which would be necessary to encourage the development of retail competition during the rollout of 5G services
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Other Licence Conditions

6.2 Spectrum allocated will be subject to conditions to be developed through the tender process. These will include minimum requirements covering issues such as:

- Access to Mobile Virtual Network Operators (MVNO) and access to fibre backhaul
- Network coverage
- Network speed
- Health considerations e.g. to meet World Health Organisation
- Security e.g. compliance with UK National Cyber Security Centre guidance
- Planning requirements e.g. Guernsey / Jersey Island Plans
- Protection of the environment
- Financial viability

Q11	Respondents are asked to consider the types of conditions which would be necessary to protect consumers and ensuring the most efficient use of spectrum as a scarce resource
Q12	What are the environmental and planning considerations which CICRA should take into account when considering spectrum allocation? This may include respondent views on the number of any additional sites which may be required in each Island.
Q13	What are the health and safety consideration which CICRA should take into account when considering spectrum allocation? This may include respondent views on reassurance to the public
Q14	Are there any other considerations which CICRA should take into account in order to maximize the economic benefits which can be achieved through the allocation of this spectrum? Are their additional ways in which economic and social benefits could be maximized, perhaps through partnerships with government to stimulate additional growth or bring down costs for consumers?

7. ISSUES FOR CONSIDERATION

7.1 CICRA is seeking comments and views on the proposed Statement of Intent. The specific questions raised above are copied here. Other comments on the proposed Statement of Intent are also welcomed.

7.2 The following is a list of questions raised throughout the document:

Q1	What '5G services' foresee could be delivered through this allocation of spectrum? What economic and social benefits will these bring to the Channel Islands?
Q2	In what timescale do respondents believe these services and benefits can be delivered?
Q3	Are there any potential opportunities for existing or new operators to partner with government(s) to enhance the economic value of the 5G network or to better meet the policy ambitions in either or both jurisdictions?
Q4	Respondents are asked to consider the most appropriate means for the allocation of 5G spectrum for the Channel Islands – an auction, a comparative selection process ('beauty parade') or alternative method.
Q5	Respondents are asked what spectrum allocation would be necessary and in what bands for an operator to offer the services and provide the benefits described in Question 1.
Q6	Would this demand for spectrum vary depending on whether there were single or multiple networks developed in future (for example, at the end of any exclusivity period), or as technologies develop in future?
Q7	Does this Draft Statement of Intent support and align with the policies of the States of Jersey and Guernsey? If not, what alternative approach could CICRA take to implement government policies?
Q8	Respondents are asked to comment on the issue spectrum initially only to one operator in Jersey and one operator in Guernsey, which may be the same operator.
Q9	What period of exclusivity would be sufficient to ensure a fair return on investment for a single operator before the remaining spectrum became available for allocation?
Q10	Respondents are asked to consider the types of conditions which would be necessary to encourage the development of retail competition during the rollout of 5G services
Q11	Respondents are asked to consider the types of conditions which would be necessary to protect consumers and ensuring the most efficient use of spectrum as a scarce resource
Q12	What are the environmental and planning considerations which CICRA should take into account when considering spectrum allocation? This may include respondent views on the number of any additional sites which may be required in each Island.
Q13	What are the health and safety consideration which CICRA should take into account when considering spectrum allocation? This may include respondent views on reassurance to the public

Q14	Are there any other considerations which CICRA should take into account in order to maximize the economic benefits which can be achieved through the allocation of this spectrum? Are there any additional ways in which economic and social benefits could be maximized, perhaps through partnerships with government to stimulate additional growth or bring down costs for consumers?
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8. NEXT STEPS

- 8.1 There has been various meetings and seminars with all stakeholders relating to 5G and it is CICRA's view that a reasonable timeline with the intent of providing the facility for an operator to launch commercial services for 5G in early 2021 will involve the following draft steps.
- 8.2 The timing of these steps may vary between each Bailiwick depending on whether both Governments adopt the same approach to awarding spectrum.
- 8.3 Consideration of the final Statement of Intent will take into account responses to this consultation as well as any policy position(s) issued by the States of Guernsey and / or States of Jersey.

Date	Event
May 2019	CICRA undertake consultation for 5G Spectrum: "Statement of Intent"
July 2019	Conclude review of consultation responses and discuss with governments the way forward for each Bailiwick
July/Aug 2019	CICRA issue final Statement of Intent
Sept 2019	CICRA issue Information to Tender document (ITT)
Mid Jan 2020	Deadline for responses from ITT
April 2020	CICRA issue statutory Initial Notice (IN) tender winner
April 2020	CICRA recommend to Ofcom spectrum award
May 2020	CICRA publish spectrum award
June 2020	CICRA issue statutory Final Notice (FN) tender winner
July 2020	Licence commencement date

ANNEXES

Annex A: Legislative and licensing background

UK LEGISLATION RELEVANT TO SPECTRUM LICENSING IN THE CHANNEL ISLANDS

8.4 The use of spectrum in the Channel Islands is governed by UK legislation that has been extended to Guernsey and Jersey, as well as by international agreements between the UK and other countries on the use to which various bands of radio spectrum can be put and the avoidance of interference across borders.

8.5 The licensing of spectrum, in the UK and in the Channel Islands, is carried out by the Office of Communications (Ofcom), by virtue of the powers given to it by the Wireless Telegraphy Act 2006 (WTA) and the Communications Act 2003. Ofcom's principal and secondary duties are in Section 3 of the Communications Act 2003 ('General duties of Ofcom'), which provides that:

- (1) *It shall be the principal duty of OFCOM, in carrying out their functions—*
 - (a) *to further the interests of citizens in relation to communications matters; and*
 - (b) *to further the interests of consumers in relevant markets, where appropriate by promoting competition.*
- (2) *The things which, by virtue of subsection (1), OFCOM are required to secure in the carrying out of their functions include, in particular, each of the following—*
 - (a) *the optimal use for wireless telegraphy of the electro-magnetic spectrum;*

8.6 Moreover, Section 3 of the WTA ('Duties of OFCOM when carrying out functions') further specifies Ofcom's duties as follows

- (1) *In carrying out their radio spectrum functions, OFCOM must have regard, in particular, to—*
 - (a) *the extent to which the electromagnetic spectrum is available for use, or further use, for wireless telegraphy;*
 - (b) *the demand for use of the spectrum for wireless telegraphy; and*
 - (c) *the demand that is likely to arise in future for the use of the spectrum for wireless telegraphy.*
 - (2) *In carrying out those functions, they must also have regard, in particular, to the desirability of promoting—*
 - (a) *the efficient management and use of the part of the electromagnetic spectrum available for wireless telegraphy;*
 - (b) *the economic and other benefits that may arise from the use of wireless telegraphy;*
 - (c) *the development of innovative services; and*
- (d) *competition in the provision of electronic communications services.*