

# RESPONSE TO 5G SPECTRUM: DRAFT STATEMENT OF INTENT CONSULTATION

Digital Jersey welcomes the time and consideration given by CICRA to consult with stakeholders on the allocation of 5G spectrum.

Digital Jersey's remit covers only one of our Islands and our response is applicable in the Jersey context only; the word "island" should be taken to mean Jersey. We recognise that the technical capability of the two islands is somewhat different, and do not assume that our interpretation of the Jersey situation can be extended to Guernsey.

The outstanding telecoms infrastructure already present on island is a reliable accelerator for all digital businesses and has added significant appeal to the Sandbox Jersey proposition, both through the availability of gigabit broadband and island-wide 4G, as well as the smaller investments made in LPWAN technologies.

Our ambition is that the 5G engagement on Jersey will yield novel partnerships, and innovations in the delivery of new services using standardised 5G technologies, as per Jersey's strategy of pursuing fast adoption of next generation telecommunications, rather than pioneering them<sup>1</sup>. To achieve this aim, we strongly promote the creation of a funded 5G Sandbox environment which secures the support of operators for commercial, academic, and social research initiatives and provides incentives for jurisdiction-shoppers to experiment in Jersey rather than one of the established 5G Testbeds<sup>2</sup>.

Jersey could reasonably expect to attract some interest here due to the current EU regulation on Net Neutrality which, although not thought to be prohibitive of most 5G use-cases, places restrictions on internet service providers and requires each new product to be evaluated on a case by case basis<sup>3</sup>. This regulation does not apply in Jersey<sup>4</sup> and so the development of certain specific use cases, the associated business rationale for the product, and any necessary regulatory amendments could proceed here.

Alternative protocols for evolving consumer protection and Open Internet management could also be developed while exploring the new technical capabilities offered by 5G; this line of regulatory enquiry would suit Jersey's reputation as a well-regulated jurisdiction and would be highly relevant to the global dialogue around trust and Internet 3.0.

**Q1: What '5G services' 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?**

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<sup>1</sup> *A telecoms strategy for Jersey*; Oxera, January 2018

<sup>2</sup> *UK5G Testbeds and Trials*; Department for Digital, Culture, Media and Sport, October 2017

<sup>3</sup> *BEREC Opinion for the evaluation of the application of Regulation (EU) 2015/2120 and the BEREC Net Neutrality Guidelines*; BEREC, December 2018

<sup>4</sup> The regulations on Net Neutrality are not included in the categories specified in Protocol 3 to the UK's Act of Accession to the EU and do not therefore apply directly to Jersey. The Regulations have not been implemented domestically at the date of writing.

Most users already enjoy a high level of service on 4G (hundreds of Mbps downlink), thus the delivery of eMBB through this allocation of spectrum is not likely to be a ground-breaking development for Jersey but will rather be seen as an incremental improvement on current services. This also means that initial 5G eMBB products are not likely to result in a significant increase in ARPU as users won't see a proportional uplift in service compared to increased cost.

The headline 5G use cases which break significantly from what has been achieved already, e.g. ultra-reliable high capacity links, or extremely high densities of low-power devices, seem unlikely to be delivered by this allocation of spectrum. In the case of high capacity, low latency services (e.g. for tactile control of remote objects), URLLC protocols will not be standardised until 2020<sup>5</sup> and will further require some degree of process engineering to integrate the capability into existing models (or indeed disrupt existing models). Jersey has also had IoT networking capability, albeit at lower capacity than MTC-5G would deliver, since early 2017<sup>6</sup> and has not made significant use of the service.

However, changes in the underlying drivers of value for the frequency bands considered could come from the development of fixed wireless access (home wireless broadband, mobile broadband). The attractiveness of a wireless home broadband solution over 5G could dramatically increase as wireless speed and reliability improve. This service could be extended very rapidly.

**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?**

Although some of the initial rollout at the offered frequencies could be done over the existing macrocell network<sup>7</sup>, the development of small cell grids using mid to high frequency spectrum could be facilitated by partnerships with Government, specifically those departments or arms-length entities which own significant infrastructure assets island-wide. Use of Government infrastructure could be achieved solely on commercial terms; however, a partnership model could be more lucrative for Government over the long term and foster innovative ownership models and indeed roles for Government in the deployment and use of new technologies on island (e.g. a fictional future headline: "Jersey rolls out smart public lighting with integrated parking sensors and 5G picocells").

**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.**

We do not support the statement that allocation to spectrum to one operator aligns with the policies of the Jersey Government.

Policy point 4.2 in the Jersey Strategy concerns the promotion of "retail competition (not network competition)"<sup>8</sup> and appears to be written exclusively about the "Gigabit network", indicating that it

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<sup>5</sup> 3GPP Release 16 target completion date, timeline and progress reports available here:

<https://www.3gpp.org/release-16>

<sup>6</sup> *JT launches cutting-edge wireless network to enable Jersey as a smart island*; JT Media Release, January 2017

<sup>7</sup> *Improving consumer access to mobile services at 3.6GHz to 3.8GHz: Update*; Ofcom, February 2018

<sup>8</sup> *A telecoms strategy for Jersey, 4.2*; Oxera, January 2018.

applies to the fibre network for broadband services and mobile backhaul. There are no references to competition at mobile network level. We therefore feel that the elevation of “retail” competition” over “network competition” for mobile networks is not justifiable, especially given that Ofcom’s position with regard to delivering 5G in the UK explicitly states that network competition is the best method of ensuring a robust retail environment<sup>9</sup>.

Concerns about the cost effectiveness of deploying multiple fixed networks for a dense population of c.110k individuals are understandable, however the same cannot be said of mobile networks where site selection can be more flexible. Clearly the development of multiple, overlapping, extremely dense networks of picocells is not desirable from a cost effectiveness or aesthetic point of view and would not conceivably benefit users more than a single high-quality radio access network. However, the requirements to manage duplication of effort in the radio network and to ensure robust retail competition should not be treated as the same issue, and our interpretation is that an effort to meet these two requirements does not logically lead to the allocation of spectrum to a single operator.

For example, the Jersey Strategy further states, in section 4.1.3, that Government should adopt “policies to encourage mobile network sharing” stating that mobile network sharing is “essential for the rollout of 5G”<sup>10</sup>. Which would seem to suggest that awards of spectrum to multiple operators while regulating mobile network sharing would more closely meet with the expectations set out in the Strategy.

Our research into the potential use cases enabled by 5G suggests that some command and control, or remote operation, use cases are likely to be highly specialised and may be developed by organisations with deep expertise in network manipulation. In these cases, the organisation may prefer to take spectrum ownership in order to provide greater control of their operating environment. We support the reservation of some spectrum for development of these use cases and allowing such initiatives the freedom to operate without needing to depend on a third-party mobile network provider.

We are also concerned that a single award will restrict innovation by preventing the development and adoption of innovative ownership and partnership models which some sources suggest may better meet the needs of an evolving market<sup>11</sup>.

Lastly, whatever the eventual allocation is, we strongly support the continuation of the innovation and trial licences which should remain available at minimal cost and include 5G spectrum bands.

**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.**

We also suggest that operators of 5G services develop capable APIs for the provision of Network as a Service (NaaS) through the use of network slices<sup>12</sup>.

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<sup>9</sup> *Enabling 5G in the UK*, 4.45; Ofcom, March 2018

<sup>10</sup> *A telecoms strategy for Jersey*, 4.1.3; Oxera, January 2018

<sup>11</sup> *Spectrum portfolios in a 5G world: Rethinking the value of spectrum*; Deloitte Insights, 2018

<sup>12</sup> *Network as a Service – A Demo on 5G Network Slicing*; Pries et al. 2016, Nokia Bell Labs

### Unanswered Questions

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?

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?

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 considerations 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 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?