

OPTU5G

Submission in response to
Discussion Paper circulated by
Department of Infrastructure,
Transport, Regional
Development and
Communications

**Consultation on the
design of the Australian
5G Innovation Initiative
Round One**

Public Version

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INTRODUCTION

1. Optus welcomes the opportunity to provide a submission in response to the discussion paper published by the Department of Infrastructure, Transport, Regional Development and Communications (“**the Department**”), on the design of Round 1 of the Australian 5G Innovation Initiative (“**the Initiative**”).
2. Optus welcomes the allocation of \$22.1 million to demonstrate different future 5G uses. We do note that the allocated budget for this initiative is relatively modest when compared to other initiatives and as such it is critical that every single taxpayer dollar is well spent and that scalable, replicable use cases are delivered.
3. Australia is at the forefront of the transition to 5G with mobile network operators (“**MNOs**”), such as Optus, already delivering advanced services over 5G networks. Australia has the opportunity to build on this early-mover advantage, to unlock the predicted benefits of the new technology and to enhance our global competitiveness. Importantly, this Initiative has the potential – if appropriately designed – to generate long lasting partnerships between MNOs and Industry in the delivery of a competitive and innovative 5G ecosystem.
4. Optus has a long-standing history of significant investment in Australia. Since 2001, Optus has invested over \$22 billion into network infrastructure – providing vital competition in the Australian telecommunications market and greater choice for consumers. We have been investing heavily into our 5G network and will continue to accelerate this investment.
5. However, whilst 5G networks are already being deployed, we should not assume that the benefits of the technology are assured. Many of the truly transformative services will depend on the deployment of a radically different network architecture. In addition, a capital-intensive rollout of thousands of new sites across the country is required, at a time when future revenue streams are unclear. The success of a competitive 5G network rollout throughout metropolitan and regional Australia – at the scale and pace required to deliver improved productivity growth – is far from guaranteed. We encourage the Government to consider ongoing investment opportunities in 5G networks in order to ensure Australians can access the economic and social benefits this transformative technology and infrastructure will deliver.
6. Australia’s 5G ecosystem is reliant on demonstrating clear use-cases that are delivered by MNOs and industry working together to deliver productivity growth and greater efficiencies in operations. Accordingly, the Initiative must prioritise solutions and use cases which are not presently commercially viable to undertake.
7. Optus has been concerned to note preliminary feedback which suggests the Initiative might be structured in such a way that applications for projects could be progressed without any involvement from an MNO. This would be ill-advised, as MNOs have existing expertise, infrastructure, and access to spectrum. Strong participation by the MNOs will likely produce better results and a better return for taxpayer funding.
8. Optus also believes the Initiative would be best served if minimum quotas of projects are awarded to MNOs who lodge compliant applications. This will ensure that there is a competitive playing field amongst the 5G network operators in Australia.
9. We have directly responded to a number of the questions posed by the discussion paper below. Optus would welcome the opportunity to engage further with the Department, in order to further develop the guidelines and to otherwise ensure the success of the Initiative.

RESPONSES TO DISCUSSION PAPER QUESTIONS

Question 1: Do you have any comments on the types of use cases that the Initiative is seeking to support?

10. Through previous submissions to other Commonwealth consultation processes, as well as via public media comments, Optus has previously identified numerous potential use cases of 5G technology.
11. These have included Multi-Access Edge Computing, big data, machine learning, blockchain and autonomous vehicles – noting that this is certainly not an exhaustive list.
12. However, as a technology, 5G is presently in its infancy and industry needs to be able to demonstrate clear productivity benefits prior to being able to justify significant investment of capital expenditure in 5G solutions.
13. It will therefore be important to demonstrate scalable results presented by 5G solutions, particularly those which may be tested and examined under the Initiative.
14. Accordingly, Optus suggests that it is important that the Initiative is able to highlight the potential of 5G technology solutions, particularly where they may hold great benefit for key industrial sectors if productivity benefits can be demonstrated.
15. 5G holds potential in many industries and in numerous use cases, and it is therefore important the Government does not take a prescriptive approach.
16. A critical consideration is that industries can highlight that they can build a pathway to existing scalability through partnership with an existing MNO.

Question 2: What are the technical, regulatory or other barriers to implementing 5G use cases? If you have identified barriers, can you suggest ways these barriers could be overcome?

17. Using PwC's geo-spatial economic analysis, Optus have estimated that the deployment of competitive 5G networks could boost the Australian economy by a cumulative \$130 billion over the decade to 2030 – and create 205,000 net new jobs across Australia. Realising these benefits is dependent upon setting policies that encourage investment and a competitive environment.

Spectrum access

18. More broadly, there presently exists an uneven allocation of sub-1GHz spectrum which will stifle the spread of 5G in regional Australia and which blocks the industry from meeting exponentially growing consumer demand for data in metropolitan cities.
19. Further, Optus notes that access to additional spectrum assets are effectively locked until 2025.
20. If policies can be set which address the structural issues and deliver a level playing field, Optus is optimistic that the investment necessary in new technologies and infrastructure can be unlocked which is so critical to the future productivity growth for Australia.
21. It is critical however that 2021 spectrum auctions are structured to ensure that no one player secures a disproportionate amount of available resources.

Capital expenditure challenges

22. Funding for networks which can deliver wider use cases is reliant on heavy investment in 5G networks. Paradoxically, such funding for 5G networks is reliant on the use cases being present. This hinders the scalability of 5G usage.
23. The telecommunications sector has recently faced strong headwinds which have been further exacerbated by the COVID-19 pandemic, which risks undermining the sector's ability to fully invest in 5G networks.
24. Accordingly, in the interest of being able to invest in 5G networks and build scalability of 5G solutions, the Government should consider co-investment opportunities with MNOs to assist in the delivery of a world-class 5G network around Australia.

Question 4: What locations offer the best opportunities to deliver 5G projects, and are there any barriers to delivering projects in particular locations or geographic regions?

25. Metropolitan regions are likely to prove be easier to deliver 5G solutions than regional areas. 5G technology is likely to favour locations where the cost per user can be lowered, which means more densely populated areas are likely to be more cost effective.
26. Accordingly, the Government should be aware that solutions and projects delivered in regional areas may be more costly to finalise, and the available funding arrangements will need to reflect this.

Question 5: Given the quantum of funding, what type and scale of projects could the Initiative appropriately support?

27. Optus believes that the levels of funding, which would appear to be between \$500,000 and \$1 million per proposed solution, would be sufficient to deliver worthwhile use-case projects by applicants who have significant experience in the design and delivery of 5G networks.
28. Due to the small funding pool available under the Initiative, it is imperative that the solutions funded will deliver value for money, be of relevance and be scalable. There is a real risk that the funding under this Initiative may be exhausted on niche projects that have no pathway to scalability, or granted to applicants that are not in the business of networks and are not equipped to consider 5G as a holistic technology solution.
29. Accordingly, we believe the Initiative will be of greatest success where those successful applicants are acting in partnership with MNOs. The Government should consider the suitability of framing such partnership as a requirement in all applications to the Initiative.
30. Furthermore, the Initiative must consider its role in promoting a competitive 5G network rollout in Australia. It is important that the Initiative promotes a level playing field for solutions and that future network development is considered in the awarding of grants under the Initiative.
31. Accordingly, Optus suggests the Initiative seek to award minimum quota of applicable projects to each of the MNOs that apply for funding under the Initiative.

Question 6: What are your views of the proposed requirements for joint applications, grant agreements, grant value and the payment structure of the Initiative? Are there other program requirements that should be considered?

32. Optus feels that there is likely to be sufficient scope to deliver both individual as well as multi-vendor / joint applications, based on the high-level principles outlined in the discussion paper.

33. Optus suggests that the lead applicant should be responsible for determining the structure and allocation of funding and input to the overall bid.

Question 7: Do you have any comments on the eligibility requirements, including the types of applications eligible for funding, the funding of network infrastructure, and whether the criteria will encourage participation from a variety of applicants?

34. Optus believes that the guidelines should specify that use cases need to be unique to 5G technology; that is, that a use case which can be adequately delivered using non-5G technology should be excluded from eligibility under the Initiative.
35. Optus also suggests that edge cloud solutions should be considered favourably.
36. Network security considerations must be paramount in the consideration of any application for funding and any successful applicant must be required to prove compliance with the suite of legislated security measures. Failure to comply with these security provisions should render an applicant ineligible.
37. As noted above, we also believe applicants should prove a pathway to scalability through partnership with an existing MNO.
38. Finally, in order to reduce costs and maximise value for money we suggest that existing network infrastructure should be utilised where possible. Alternatively, the Government could consider allocating a portion of funding to projects that utilise existing network infrastructure, and remaining portion for new infrastructure projects.

Question 8: In what timeframe could projects under the Initiative be feasibly implemented?

39. We believe that the timeframes outlined in the discussion paper, which imply that approximately 12 months will be allowed to deliver use cases following the awarding of grants, would be sufficient.

Question 9: What do you consider are the best ways to promote 5G use cases within industry sectors and more widely? Do you anticipate any barriers to sharing case studies?

40. Optus suggests that industry peak bodies need to drive the desired outcomes unique to their sectors and coordinate use-case options.
41. It will be extremely advantageous for major players within industries – as well as peak bodies – to carry out some preliminary research into the potential of 5G technology. This will assist critical stakeholders in any suggested outcomes they wish to propose for 5G use cases.
42. The Government should also consider ways it can leverage its own communications channels to promote 5G solutions relevant for particular, critical sectors.
43. There should not be barriers to sharing case studies provided that solutions created by the Initiative would not reveal anything which is commercially sensitive.

Question 10: Do you have any comments on the proposed assessment criteria, including their ability to support a variety of projects from diverse applicants?

44. The capacity to build scale and drive notable economic growth at the conclusion of the initiative following successful trials should be covered in the guidelines for consideration by the Department during the application process.

45. Optus notes that the discussion paper specifies that the selection criteria includes, “how these benefits (of 5G use cases) will be measured.” This may be hard to quantify, and we therefore trust that this will allow for a subjective business case to be presented, and how success can be delivered more widely if the use case is proven under the Initiative.
46. Notwithstanding our comments provided in response to Question 4 above, we realise that it is very important for a diverse range of projects to be confirmed and progressed, including projects from a range of geographical locations.

ADDITIONAL COMMENTS AND FEEDBACK

Requirement to involve MNO

47. Optus strongly believes that the objectives funded under the Initiative will succeed only if an MNO is involved in partnership in each individual project, preferably as the lead applicant.
48. Whilst 5G solutions hold potential to simplify complex problems and automate everyday processes, the operation of a 5G network requires expert inputs to run effectively.
49. Optus submits that ensuring the delivery of 5G signal to underpin individual projects would warrant the participation and leadership of an MNO with existing infrastructure and capabilities to achieve this.
50. MNOs already have access to appropriate spectrum holdings to deliver the solutions, simplifying the delivery process.
51. If the Initiative is used to fund projects put forward with no MNO involvement, it would be highly likely that significant amounts of taxpayer funding would need to be used to fund infrastructure or spectrum acquisition.
52. MNOs will also be best placed to put forward projects featuring solutions which are scalable. This will assist in identifying projects which can be built upon to drive genuine further productivity into key sectors.
53. Accordingly, requiring the involvement of MNOs decreases the likelihood that co-funding will be used to fund infrastructure whilst increasing the likelihood of delivering scalable solutions and therefore represents a better return for the taxpayer money used to fund the Initiative.

Security requirements for participants

54. Notwithstanding Optus’ firm view that an MNO should be involved in each project to guarantee the success of the Initiative, if the guidelines are drafted without this listed as a requirement, we submit that adherence to appropriate security requirements must be included for any participants.
55. If a participant in the Initiative were to deploy its own 5G network infrastructure we submit that the organisation in question should be subject to the same security requirements outlined in the *Telecommunications Act 1997*, the Telecommunications Sector Security Reforms (TSSR), and any other applicable critical infrastructure considerations.
56. Government and industry have been in collaboration for several years to ensure that the networks delivering Australia’s critical infrastructure are appropriately secure and protected. This has come at significant financial investment by MNOs and extensive deliberation by the Parliament.

57. It would be extremely unfortunate if existing security processes were undermined by projects which did not adhere to the appropriately robust standards which otherwise govern mobile networks and the equipment utilised within them.

CONCLUSION

58. Optus sees great potential for the Initiative to showcase the potential for 5G and highlight how various industries can benefit from 5G connectivity and solutions.
59. This, in turn, can drive further uptake of 5G and even help pave the way for Australia to take further leadership in 5G deployment and technology delivery.
60. It will be vital for MNOs to be involved in each project to ensure that solutions delivered are cost-effective, delivered utilising existing expertise, and appropriately compliant with relevant security considerations.
61. Optus looks forward to participating in the Initiative and will be happy to undertake further work with the Department if any assistance is required.

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