Long Distance Wi-Fi Challenge

Question & Answers

Question 1:
Are you trying to get a laptop to connect further back to a more distant AP? Say 50 yards, 500 yards? Or are you trying to 'take an AP with you'?
Answer 1:
It would be the former. It could be a laptop, with a patch antenna, with a Wi-Fi adapter with an external SMA connector generally pointed to your AP that you want to connect to. We are not moving the AP.

Question 2:
We have multiple APs deployed across certain parts of the globe, which is providing Wi-Fi access, less than half a backpack in size, using an IOT SIM over cellular. Would this be of interest?
Answer 2:
For this challenge we wouldn't go over cellular. We are interested in directly connecting back into the UK secure Wi-Fi estate from one of our sites. From this AP we can use existing infrastructure to provide a secure connection - We don't always trust the privacy of cellular connections.

Question 3:
You mention the system needs to be portable. Would you expect to continue operating while moving around, say walking 100 metres down the road. Are you hoping to continue working or desk based, (configured and operational) and then sit there using it for an hour?
Answer 3:
The ideal scenario is to have something you can move around but at this stage a desk-based solution would be considered. It doesn't have to be a refined product by any means, just a working prototype of any weird and wacky form. We can iterate the development as we progress through the project.

Question 4:
Is this long-range Bluetooth as well as Wi-Fi?
Answer 4:
We are only interested in Wi-Fi.

Question 5:
We recently experimented with a hand-held 12 Volt device with integrated GPS, Wi-Fi, AP, Wi-Fi bridging and WAN bonding and Wi-Fi repeater models, Is this of interest?
Answer 5:
It is something we have explored previously. Wi-Fi repeaters could be of interest, a breadcrumb trail and multi-hop journey.
We are keen to explore all options, there may be a small tech development that gives the

edge over something we've already looked at. This is a collaborative challenge that we would be working with you on.

Question 6: SAT connectivity back to your secure LAN in the UK at the distance end has its own Wi-Fi AP to connect to.
Answer 6: *That's a valid statement. At this point we are interested in only connecting to UK estate AP.*

Question 7: How long do you need to connect to the AP for?
Answer 7: *It depends on our operational requirements but typically up to four hours.*

Question 8: Are there other constraints to be aware of?
Answer 8: *The biggest constraint is that we must connect to our Wi-Fi AP. We are not concerned if it's battery or mains power. Or running software to do some fancy DSP.*

Question 9: Is there a cost per unit for this device?
Answer 9: *No, but commercial longevity should be considered along with value for money – Extended range vs cost.*
We are not looking to hold IP for this solution and commercial exploitation would be encouraged.

Question 10: Is the interference asymmetrical? As in worse at AP than client.
Are you allowed to have unit near API that would translate the WiFi bands across others? This transmission would be under your control and may be dynamic dependent on the local environment.
Answer 10: *Dependent upon the scenario it could be asymmetrical or symmetrical, this is also something we can't always tell. Being able to assess which bands are quiet and then shift WiFi to one of those bands could help.*

Question 11: Though we are not in a position to develop such a system we do provide services which would be applicable to the testing of a Wi-Fi system to ensure it meets the operational requirements. We are therefore wondering if this tender includes the testing aspect of the project as I would expect that, as per good practice, the activity of verifying the operational requirements would be independent of the system design and manufacture.
Answer 11: *Not for this current phase. However, we will look at your website for future requirements.*

Question 12: Is this Grant funding?
Answer 12: *No, this is contracting directly with HMGCC, through the University of Cranfield, as mentioned in the Terms & Conditions.*