

Document Details: Clarification Q&A in response to the call for proposals**Challenge:** HMGCC Co-Creation – Alternative PNT

#	Question	Answer
1	I am interested to learn more about this project but very concerned about the budget allocation which is £60,000 for 12 weeks of work. This is a lot of work what happens after the 12 weeks do you have any idea on budgets to be assigned after this initial project?	The budgets listed in the challenge form are the maximum permitted amounts for this challenge. Bids with lower amounts will also be accepted into the competition. The overall challenge timescale is 12 weeks.
2	Can you please tell me what is the duration of the reconnaissance mission?	Duration: Minimum - 2 Weeks Ideal - 3/4 Months Happy to have a lower duration to prove technology and keep Low SWaP.
3	Is a passive-visual reconnaissance solution via a UAV possible?	We are unaware on reconnaissance where Jonny will go, the technology will need to continue to track if they were to enter buildings even if accuracy drops or in adverse weather conditions. If the solution meets that criteria it will be considered.
4	At present, our design targets dimensions of approximately 5 cm x 5 cm with a thickness between 2 and 3 cm, and a weight under 100 grams. I would like to know if these dimensions are acceptable for the intended application, or if you require any adjustments to better meet operational or integration requirements.	Those size constraints wouldn't be seen as an issue. Something of interest would be those dimensions bare board or a final package, would there be scope for other variants such as a longer narrower variant. Any opportunity to remove thickness will always be beneficial. In terms of the low SWaP requirements, our target functioning durations are: Minimum - 2 Weeks Ideal - 3/4 Months We appreciate this is a trade-off and are happy to have a lower duration to prove technology and keep Low SWaP at this stage.
5	Is Johnny undercover and cannot exhibit the device?	Yes – Johnny is not known to people who are there.
6	Why not get a COTS dead reckoning inertial guidance pocket size from Honeywell or similar?	We are aware of different capabilities but we are looking at diversifying them. We want to identify and work with partners to develop solutions.
7	Do you need the equipment to work in day or night or both?	Both.

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8	How long is Johnny off the grid for?	It could be longer than a week and up to a month. We would like the equipment to work for a two-week period, having this as potential in the future is acceptable.
9	How much do we own or know about the environment in most scenarios? For example, one solution avenue if we 'own' the space is to have seeded the terrain with RF beacons a sensor tracker device could use to determine relative position. Or alternatively if we know about the space, e.g. cellular base station locations, could use the same triangulation approach using extant infrastructure (or is this a situation where cellular cover assumed to not be likely?)	We can assume no cellular cover and we don't know the environment, it could be off grid.
10	How often would the device need to record location? (e.g. 'continuous', once every 5min, etc.)	We would ideally configure device to be able to change its storing of data in different scenarios. We need the time interval to give us accurate route log that we can have confidence in. Different scenarios will call for different levels for storing information.
11	Does the tracking need to be continuous, or once every so often. If the latter, what period?	It doesn't need to be continuous, not every second but enough to meet the minimum of <100m accuracy with aspiration of <10m accuracy.
12	What is the update frequency?	Firmware updates on the device could come from a later part of project. We would work on the 2-week minimum contact scenario.
13	Would a mobile phone in silent Aircraft mode be acceptable - as a sensor data capture platform?	No, we are looking for a newer technology or breaking ground in where we can understand what technologies can do. We don't want to rule out components of mobile phone technology but working in different ways.
14	What methods of transport do you envisage being used: walking, clambering, motorbike, car, bus, ... ?	We have to assume all of the above but in the scenario walking is the highest priority.
15	Does this need to operate both inside the building as well as outside within a GNSS denied environment e.g. Urban Canyon?	Yes.
16	Is the Authority interested in bidders incorporating elements of their solution from a third party or are single-supplier solutions competitive too?	As long as IP is clear in the bid for the use of the components and it doesn't restrict future use then yes.
17	Is this UK only or can we create a consortium with an Australian organisation?	Yes. In the challenge form it lists the countries which are eligible to be included in the competition.
18	Would Jonny be able to have prior information about the location (e.g. a magnetic map from satellite or aerial data)?	We wouldn't know the location prior to Jonny going in and where that would be so assume no prior information. However don't rule out magnetic maps.

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19	The tracking positioning accuracy is for 2D or 3D? Should we also know the height?	3D and height would be useful for route logging and mapping out buildings.
20	Could the device be mounted within a hollowed out boot for example, to maintain the covert nature of the operation?	A device that is the size that would fit into a concealment like this would fit requirements, however please primarily focus on the SWaP requirement as opposed to a potential concealment.
21	How important is past experience in the sector for the selection process? I.e. CV	It will affect the credibility of scoring and technical suitability. We are looking for a good track record and viability of solution proposed. However we aim to diversify who we work with so previously working with National Security or Co-Creation does not matter.
22	Why did the application process change i.e. The stages where you have to submit a one page proposal or concept note before stage 2 where the full proposal is required?	We think you are referring to a different challenge.
23	An accuracy of 100m without specification of distance covered or elapsed time implies position fixing, what would be the spec for dead reckoning approach?	We are looking for positioning within 100m, and looking whatever technology will fit that is the thing we are interested in.
24	Could Jonny English swallow the device or adopt a (ahem) drugs mule kind of tack?	If the device meets the criteria and specified size then we are open to options. As long as it meets the size criteria it doesn't matter where/when it is carried at this stage.
25	What is the maximum size of the device?	Maximum size is pocket sized.
26	Is it possible that Jonny could be moved great distances in a short period of time --- say in a plane?	We can rule out the plane scenario and focus on the ground scenario - walking is our preferred method for now.
27	How many projects will you fund?	One project from either a single solution provider (60K) or consortium (120K).
28	Is it possible to collaborate with other people in the chat?	Yes - please do.
29	Could the solution be made from several components worn about the body?	We would be open to this.
30	Does the Authority strictly forbid the use of GPS or is there only an expectation that we cannot rely on it?	GPS is not a forbidden technology, but this challenge is about an alternative to traditional GNSS. So as long as your proposal doesn't rely on GPS as the location is in a GNSS denied area.
31	Are there any types of sensors the Authority forbids use of?	No sensors are forbidden, but we have expressed our hard 'no' items in the Challenge Form.