"Seeing in the Dark" FAQs

1: Where are the cameras located – internal and external, or just external?
It will be both, but we wouldn't expect to have any sort of waterproofing or environmental protection for the applique because any external cameras would be in an environmental housing. No protection is required for this prototype.

2: When submitting the online proposal, do we need to include an estimate of costs? If so, there's not current space to do this.
We do want an estimate of costs. If there are no specific fields, please create an attachment and then mention it in the Idea Summary or Intellectual Property section.

3: Regarding the concept demonstrator, can it be very simplistic in design?
Yes, that's fine. This task is about demonstrating a concept for how the protection to the camera may be achieved. A bench demonstrator is acceptable.

4: Are the camera lenses generally all the same size, the ones in scope?
Annoyingly, they're not. They're all slightly different sizes, and there's a huge range of manufacturers that have been used in these installations. Some of them are very small with only 10-15 millimetres diameter. Some of them are a bigger, up to 67 millimetres.
For this application, please consider a lens with a maximum diameter of 50mm. For a future productionised versions, we will probably have a range of step down rings, so they could be screwed or clipped to some of the smaller lenses.

5: Are there any sort of commonly used camera models?
Again, annoyingly, there's a huge variety of different variants. Some older Sony's, like the SSC-C370 and M370 models are used in a lot of installations. Also cameras by JVC, Panasonic, Philips, and a variety of smaller manufacturers as well. The vast majority of them are conventional analogue CCTV cameras with composite video outputs. There are some IP cameras and slightly newer variants, but still follow that common form factor. Some of them have got the iris control plugged in the side, some of them the lens is just fixed.

6: Is it possible to submit the proposal in a different format, maybe in addition to the online form?
We don't prescribe the actual format of your response. We take both into consideration. What we do request is in the challenge form itself, we set out the approach, so such things as it's an agile delivery management approach. We also cover things like cost. But no, there's no restriction on the format you use. Just make sure you do answer the questions that we are asking of you.

7: What specific costs will can be covered within that 50K?
A concept bench demonstrator with a camera system, where we can see it working is best. However, whatever technique that person devises for it that that's what we're looking for, we don't really want a paper study, we'd like to see some actual hardware. But not sort of to any level of productionisation, because that would fall into any subsequent phases.

8: How many projects could be awarded?
Ideally one, but there are an enormous number of ways that you could potentially achieve the requirement. We'd be happy to fund several different techniques if they all have similar merit.

9: I understand that productionisation is for a future phase, but is there an approximate cost target for the applique?
No, there's no final cost figure for the applique. We're not looking for anything that's specifically very, very cheap and disposable and if an expensive but very novel, very effective technique is devised, there may be other applications.

10: Are there any particular assumptions we should make about the sophistication of the attack? Is it just somebody with a torch or do you want to consider other things as well?
It could be any technique that people have found out about on the Internet. Any device that emits light in near infra-red wavelengths – LEDs and semiconductor lasers are common, but other sources may be used.

11: Do we expect to still be imaging even when the IR source happens?
Ideally it would be really good to just obliterate the source of the infrared light and maintain the image quality around that. This makes it much more complicated, so a basic shutter would be acceptable.

12: Do we expect to have a complete a full solution or part of the key technology, for example artificial intelligence?
An AI element would be OK, but we're very much looking at the applique that clicks on the front. We wouldn't necessarily have access to the rest of the system, so an electronic solution that connected to the output from the camera wouldn't be in scope.

13: Do we know the volume in the future? Is there any data on how many?
Difficult to say at this stage and technology dependant, but reasonable quantities and preferably a scalable solution. Getting the right sort of technology for the job at this stage is key.