Tender Ref No: JTC23T0092

6 October 2023

To: All Applicants
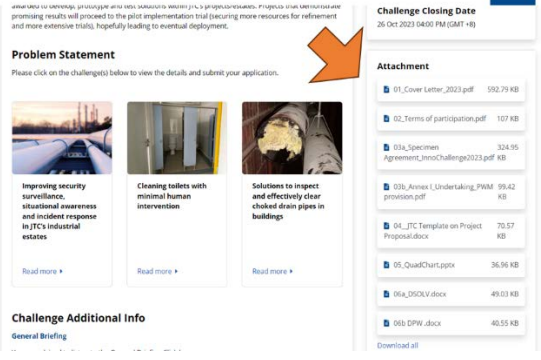
CORRIGENDUM NO. 2

JTC INNOVATION CHALLENGE 2023

Challenge Statement 1: Improving security surveillance, situational awareness and incident response in JTC's industrial estates

Please take note of the following clarifications to the above Innovation Challenge in response to queries raised by applicants, which shall form part of the original Innovation Challenge document issued.

S/N	Query	Response
General		
1	Is JTC innovation Challenge a grant call?	No, the JTC innovation challenge is a procurement of R&D services, not a grant.

JTC Partner Code of Conduct: we recognise our partners play an important role in maintaining the trust of our customers, stakeholders and communities. Likewise, parties dealing with us are expected to share the same principles and standards, and comply with JTC's Partners Code of Conduct. Please visit our website for more information.

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S/N	Query	Response
2	Is there a proposal template to follow?	Yes please use the template <04_JTC Template on Project Proposal>. See screenshot below. https://jtc.innovation-challenge.sg/statement-details.html Do read the launch documents.
3	For JTC's entitlement to a share of the Net Revenue derived from commercialisation, does it apply to internal stakeholders (i.e. tenants) too or only to external customers?	Please refer to Clause 11.2.3 and Clause 11.2.4 of the specimen Research Project Agreement <03a_Specimen Agreement_InnoChallenge2023>.
4	If we receive grant support from JTC, who will own the intellectual property rights to the final product?	This is not a grant, this is a procurement of R&D services. For Intellectual property, refer to Clause 10 of the specimen Research Project Agreement <03a_Specimen Agreement_InnoChallenge2023>.
5	Who are eligible to apply? Only companies or institutions of higher learning (IHLs) are eligible as well?	All entities that are not debarred from participating in public tenders are eligible to apply. IHLs are encouraged to partner with industrial partners so that the solution can be supported on a commercially viable manner, if successfully developed.
Challenge Statement 1: Improving security surveillance, situational awareness and incident response in JTC's industrial estate with challenging environmental conditions		
6	Do you have a picture of the trial area, so that we understand the deployment challenges we need to resolve.	We are not able to share any photos of the trial area yet. However, since the application of the solution is for the

S/N	Query	Response
	Are you looking at R&D product or TRL 8?	outdoors that are open to public, participants are free to make personal visits to view the surrounding environment of JTC estates to get a better understanding. We are looking to support technology solutions in TRL 5 to 7.
7	Query relating to Location of Interest: i) Is the location of interest located within Singapore or overseas? ii) Is the intended solution a generic one to be applied for different locations? iii) How big is the area of interest that needs to be covered because the solution would have to either be specific to the land mass or scaled up assuming a specific area. iv) While the vegetation is thick, how much visibility is required? v) How much build up of infrastructure is allowed? Can we clear some land to build an operation site? vi) Although we expect there to have thick vegetation, would there be roads leading to the site and street lamps to tap power? vii) How far is the location of interest away from the command center? viii) Can a site visit be arranged for interested parties to take a look? ix) While it is not allowed to perform surveillance on tenanted land, are we allowed to maintain surveillance along the perimeter of such land?	(i) The testing site will be in Singapore. (ii) The intended solution should be scalable which means that it can be deployed in similar environments and circumstances. (iii) The area of deployment will depend on several factors such as readiness of the solution for wider scale deployment, availability of the site, and regulatory permits if necessary. For simplicity, participants may want to focus on deploying in a smaller (outdoor) area to validate the concept of operations before scaling up to a wider area of deployment. (iv) The degree of visibility should be adequate for end users to perform their inspections. Depending on the object of interest and overall vegetation density, the degree visibility may vary. v) We are not looking for solutions that will require additional physical infrastructure to be set up, as the overall process to build them may lengthen the duration of the project which is already relatively short. vi) Generally, there are roads and street lamps within JTC estates. Access roads to the areas with thick vegetation will depend on availability. vii) The distance will depend on the actual location of interest. Each JTC estate will have a command centre within its vicinity. viii) Specially arranged site visits are not allowed during this period of the

S/N	Query	Response
		innovation challenge. However, participants are free to make personal trips to view the outdoor environment of JTC estates, which are generally open to public. ix) Yes, surveillance of the buildings' perimeters under JTC's purview is allowed.
8	Query relating to detection. What is the system intended to detect? Humans, animals, vehicles or all? What is the nature of threat to the locality; is it about theft, illegal immigrants, poaching or espionage? What is the system intended to protect, just a facility or vacant land?	Generally, we are looking at detection of (i) humans and unauthorised vehicles loitering within Protected area / place, (ii) unauthorised entry from seawards, and (iii) suspicious person conducting surveillance at vacant land with thick vegetation that are inaccessible by patrol officers.
9	Query relating to operational requirements. i) What is the expected lag time between detection and response? ii) What is the specific assistance from the system required by the relevant officers? Only surveillance? iii) Is the proposed solution one whereby the existing security team will use as an additional tool to fulfil their task or it is one operated by a different vendor?	System expected to notify the operators to respond within 15 minutes to the incident site. The system shall assist the operators to pick up any anomalies so as to activate the appropriate response force. The proposed solution shall be one whereby existing security team will use as an additional tool to fulfil their task.
10	Query relating to tenanted spaces. What is the current SOP and type of surveillance data that is required and can / cannot be captured? So that we can apply the correct solution to allow the capturing of required data (e.g. whitelist / blacklist certain objects, faces) without invading of tenant privacy	JTC does not impose any security solution requirements for our tenants within their leased area.
11	What is the current SOP and typical time / manpower utilised for incident response? This is to have a baseline for calculating the potential of time / manpower savings.	Current baseline is to respond to site within 15 minutes upon activation by command centre.
12	What is the current SOP and typical time / manpower utilised for inspection / patrolling? This is to have a baseline for calculating the potential of time / manpower savings.	2 patrolling vehicles with 2 officers each on patrol at any time to cover entire area of operations.

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13	What is the existing infrastructure available to plug-in or integrate to for demonstration? This is to know how much hardware to procure at our end for the demonstration.	The areas are generally covered by 4G/5G network, but signal strength and stability may vary. For electricity, we discourage tapping on existing utilities from the roads and street lamps, unless it is necessary for the setup. Proposal should cater for the worst case scenario where there is no available electricity source to tap from, and weak telecommunication signals.
14	What is the largest area size of remote vegetation areas to conduct surveillance on? This is to determine the power lifecycle of any unmanned devices.	If unmanned devices are proposed, we expect a safe operational duration of at least 4 hours before needing to charge or swap batteries.
15	Are there fixture works expected (camera installation onto building celling etc.)? This is to determine whether such labour works need to be catered.	This will depend on the proposed solution by the applicant. If there are, the applicant should cater the budget for such labour in its proposal.
16	Given that JTC is not looking at revamping the existing security systems, hence can we have more details / info on the existing security systems including manpower with equipment at JTC?	Unable to disclose what type of system we have but generally, we have either enhanced or basic security surveillance system at critical locations.