

Document Details: Clarification Questions – Visualising Smart Cities

Deadline for questions: 03/08/26

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1.0 Ingestion/Nodes

	Question	Answer
1.1	Is there any example smart city data available?	Bristol City Councils Data, Insights, and Information Strategy outlines how data, AI, and Digital Twin Technology are being used to create a smarter more connected City Data is available as Open Data, allowing public access and re-use under licensing conditions
1.2	The brief notes "smart city nodes and their interaction with communication points and other sensors ..." and "... Where the data is available, include precise locations of nodes, sensor types, manufacturer, and associated datasheets / internet links".	The important information is the sensor type and location. We do require the flexibility to add additional information if/when we have it – whether from a data set or direct user entry
1.3	Would we be provided with samples of input in the expected format or would we generate our own sample data and provide a transformation pipeline from generic data for use into the visualisation tool?	At this stage participants should generate own using generic data or OS data Suggest looking at Bristol City – Open Data

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1.4	Approximately how much data would need to be ingested?	Unable to say, but at this stage we would focus upon one UK city only
1.5	What are the primary data sources?	For the demonstrator the supplier should provide appropriate sample data. Suggest looking at Bristol City – Open Data For a production version sources are likely to be a mix of publicly available and commercially available data sources, alongside own data collected thru surveys of areas
1.6	What are the typical and maximum file sizes we should expect?	Unknown
1.7	Which data and documentation formats should the solution support?	Suggest looking at Bristol City – Open Data
1.8	Would it be possible to provide a representative sample dataset?	Suggest looking at Bristol City – Open Data
1.9	Is the requirement to integrate data sets?	It is likely, for any productionised capability, data would be integrated

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1.10	Who will supply these data sets?	For a production version the client would provide the data, for development of the demonstrator, the supplier should provide sample real or synthetic data, suggest looking at Bristol City – Open Data
1.11	What is the data source for the various sensors and nodes? What format is it provided in	Suggest looking at Bristol City – Open Data
1.12	The project scope refers to "augmenting commercial systems by adding a layer of smart city nodes onto 3D visualisations." Do you have existing platforms or tools that the demonstrator is expected to integrate with? If so, could you outline the systems involved and any interface or interoperability requirements the solution would need to meet?	Not at this stage, options are being explored
1.13	If no client-held data is available, are there particular open-source datasets that HMGCC Co-Creation considers authoritative or would expect to see used for smart city node information?	Bristol City Open Data
1.14	Incomplete network-topology information: Where open-source data identifies smart-city devices but does not reveal their actual physical or logical network connections, may relationships be presented as confirmed, inferred or unknown, with their source provenance and confidence level clearly displayed?	Yes, that seems a sensible approach

1.15	Vulnerability functionality: Does the demonstrator need to ingest public vulnerability information such as CVEs, manufacturer advisories and protocol vulnerabilities, or is the requirement primarily to identify potential exposure through device, manufacturer, protocol and connectivity information? What minimum level of vulnerability analysis is expected at TRL 5?	No need for CVEs or vulnerabilities in the demonstrator
1.16	Administrator functionality: Does the requirement for administrators to "add data and modify software independently" mean managing datasets, schemas, layers, filters and application configuration through an administrative interface, or is a low-code capability for modifying application logic also expected?	Over time we may wish to add other layers of information and data sources
1.17	Testing and handover requirements: What technical artefacts and deployment environment are expected for sponsor testing and project handover, for example a containerised application, administrator and user documentation, data schemas and sample datasets? Is source-code delivery required?	Focus on capability demo rather than handover for Phase 1.
1.18	Could you provide further guidance on the primary user outcome the demonstrator is intended to support? For example: infrastructure discovery, vulnerability assessment, attack-surface understanding, operational planning, infrastructure resilience, or a combination of these?	Primarily this will be an environmental familiarisation and operational planning tool

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1.19	Could you provide any further detail regarding the current challenge experienced by users that this demonstrator is intended to address? In particular, is this intended to improve an existing capability or workflow, or is the challenge seeking to explore an entirely new capability that does not currently exist?	See 1.18
1.20	For a TRL-5 demonstrator, would you consider a solution focused on a limited number of representative locations acceptable, provided the underlying architecture and data-ingestion approach are demonstrably scalable?	yes
1.21	Is there a priority city or particular open-source dataset you'd like the demonstrator built around, or is a city-agnostic ingestion pipeline preferred for the initial phase?	Suggest looking at Bristol City – Open Data
1.22	Which data formats and feeds should the pipeline prioritise (e.g. GeoJSON, CITYGML, CSV, KML/Shapefile, OGC/REST APIs, live sensor streams)?	Suggest looking at Bristol City – Open Data
1.23	Could HMGCC provide more context on the driver for using open-source data in the initial phase (e.g., facilitating unclassified evaluation, ease of sharing across partners, or schema standardization)?	Facilitating evaluation and sharing
1.24	Where open-source coverage is sparse, may we supplement it with proprietary, synthetic or sample data to demonstrate high-density sensor scenarios?	yes

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1.25	What does "global data" mean in this context. Does it refer to real-world data, data at a global scale, data specific to the chosen location/city, or something else?	At this stage – focus upon Bristol, UK
1.26	Where does the graphical rendition of the city come from. Which city has been selected? What is the file format?	Bristol can be used as an example
1.27	The ingestion pipeline must be capable of handling global data. Should the demonstrator prove this by ingesting multiple cities in different countries, or would one representative city plus a documented city-agnostic ingestion framework be sufficient? Will HMGCC nominate an evaluation city or dataset, or may applicants select representative data?	One will be sufficient for the first phase
1.28	Essential requirement 2 asks that nodes be displayed with their interaction with communication points and other sensors. We have found no open dataset that publishes device-to-gateway associations in any geography. Would relationships derived by inference — with a published methodology and an explicit per-relationship confidence score — satisfy this requirement, or is observed connectivity data expected?	This proposal would satisfy the requirement

2.0 System Requirements/Testing

2.1	What is the expected number of end users for the system?	Phase 1 – small number for evaluation If productionised, 1000s. Solution Providers can commercialise and look for other use cases.
2.2	What is the expected number of users during the sponsors further testing phase?	Small number for evaluation
2.3	Should the tool primarily surface physical proximity / exposure, cyber-physical network dependencies, or protocol- and supply-chain vulnerabilities?	Physical proximity
2.4	For the future on-premises version, is the target a fully offline / air-gapped deployment with no external calls (data, services), or local hosting within a sovereign private cloud?	Air-gapped, cloud native environment
2.5	What level of technical expertise should we assume for the admin user (security analyst vs GIS developer / administrator), and what should they be able to add or change without developer support?	The more you can limit the technical expertise required the better for us to have a flexible user model
2.6	Once the demonstrator has been delivered, how long will the sponsors further testing run?	Approx 1 week.

2.7	Essential requirement 5 refers to an admin mode allowing users to 'modify software independently.' Does this mean configuring new data sources and field mappings without writing code, or does it extend to a plugin or extension API through which new analytical functions can be added post-delivery?	Either
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3.0 Demonstrators

3.1	Demonstrator coverage: Would a detailed demonstrator covering one representative urban area, together with the successful ingestion and visualisation of a second international city dataset, sufficiently demonstrate the capability to support "any global city", provided the underlying data model and ingestion pipeline are designed for reuse?	Yes
3.2	Could you provide any additional guidance regarding the characteristics of a successful demonstrator? Are there specific functional or non-functional outcomes that are considered especially important?	Refer to scope section of challenge form
3.3	Regarding the requirement to display interactions between smart city nodes and communication points: is HMGCC looking for high-level spatial/topological connections (e.g., line-of-sight or proximity linkages), or	High-level at this stage.

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	specific physical/logical protocol modeling (e.g., RF coverage heatmaps for LoRaWAN, 5G, Wi-Fi, Zigbee)?	
3.4	Are cloud-hosted photorealistic 3D tile services acceptable for the TRL 5 demonstrator, provided we set out a clear migration path to self-hosted tiles for the on-premises version?	Yes
3.5	The challenge documentation states that demonstrators may use cloud computing, but future versions must work on-premises. Would a cloud-hosted demonstrator for the 12-week project be acceptable, provided the underlying architecture is capable of future on-premises deployment?	Yes – ideally a cloud agnostic solution
3.6	Is visualisation from a pedestrian / cyclist viewpoint a core requirement for the TRL 5 demonstrator, or a desirable feature?	Desirable, not essential for this stage
3.7	Are sensors only outside or are they located inside buildings as well?	Some sensors, such as CCTV, may be ‘hidden’ or located insider a premises
3.8	Is there a preference for how the demonstrator is delivered — source code with a documented deployment package, or a pre-built appliance or VM image — and should we plan for the sponsor's team to deploy it independently for further testing?	For this phase we would like the supplier to host the demonstrator. Any future phases which come on-prem, we will need to undertake source-code inspection before we can ingest and deploy it

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3.9	Will assessors have particular hardware, graphics or network constraints when viewing the demonstrator, and is a browser-based deliverable preferred over an installed client application?	We would expect the supplier to host the demo
3.10	The scope refers to “augmenting commercial systems.” Is integration with a particular commercial 3D or digital-twin platform expected, or may the demonstrator use an established open-source or open-standard foundations (e.g. OGC 3D Tiles, vector tiles)?	To be decided
3.11	Following delivery, is there an anticipated evaluation period during which HMGCC will require continued access to the hosted solution? If so, should suppliers include provision for post-project hosting and support within their proposals?	Yes, 1 week

4.0 Other

4.1	Are there commercial or civil sectors you would most value seeing addressed (e.g. critical national infrastructure, emergency response, urban planning, insurance)?	Sensor rich urban environment
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5.0 Project/Clerical

5.1	Please also explain the budget limitation. Is the £60k to cover bid costs or deliver the entire 12-week project?	The £60k is to deliver the entire 12-week project.
5.2	Is the budget the defining factor? I.e. Do you want to understand what could be achieved within £60k or are you interested in achieving all of the stated goals?	Yes, the budget is fixed at £60k.
5.3	The challenge states "Total budget (excluding VAT): £60,000" and indicates that multiple solution providers may be funded. Is £60,000 the maximum contract value available to each selected provider or consortium, or the aggregate budget shared across all selected providers?	Additional budget would be considered for consortiums.
5.4	For Phase 1 submission should costs be included and if so where should they be recorded, on the one-page?	We do not require a cost breakdown for phase 1 submissions but should still meet the threshold.
5.5	For Phase 1 submission how much detail do you require on the costs?	We do not require a budget breakdown for phase 1 submissions.
5.6	Can you clarify whether the published £60,000 budget should be considered a fixed maximum value, or whether higher-value consortiums proposals may be considered where additional capability and value can be demonstrated? If flexibility exists, please could HMGCC	Additional budget would be considered for consortiums.

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	provide guidance on how additional budget requirements should be presented and assessed within a proposal.	
5.7	We assume that HMGCC and associated stakeholders would receive the rights necessary to use, evaluate and benefit from the delivered solution. Could HMGCC confirm that the solution provider retains ownership of all project IP developed during contract performance; and assignment of deliverables does not transfer ownership of the underlying Project IP?	Yes, HMGCC does not retain the background or foreground IP but retain the rights to use the IP. See: Terms and conditions HMGCC
5.8	Our proposed solution builds upon an existing commercial-off-the-shelf (COTS) product, rather than being developed from scratch. Is the use of an existing, configurable platform within the intended scope of the challenge?	Yes, background IP/development is encouraged.
5.9	Pitch attendance: If an overseas applicant is shortlisted, is in-person attendance in Milton Keynes on 7 October required, or will remote participation be available?	In-person is preferred; however, we can also offer remote attendance.
5.10	The link does not work on our corporate IT, so I hope I can submit via email.	Submitting on our website is preferred: https://co-creation.hmgcc.gov.uk/ , if not, you can email cocreation@hmgcc.gov.uk

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5.11	I'm having an issue uploading a PDF document to your website.	It is a known bug with the virus checker giving false positives. For Windows users: when saving as a PDF select "Minimum size", depending on your set-up you may need to select "more options" and then click "minimum size". For MAC users: When saving as PDF select PDF - Best for electronic distribution and accessibility (uses Microsoft online services).
5.12	Does HMGCC envisage ongoing stakeholder engagement and iterative review during project delivery, or is assessment expected to be based primarily on the final demonstrator and associated deliverables?	This will be an Agile team where engagement between all stakeholders is encouraged.
5.13	The guidance states that, in addition to the one-page concept, personnel CVs and organisational profiles may be included and are excluded from the page limit. Are there any limits on the length or format of these supporting documents? Additionally, are images, diagrams or other visual material permitted within the organisational profile?	Phase 1 proposals should focus on Scope, Innovation, Deliverables . Images that support these areas could be beneficial. CV's and organisational profiles would be suited to phase 2 proposals.
5.14	Are there any restrictions on proposals that build upon technology, software or research previously funded by Dstl, the MOD or other UK Government organisations, provided the appropriate intellectual property rights are held by the applicant?	No restrictions that we can foresee.

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