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AT THE FOREFRONT TO PROTECT CITIZENS,
INFRASTRUCTURE AND THE ENVIRONMENT

Answers to requests for
clarification

A CONSORTIUM OF ITALIAN EXCELLENCE



Answers to requests for clarification

Technical requirements

1. Q: Is cross-platform required? The ability then to use multiple different devices (e.g., 1 meta quest and 1 vision pro) in multiplayer mode in the same instance?

A: No, it is not required.

2. Q: Does the simulation have to support two languages (Italian and English), or is the main language English (for both text and audio) with Italian subtitles?

A: It must support two languages.

3. Q: The trainings are happening in a virtual environment or there is a request to track the real 1 sq. km space (cf as the principle in Calvarina project?)

A: The concept is indeed to have the training implemented in a virtual environment which replicates the size and features of Calvarina. In this manner the trainings could be implemented hypothetically in any area, but when implemented in Calvarina (main location foreseen for the project) they would benefit from an extended reality environment.

4. Q: Are you expecting three trainings in Mixed Reality with “passthrough” or Virtual Reality experiences?

A: As above, the main location being Calvarina, we would then be able to either use a passthrough to obtain MR or AR solutions. We leave the detailed proposal to the potential candidates.

5. Q: In terms of Cybersecurity, are you following the NATO guidance or different guidance? The main concern here is for the online server and the use of WiFi in general.

A: This being a civilian project, cybersecurity regulations applicable are NIS2 regulations.

Storyboard or Narrative Details

6. Q: Could you provide a detailed storyboard for each scenario? If not available, are there any guidelines or examples of key events you would like to include?

A: There are currently no detailed storyboards for the scenarios but they will be provided later and developed jointly with the end-users. The macro requirements that each scenario must necessarily support (e.g., at the level of minimum number of interactions) are as defined in the call.

7. Q: What are the main objectives of each scenario? (e.g., evacuation, threat identification, coordination among teams)

A: As the previous question, these details will be given at a later stage once the detailed storyboard is agreed upon based on the needs of the end-users.

8. Q: Is there a predefined sequence of events for each scenario or do we have to develop it ourselves? For example, does the chemical scenario start with substance release, follow with crowd chaos, and end with decontamination?

A: As per the previous question, these details will be given at a later stage once we agree together on the detailed storyboard based on the needs of the end-users.

9. Q: What types of interactions are essential? (e.g., use of equipment, communication with NPCs, critical decision-making)

A: Complex interactions will be jointly defined when determining the storyboard. An example would be the dynamic reaction of detection tools within the scenario based on the dispersion patterns created; or sampling procedures (not animation).

10. Q: Do you prefer a more linear narrative approach or a more interactive one in which participants can choose different actions or pathways?

A: The preference is for a dynamic approach, but we allow the possibility of proposing both.

11. Q: How can players interact with each other?

A: Examples are: vocal communication; ability to observe the actions of other players simultaneously (real-time). The possibility of exchanging objects between players within the scenario could be an added value. We then give the possibility of proposing various possible solutions.

12. Q: How is it possible for players connected from different locations to have the ability to play in the same environment if it is an XR simulation?

A: Candidates can present possible solutions in this regard.

Q: Can the supervisor interact within the XR simulation? If yes, how? In what ways?

A: The supervisor must be able to interact, communicating via voice with operators (one or more). Any other way of interactions proposed by candidates may represent added value and will be evaluated.

14. Q: Do you have example of simple and complex interactions?

A: Simple interactions may be the virtual interactions with an instrument. Complex interactions may be the sequence of interactions needed to implement a sampling, or a ste-by-step procedure to complete a pre-defined SOP

15. Q: Are you expecting IoT in the different modules, cf Calvarina project with torch lamp for ex.. If yes, can we have an idea of the size of the interactable buttons, etc.

A: This may be a value added – at this stage we do not have detailed information but some of the foreseen interactions may be using IoTs

Specific Requirements for NPCs

16. Q: Can you describe the required behaviors for NPCs? (e.g., crowd panic reactions, technical assistance from trained personnel, direct interactions with players).

A: Specific behaviors will depend on the detailed storyboard. Minimum requirements are given in the call. The examples brought in this question are relevant. Any additional behaviors proposed by applicants can represent added value and will be evaluated.

17. Q: Do you have a list of specific NPCs to include? (e.g., police officers, firefighters, scientists, doctors, general civilians).

A: See previous answer.

18. Q: Should NPCs have advanced artificial intelligence for autonomous decision-making or just scripted behaviors?

A: Non-scripted elements are preferred. Any additional behaviors proposed by candidates can represent added value and will be evaluated.

19. Q: Are there any special requirements for NPC animations? (e.g., specific animations such as running, wearing equipment, disarming a device).

A: Specific behaviors will depend on the detailed storyboard. The examples brought in this question are applicable. Any additional behaviors proposed by candidates may represent added value and will be evaluated.

Specific Requirements for Environments

20. Q: Can you provide more details about the environments? (e.g., exact dimensions, structure, key elements such as buildings, equipment or obstacles to be included).

A: Further details cannot be submitted at this stage due to the need to develop scenario storyboards and related virtual environments. As stated in the call, the reference space is the Calvarina base, with freedom of movement in 1 km². We assume the ability to access the interior of at minimum two enclosed buildings, with a square footage of about 500 m² each. Upon your request, we can share a walkthrough of the environment, as outlined in the Call.

21. Q: Should the environments be replicated based on real locations, such as the SAFE Calvarina Testing and Training Area, or can they be stylized or generic?

A: As stated in the Call, environments must replicate the equivalent area at Calvarina, and at least three different environments must be created, including: densely populated area; stadium; public space.

22. Q: Is it necessary to incorporate special visual effects (e.g., explosions, chemical dispersion)?

A: Yes.

Performance Metrics

23. Q: What specific KPIs should be monitored? (e.g., time to completion of actions, accuracy of decisions, collaboration among participants).

A: KPIs will be defined in a second phase together with the end-users. The KPIs given in this question represent relevant examples. Any suggestions from applicants may represent added value and will be evaluated:

24. Q: Do you already have a framework for evaluating performance or do we need to develop one from scratch?

A: Candidates are asked to submit a bid that also integrates an Automatic Reporting and Performance Measuring System mechanism into its system.

25. Q: Should metrics be customizable by supervisors during training sessions? If so, what metrics should be able to be changed?

A: Yes, as stated in the call. Specific parameters may depend on the storyboard developed for each scenario and the trainer's own choice.

26. Q: Should performance reports include individual details, team details, or both?

A: Both.

27. Q: Are there examples of evaluations used in other similar contexts to take as reference?

A: We leave it to the candidates to come up with solutions that are appropriate and consonant with the type of requirement.

28. Q: Should the monitoring system include movement tracking (e.g., path heatmaps) or specific analyses such as visual observation of certain points in the scenario?

A: We confirm that integrations of this kind can be an added value. We leave it to the candidates to propose possible solutions.