



Info-communications Media Development Authority (IMDA)

Requirements for

Autonomous Solutions for Safety (Video Analytics & Surveillance)

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1. IMPORTANT NOTE

- 1.1 This requirements document must be read in conjunction with the information on Advanced Digital Solutions (ADS) at www.imda.gov.sg/AdvancedDigitalSolutions.

2. CALL FOR PROPOSALS (CFP)

- 2.1 IMDA and ECDA are inviting industry partners to submit proposals for Autonomous Solutions for Safety (Video Analytics & Surveillance). These solutions shall help Small and Medium Size Enterprises (SMEs) in the Early Childhood (EC) sector to enhance the safety of children and educators and enhance manpower productivity.

3. BACKGROUND

- 3.1 From July 1st of 2024, all preschools and government-funded early intervention centres will be required to be fitted with closed-circuit television (CCTV) cameras to improve children's safety.
- 3.2 The objective is to deter suspicious or unauthorised persons from entering the premises. It acts as an additional measure to provide a safe and secure environment for educators and children.
- 3.3 Parents with reasonable grounds will be granted access to CCTV footage to assist with the investigation of serious incidents. The footage will serve as an objective and reliable source of evidence to support investigations, ensuring a peace of mind for both teachers and parents.
- 3.4 To complement the CCTV mandate, video analytics solutions can further improve the safety at centres with advanced capabilities such as facial recognition and threat detection. Centre leaders can receive alerts on potential risks or hazards and leverage data collected to identify areas for improvement for enhanced safety and security.

4. REQUIREMENTS

- 4.1 **[Mandatory]** the autonomous solution for safety must have the following features for Video Management:
 - 4.1.1 Enable on-site monitoring through IP-enabled video cameras.
 - 4.1.2 Enable clients to manage and store video footage from cameras, handle large amounts of data, provide real-time monitoring, and allow for easy retrieval and analysis of footage.
 - 4.1.3 Support Secure Sockets Layer (SSL) or other encrypted communication layers between the video cameras and the video camera gateway.
 - 4.1.4 Provide basic editing functions for video footage, such as trimming, audio editing, enhancement and timestamping. Allow for zooming in on video footage during playback or review.

- 4.1.5 Provide video search function to facilitate the review of the surveillance footage by using filters such as incident type, severity and date.
- 4.2 **[Mandatory]** the autonomous solution for safety must have the following capabilities for Video Analytics:
 - 4.2.1 Intrusion/threat/loitering detection module - allowing for the definition of zones that require greater surveillance and triggering automated alerts when intrusion/threat/loitering is detected.
 - 4.2.2 Face indexing/facial recognition module - analysing video for human faces captured and stored according to time and duration, triggering alerts when blacklisted individuals enter the area or when children are left unsupervised in the absence of adults.
 - 4.2.3 Reporting module with one or more dashboards that provide an at-a-glance overview of charts/indicators to help users analyse data such as safety breaches, threat detection, and traffic flow insights, in various formats (such as graphs and tables).
 - 4.2.4 Cross-filtering feature on the dashboard(s) to allow users to analyse data and generate insights to make informed decisions.
- 4.3 **[Mandatory]** the autonomous solution for safety must include a masking of faces feature, which allows for selective masking of faces in footage that needs to be shared with third parties, to protect the identities and privacy of staff, children, and visitors.
- 4.4 **[Preferred]** the autonomous solution for safety should come with the following capabilities:
 - 4.4.1 Anti-tampering module that ensures cameras, and sensors are functioning optimally by triggering alerts if views are blocked or cameras are out of focus, to ensure consistent surveillance.
 - 4.4.2 Send out real-time alerts via email or SMS, triggered by pre-defined video events, such as falls, rough handling of children, or liquid spillage.
 - 4.4.3 Facial expressions analysis to detect emotion and behaviour considered as potentially as a threat to children.
- 4.5 **[Mandatory]** the autonomous solution for safety must provide high-quality cameras that capture clear and detailed video footage, such as CCTV cameras with a minimum resolution of 1080P, footage in colour, and a minimum of 30 frames per second.

- 4.6 **[Mandatory]** the autonomous solution for safety must be able to operate on Wi-Fi as opposed to only mobile network or wired network.
- 4.7 [Preferred] the autonomous solution for safety should provide cameras with the following features:
- 4.7.1 Ability to operate both indoor and outdoor.
 - 4.7.2 Ability to connect with backup battery system to prevent outage or disruption.
- 4.8 **[Mandatory]** the autonomous solution for safety must provide both local and/or cloud storage options for footage (refer to 4.5 on footage requirement) collected during the centre's operational hours (at least 12 hours per day) for a minimum of 30 days.
- 4.9 **[Mandatory]** the autonomous solution for safety must provide a robust and secure network infrastructure that is necessary to ensure that video footage can be transmitted and accessed quickly and securely. Please provide a brief description on the infrastructure setup. It should cover at a minimum encryption level, firewall systems, VPN set up, access control and authentication set up.
- 4.10 **[Mandatory]** the autonomous solution for safety must have the following features:
- 4.10.1 Strict access controls in place to ensure that only authorised users can access the recorded footage, including measures such as multi-factor authentication and role-based access controls.
 - 4.10.2 Backup features to perform regular and automated backup to another location separate from the operating environment, such as cloud back up.
- 4.11 **[Mandatory]** the autonomous solution for safety must comply with IMDA Personal Data Protection requirements such as:
- 4.11.1 Features that allow for access of an individual's video footage.
 - 4.11.2 Features to set retention periods for the video footage and flag out records which have reached the end of their retention period.
 - 4.11.3 Encryption of personal data both for data in transit (e.g. TLS and at rest (e.g. data stored on the servers).
 - 4.11.4 2-Factors authentication (2FA)/Multi-Factor Authentication (MFA) to ensure that only authorised users can access personal data.

4.12 **[Mandatory]** the vendor must provide services to assist preschools with the above requirements, such as technical support and hardware installation.

4.13 **[Mandatory]** the vendor must be able to offer at least 8 hours x 5 weekdays of post-sales support via on-site/teleconference and be reachable 24/7 via email/contact form.

4.14 [Preferred] the autonomous solution should integrate with the pre-schools' existing IT systems or any other management systems.

If available, please provide a brief description of the integrations currently available with the pre-schools' IT systems.

4.15 **[Mandatory]** the autonomous solution vendor must have engaged at least one pre-school prospect that has expressed interest to adopt the proposed solution.

5 APPLICATION REQUIREMENTS AND PROPOSAL SUBMISSION PROCESS

5.1 Please use this **form** to indicate your interest to participate in this CFP.

5.1.1 IMDA shall conduct an initial assessment to pre-qualify the participants;
and

5.1.2 A CFP briefing will be scheduled with the pre-qualified participants, who are required to attend the briefing before submitting proposal(s) to IMDA.

5.2 To be considered for Advanced Digital Solutions (ADS) grant, you are required to submit complete proposals to IMDA-IDP-TechScout@imda.gov.sg before 30 May 2024. Respondents with complete proposal(s) will receive an acknowledgement. IMDA reserves the right to reject incomplete or late submission(s).

5.3 Complete proposals received before 30 May 2024 will be jointly assessed by an evaluation panel consisting of members from IMDA, ECDA, and the pre-school prospect.

5.4 While vendors who fulfil all mandatory requirements will be considered, it should be noted that meeting these requirements does not guarantee automatic qualification. In the situation where the numbers of vendors meeting the mandatory requirements are more than our capacity to support, then the submissions will be assessed further using the criteria outlined under clause 5.5.

- 5.5 For this CFP, your submission will be ranked and assessed based on the following evaluation criteria:
- 5.5.1 Financial soundness
 - 5.5.2 Ability to acquire customers
 - 5.5.3 Track record in delivering the proposed solution or similar scope of work
 - 5.5.4 Cost-effectiveness
 - 5.5.5 Number of preferred requirements met
 - 5.5.6 Ease of use and implementation
 - 5.5.7 Accuracy of the Video Analytics and Face masking features
- 5.6 IMDA reserves the right to make the final decision on the proposal approval. If your proposal is approved, you will be notified by IMDA within 3 months from submission date.

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