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Logistic Support
Division

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National Headquarters of the INP /
Logistics Support Division
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Date: June 15, 2023

Ref: Preliminary RFI (RFI) - number 6/2023

Topic: Protection against drones in an urban environment

The English version of this RFI (Request For Information) is provided to enable potential respondent from abroad to participate in the process, although they must channel their response through an Israeli representative. However, please be advised that only the Hebrew version of this document will serve as the official reference for contractual purposes, and in any discrepancies or conflict between the two versions, the Hebrew version shall prevail.

1. General

- 1.1. The Israel National Police (INP), the R&D Division (MAFAT), the Division for Technology and IT (ATUV), are seeking information on technological systems and/or solutions that can aid in countering the threat of drones in an urban environment, referred to as 'the System'. This procedure will lead to a presentation and/or a demonstration, as required, under regulation 14.a of the Mandatory Tenders Regulations, 1993.
- 1.2. INP intends to assess the system's suitability for operational needs, specifically concerning the protection against the drone threat, including the detection and interception of various types of drones.
- 1.3. As detailed in this document, participants interested in responding to this RFI should provide as much information as possible about the system or any viable alternatives and detail how well the system satisfies the operational requirements outlined below.
- 1.4. This RFI process should not be construed as a supplier selection procedure, nor does it represent a tender or request for proposals. Nothing in the response or the content thereof will confer any advantage or disadvantage to any participant in this procedure, nor will it obligate INP to include any participant in a tender or contractually engage with them in any other way. Upon receipt of responses to this RFI, INP will consider its next steps based solely on its judgment and discretion.
- 1.5. Please note that any contract with the INP is subject to the Tenders Regulation. No RFI procedure will be used to circumvent a tender process as per the Mandatory Tenders Law,

27 of 2 Page



1.16. INP reserves the right to hold clarification meetings with the participants engaged in this procedure, all in accordance with its sole discretion and judgment.

1.17. By submitting a response to this RFI, a participant declares that:

1.17.1. They agree to all terms detailed in this document and undertake not to make any claims or demands against the INP or any other party regarding the use of the information provided by them, subject to the provisions in sections 1.9 - 1.10 above.

1.17.2. The participant confirms that the information submitted in response to this procedure, or pertaining to its future use, does not infringe on the rights of any third party, including copyrights. The participant will bear sole responsibility for any demand or claim arising from allegations of third-party rights infringement related to the use of the submitted information. The participant agrees to indemnify the INP immediately upon receipt of any such demand, for any amount required or requested to be paid due to such claim or demand, including expenses and attorney's fees.

1.17.3. All documents related to this RFI are the exclusive property of INP.

1.18. This RFI will be published subject to the approval and supervision of the Tender Committee of the Israel National Police.

2. The Purpose of this RFI

2.1. INP seeks information on systems and technologies designed to counter drone threats within Israel's territories, particularly in urban environments. The aim is to evaluate the suitability of these solutions in addressing the specific needs of INP.

2.2. The use of drones has become increasingly prevalent worldwide. Despite their numerous benefits, these drones also pose heightened risks to defense, law enforcement, security, and safety, potentially threatening human life and national security.

2.3. As per the Israeli government's decision, the INP shares the responsibility for mitigating threats posed by drones. This duty falls within its mandate to maintain internal public security, public order, and the safety of life and property.

2.4. Given the wide array of potential threat scenarios, from civil criminal activities to terrorism and other hostile acts, a diverse range of solutions is necessary. This RFI seeks comprehensive solutions to enrich the operational toolbox for end users responding to these threats."

2.5. The defense strategy is based upon several complementary and overlapping technological layers including detection identification and countermeasures. This RFI encompasses several distinct solution categories, to which respondents can provide information separately or collectively. Respondents may also offer multiple solutions within a single category in one response. These categories are:

2.5.1. **Category A – Detection**

2.5.2. **Category B - Stationary soft kill** systems, based on disruption or jamming of the RF communication between the drone and its remote control.

2.5.3. **Category C – Tactical soft kill** systems, portable or handheld.



2.5.4. **Category D - Takeover** - Taking control of the drone through cyber intervention into its protocol.

2.5.5. **Category E - Hard kill** meaning, a physical collision or kinetic impact at the drone.

3. **General requirements of the system**

3.1. **General Requirements: These are prerequisites applicable to all solution categories.**

3.1.1. Threat Characteristics: The system must be able to handle the following challenges:

3.1.1.1. The system should be capable of handling various types of drones:

3.1.1.1.1. Commercial drones, such as DJI, EVO (Autel - Robotics), Parrot.

3.1.1.1.2. DIY drones, based on a commercial flight controller such as PixHawk.

3.1.1.1.3. Heavy Logistic drones.

3.1.1.1.4. Additional UAV, up to a weight of 25 kg.

3.1.1.1.4.1. Fixed-winged aircraft.

3.1.1.1.4.2. VTOL (Vertical Take Off and Landing).

3.1.1.2. The system should be to cope with different types of communications:

3.1.1.2.1. Radio communication (RF).

3.1.1.2.2. LTE cellular communication.

3.1.1.2.3. GNSS communication.

3.1.1.2.4. First Person View (FPV) navigation.

3.1.1.2.5. Optical processing based Navigation.

3.1.2. Compliance Characteristics: The system should adhere to the following usage requirements:

3.1.2.1. Urban Environment Requirements: The system should be capable of functioning effectively in typical urban settings, characterized by:

3.1.2.1.1. Dense construction with a cluttered skyline.

3.1.2.1.2. The ability to operate both day and night.

3.1.2.1.3. Adaptability to changing artificial light conditions, including street lighting, intense floodlighting (potentially causing dazzle), and complete darkness.

3.1.2.1.4. The capacity to work in challenging electromagnetic compatibility (EMC) environments with potential obstructions and reverberations.



- 3.1.2.1.5. The ability to operate safely and effectively in areas populated with people and vehicles.
- 3.1.2.2. Location-Specific Protection: The system should offer tailored protection based on the location type:
 - 3.1.2.2.1. Suitable for the static defense of strategic sites.
 - 3.1.2.2.2. Area Defense: Equipped to provide static protection for larger areas, encompassing several square kilometers, akin to a city's scale.
 - 3.1.2.2.3. Tactical Defense: Appropriate for protecting open-air, large-scale gatherings or operational activities, providing tactical defense in densely populated settings.
- 3.1.2.3. Altitude Protection: The system should offer protection at two different altitude layers, measured as height above ground level (HAGL):
 - 3.1.2.3.1. Lower Altitude: Protection required up to 500 feet or approximately 152 meters above the ground.
 - 3.1.2.3.2. Higher Altitude: Protection required up to 1000 feet or approximately 305 meters above the ground.
- 3.1.2.4. Drone Flight Path: The system should be capable of operating effectively regardless of the drone's flight path, which could be free-ranging within the protected area.
- 3.1.3. Weather Compatibility: The system should operate effectively in weather conditions typical to Israel, including extreme temperatures (for both operation and storage), rain, wind, dust, and sun exposure.
- 3.1.4. Operational Availability: The system should ensure high operational availability, which will be evaluated based on factors such as continuous operation hours and mean time between failures (MTBF).
- 3.1.5. Robustness: The system should exhibit strong durability, including material quality, structural rigidity, and long-term reliability.
- 3.1.6. Regulatory Compliance: The system must adhere to all relevant laws and regulations in Israel and internationally, including those pertaining to flight, communication systems, radiation, batteries, and safety. This includes requirements set by the Israel Ministry of Communications or the Civil Aviation Authority of Israel (CAAI).
- 3.1.7. Safety: The system should prioritize accident prevention and operator safety. Respondents to the RFI should specify the safety standards their systems comply with.

3.2. **Requirements for a detection system - Category A**

- 3.2.1. Drone Detection: The detection system may utilize various technologies including, but not limited to, Signals Intelligence (SIGINT), optical, radar, acoustic, or any combination.



- 3.2.2. Detection System Functions: Regardless of the technology used, the detection system must perform the following tasks:
- 3.2.2.1. Define Areas of Interest: The system should allow for the designation of multiple distinct detection areas within the air space..
 - 3.2.2.2. Drone Presence Alert: The system should provide a warning when a drone enters the pre-defined area.
 - 3.2.2.3. Drone Location: The system should be capable of pinpointing the location of one or more drones on a GIS map. Respondents to the RFI should specify the location precision.
 - 3.2.2.4. Operator Location: If possible, the system should also be capable of identifying the location of the drone operator holding the remote control.
 - 3.2.2.5. Flight Path Tracking: The system should track the flight path or azimuth of the drone relative to the sensor.
- 3.2.3. RF-based Detection Systems: If the detection system (either stationary or portable) relies on RF technology, it must meet at least the following requirements:
- 3.2.3.1. Frequency Detection: The system should detect frequencies commonly used by drones, with the capability to add additional frequencies as needed in the future.
 - 3.2.3.2. Drone Classification: The system should extract classification information about the detected drone, such as the manufacturer, communication protocol, size, and flight speed.
 - 3.2.3.3. Drone Identification: The system should extract as much identification information as possible about the drone, such as photographs, identification number, telemetry, operator name, etc.
 - 3.2.3.4. In the case of radar (a stationary system):
 - 3.2.3.4.1. The system will be safe for the operator and for the environment.
 - 3.2.3.5. In a case in which the RF detection system is portable:
 - 3.2.3.5.1. The system will be required to have local protection (detection) in an occasional or short-term event, and without supporting infrastructure.
 - 3.2.3.5.2. The system will be packed in a rugged, dependable and watertight protective transport case, such as a Pelican case, which will provide adequate protection during transport and storage in accordance with the operational mission profile.
 - 3.2.3.6.

3.3. Requirements for stationary Jammers systems (soft kill) - Category B



- 3.3.1. Jamming Frequencies jamming: The Jammer must block common frequencies used by drones, including command channels (Uplink), telemetry, Downlink video channel, and satellite tracking components, as outlined in section 3.1.
- 3.3.2. A stationary jamming system (soft kill) should be coupled to a detection system. The response to the RFI must clearly elaborate on whether the jamming system is integrated with a detection system. This must be explicitly specified if the jamming system is not connected to any detection system.
- 3.3.3. The jamming system must be able to jam the standard frequencies commonly used by flying drones. Additionally, by design, it should be possible to add new jamming frequencies.
- 3.3.4. Both directional and omnidirectional systems are necessary to meet operational needs.
- 3.3.5. Area of Effectiveness Setting: The system must enable the desired definition of the area where the jammer will exert its action, ensuring controlled coverage within the designated boundaries. (This control aims to minimize collateral damage and focus the jamming effect on the intended targets).
- 3.3.6. The system must be able to jam several drones simultaneously.

3.4. **Requirements for Portable Jamming Systems - Category C**

- 3.4.1. The portable jammer must be capable of blocking common frequencies used by flying drones, including command channels (Uplink), telemetry channels (Downlink), and GNSS, in accordance with the drone characteristics outlined in section 3.1.
- 3.4.2. The portable system typically provides perimetral protection for occasional or short-term events without supporting infrastructure.
- 3.4.3. The system must be housed in a rugged, dependable, and waterproof protective transport case, such as a Pelican case, ensuring adequate protection during transport and storage according to the operational mission profile.
- 3.4.4. Man-portable interceptor:
 - 3.4.4.1. It must be operable by a single operator.
 - 3.4.4.2. It should be simple to operate, lightweight, safe, and ergonomic.
 - 3.4.4.3. It must have a battery capacity sufficient to support several hours of continuous operation, suitable for carrying out a police mission.

3.5. **Requirements for Takeover Systems – (Referred as to Cyber RF/CRF) Category D**

- 3.5.1. CRF must be able to assume command of a drone from its remote control and land it in a designated location, thereby preventing the original operator from continuing the flight and neutralizing its control.
- 3.5.2. CRF should include a detection sub-system. The response to the RFI must clarify whether the CRF includes detection, tracking, and identification.



- 3.5.3. The system must be capable of operating in an environment with multiple drones in the air, selectively taking over control of the targeted drone/s without affecting others nearby.
- 3.5.4. The operator should be able to define the landing location and the path to it.
- 3.5.5. For portable CRF:
 - 3.5.5.1. The system must establish a secured area in the surrounding environment, provide protection for occasional or short-term events, and operate independently without the need for local infrastructures.
 - 3.5.5.2. The system must be housed in a rugged, dependable, and watertight protective transport case, such as a Pelican case or similar, ensuring adequate protection during transport and storage according to the operational mission profile.

3.6. Requirement for hard kill (interception) - Category E

- 3.6.1. The RFI seeks details on the following types of hard kill kinetic interception methods:
 - 3.6.1.1. Drone interceptor.
 - 3.6.1.2. Dedicated kinetic interceptor designed for targeting drones.
 - 3.6.1.3. Additional equipment - the respondent to the RFI may offer any other solution within this Subcategory and which is not included in sections 3.6.1.1 and 3.6.1.2.
- 3.6.2. Drone interceptor.
 - 3.6.2.1. The Command-and-Control system must be able to launch and guide the drone interceptor to neutralize or capture the threatening drone.
 - 3.6.2.2. The intercepting multirotor drone should be able to shoot down or pick up the threatening multirotor drone in mid air
 - 3.6.2.3. The drone interceptor system must be integrated with a drone detection system. Please provide details on how this integration is achieved.
 - 3.6.2.4. The drone interceptor must have the capacity to handle and carry the weight of a commercial drone.
 - 3.6.2.5. The drone interceptor must operate with full autonomy, requiring operator intervention only for launching it in response to an alert and selecting the target.
 - 3.6.2.6. The operator must be able to determine the location of the drone's downing point or the aircraft's landing point.
 - 3.6.2.7. The system must be portable and quick to deploy.
 - 3.6.2.8. The drone interceptor must be operational at its home base, readily available for immediate deployment, and able to remain in standby mode.



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3.6.3. Additional equipment

- 3.6.3.1. Kinetic means halting the drone and causing it to fall, deployed via firing or shooting mechanisms. The solution must encompass ammunition, the kinetic mean (gun), including any required material to use it.
- 3.6.3.2. The kinetic mean may function without dependency on an external detection system.
- 3.6.3.3. The gun's operation should be manageable by a single officer (when equipped with all the necessary equipment) or automatically, with human oversight.
- 3.6.3.4. Detailed compliance with the required standards for the firing mechanisms, ammunition, gun, or any electronic device must be provided.

4. Procedure for providing information on the System

- 4.1. A participant may send a response for one category alone, several categories, or within each category, for more than one system. **In this case, the reply to the RFI must be thorough and exhaustive, specifically addressing each system described in the submission.**
- 4.2. **If the system is providing a solution for several Categories at the same time, a separate response must be submitted for each Category.**
- 4.3. Respondents are asked to provide the INP with information about the product(s) on their behalf. The information should include, at a minimum, the following documents: (documents can be submitted in English)
 - 4.3.1. System Specifications
 - 4.3.2. Full electromagnetic compatibility specification.
 - 4.3.3. An image of the system.
 - 4.3.4. If available, benchmarks, tests, and/or analyses, as well as details on effectiveness and ranges of action.
 - 4.3.5. A safety survey is required for systems from categories B, C, D, E
 - 4.3.6. A list of law enforcement bodies and units worldwide that utilize the product (See Appendix B).
 - 4.3.7. Certificates of compliance with Israeli and international standards, as applicable.
- 4.4. Parties responding to the RFI must be able to provide technical information about the system, specifically to the category for which they are submitting the information.
 - 4.4.1. **For all the categories: (This section is mandatory)**
 - 4.4.1.1. Description of functionalities and instructions for the system's operation
 - 4.4.1.2. System architecture with a drill down to its main subsystems



- 4.4.1.3. System performance, based on benchmark in an urban environment.
- 4.4.1.4. Scalability to expand or add new frequencies or types of drones in the future.
- 4.4.1.5. Specification of any limitations or constraints on the system's operation.
- 4.4.1.6. Best practices and strategies for optimal deployment of the system.
- 4.4.1.7. Infrastructures required for operation, including physical resources, data infrastructures, and mapping requirements.
- 4.4.1.8. Computing environment required by the system
- 4.4.1.9. Description of the user interface.

4.4.2. **Category A –Detection system**

- 4.4.2.1. List the main settings that exist in the command and control system.
- 4.4.2.2. Describe performance and the capabilities of the system:
 - 4.4.2.2.1. Specify detection and tracking ranges in open areas and in an urban environment.
 - 4.4.2.2.2. Specify the detection time and the tracking time of a drone in a line of sight that rises up to 100 m.
 - 4.4.2.2.3. Define the ability to detect the operator / the remote control.
 - 4.4.2.2.4. Define the position locating accuracy.
 - 4.4.2.2.5. Specify false alarm percentages.
- 4.4.2.3. Describe the ability to accomplish the classification and the identification of the drone.
- 4.4.2.4. Elaborate on the capabilities of interfacing with third party command and control systems which will receive data from the system.
- 4.4.2.5. Define the ability to operate vis-a-vis an interception system or other detection system.

4.4.3. **Category B and C - stationary Jammers and portable Jammers**

- 4.4.3.1. Specifications of the operator-controlled jamming capabilities.
- 4.4.3.2. How Minimization of EM collateral damage can be achieved.
- 4.4.3.3. Request for Information on Antennas and Power Outputs:
 - 4.4.3.3.1. Describe the characteristics of the antennas provided with the system.
 - 4.4.3.3.2. Provide details on the maximum jamming power at the output of the jammer for all the frequency ranges and whether a dedicated amplifier is granted for each antenna/Frequency.



4.4.3.3.3. If a shared amplifier is used, explain the method of distributing the output power between the antennas.

4.4.3.3.4. Specification of frequency leakage.

4.4.3.4. Requirements for Directional Jammers with a Pan-Tilt Unit:

4.4.3.4.1. Provide information about the mechanism of directional jamming.

4.4.3.4.2. Explain the user interface to achieve directional jamming towards the target to intercept.

4.4.3.4.3. Describe the settings of the directional aperture (horizontal and vertical).

4.4.3.4.4. If relevant, detail the implementation of integration with third party detection system.

4.4.4. **Category D – Takeover system**

4.4.4.1. Provide a list of supported protocols and corresponding drones.

4.4.4.2. Estimate the time needed to add a new protocol to the system's library for detecting new operational drones.

4.4.4.3. Define the antenna output required for taking over a drone when it is at an equal distance from its remote control and the takeover system.

4.4.4.4. Explain the options available for setting routes and landing points.

4.4.4.5. Integration - Describe and elaborate the interface with a third-party command and control system and how to implement the functionalities of the system.

4.4.5. **Category E – hard kill (interception)**

4.4.5.1. Describe the techniques used to acquire a target for hard kill.

4.4.5.2. If applicable, explain how to interface with a third-tier command and control system and implement the functionality of the system.

4.4.5.3. Detail the lethality level of the ammunition and firearms, such as the energy (in joules), control over target selection, and so on.

4.4.5.4. For a Drone Interceptor:

4.4.5.4.1. Specify the target drone's parameters (size, weight, speed, etc.) that the system can intercept.

4.4.5.4.2. Define safety distance requirements.

4.4.5.4.3. Define the required flight conditions.

4.4.5.4.4. Outline the physical requirements for the launch site.

5. **Guidelines for Preparing the Response to the RFI**

5.1. **As an introduction** to the response, the respondent to the RFI is required to provide company details, including administrative and general information such as the company registration

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- 6.1. The INP reserves the right to conduct a presentation and/or demonstration of the system proposed in response to the RFI at its professional and budgetary discretion. This decision will consider the requirements of this document and be based on the responses received.
- 6.2. The procedures for presentation and demonstration are subject to the discretion of the police. Participation in the demonstration or presentation by a representative will be permitted only after the INP's Tenders Committee has determined whether to authorize the participation of the respondent.
- 6.3. Should the INP decide to conduct a demonstration, it will be held exclusively in Israel. The location and time will be coordinated with the participating respondents by the INP..



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- 6.4. The presentation and demonstration are designed to enhance understanding of current market capabilities and possibilities. They act as a preliminary phase in determining whether to initiate a tender or make a purchase and in forming the terms and conditions for any potential contractual engagement.
- 6.5. It is important to note that conducting a demonstration or presentation does not create a contractual commitment for a transaction. This procedure is solely for illustrative demonstration and understanding current market opportunities. As such, it cannot be extended or expanded into a contractual engagement, in accordance with Regulation 3(4) of the Mandatory Tenders Regulations.

6.6. The presentation phase:

- 6.6.1. The INP will allow the respondent to the RFI to participate in the demonstration phase and present the functionality, capabilities and performance of the system at a location and time which the INP will determine.
- 6.6.2. This phase constitutes a presentation of capabilities and an examination of a layout that is as relevant and similar to the operational layout as possible.
- 6.6.3. This phase will be performed on each of the categories listed in section 2.5. The INP may divide a phase into additional sub-phases or unify phases, depending on the characteristics of the systems to be presented.
- 6.6.4. Conditions for Participation in the Presentation Phase:
- 6.6.4.1. The participant must possess the system and have the required expertise and proficiency to operate it.
- 6.6.4.2. The system must be suitable and optimized for operation in an urban environment.
- 6.6.4.3. Approval must be obtained from the police safety committee in accordance with section 4.3.5 and as required by the specification/safety survey in section 4.3.5.
- 6.6.4.4. The system is intended to deal with a drone in motion in the airspace.
- 6.6.4.5. Compliance with regulatory requirements, including those of the Ministry of Communications of Israel or the Civil Aviation Authority of Israel (CAAI), is required.
- 6.6.5. Respondents to the RFI meeting the conditions detailed in section 6.6.4, and in accordance with the division of categories in section 2.5, will be invited to present the systems to a professional team of the police, as follows:
- 6.6.5.1. The respondent to the RFI will be invited to present the system according to its category at a location chosen by the INP to assess the system's effects on various types of threatening drones.



- 6.6.5.2. INP will decide and oversee the execution of flying scenarios. The INP is aware of the possibility that the drone might be damaged or disabled during this phase.
- 6.6.5.3. INP will decide on the method and the location of the presentation to fit each category. This phase may be conducted at a testing site and does not necessitate a fully operational environment, owing to considerations reserved to the INP, including safety and the prevention of environmental constraints.
- 6.6.5.4. Clarification: Within each category, the presentation will be uniform in location and aligned against the same threats for all participants. However, there may be variations between different categories in terms of presentation location, the manner in which the presentation is conducted, and the threats applied.
- 6.6.5.5. Clarification: During the demonstration detection systems (Category A), multiple detection systems (excluding radar) may be tested simultaneously.
- 6.6.5.6. The presentation will take place in Israel and will be coordinated by the INP.
- 6.6.5.7. Participants will operate their system subject to their full responsibility. Additionally, respondents to the RFI will be required to present the system orally and answer questions that may arise from the police team.
- 6.6.5.8. It is explicitly stated that participants will not receive compensation for their presentation in this phase.
- 6.6.6. Presentation Performance Scoring
 - 6.6.6.1. The scoring of the performance of the presentation will comprise a **quantitative evaluation** (as described in section 6.6.6.4 and a **qualitative evaluation** in accordance with the **evaluation form in Appendix D**. Each evaluation will contribute 50% to the final score.
 - 6.6.6.2. The professional police team will evaluate the presentation. It will be composed of four representatives of the INP: CTO from MAFAT, two Project Officers from MAFAT, and a representative from the Crossings department. These representatives will be permanent attendees at all presentations. Only the INP's Tenders Committee is authorize to substitute one of representatives.
 - 6.6.6.3. **Evaluation according to the evaluation form:** the team will score each response to the RFI based on Appendix D. The total score will determine whether the respondent will proceed to the demonstration phase.
 - 6.6.6.4. **Quantitative assessment** - the quantitative score refers to the number of drones that were detected or neutralized depending on the Category. It is scored as a percentage of all the drones detected or neutralized.

Quantitative assessment table:

The number successes	Score
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100%	50 Points
95-99%	47 Points
90-94%	44 Points
80-89%	40 Points
70-79%	35 Points
50-67%	30 Points
30-49%	20 Points
10-29%	10 Points
0-9%	5 Points

6.6.6.5. Respondents will proceed to the next phase (Demonstration) based to their score according to the following constraints:

6.6.6.5.1. Category A - Detection - up to 5 best scoring systems.

6.6.6.5.2. Category B – Stationary Jammers- up to 3 best scoring systems.

6.6.6.5.3. Category C – Portable Jammers - up to 3 best scoring systems.

6.6.6.5.4. Category D - takeover - up to 3 best scoring systems.

6.6.6.6. In the case of a tie, where the total number of participants with the highest score in a certain category exceeds the quotas, all best scoring systems from each category will be tested regardless of the quota. For example, if there is a tie between places 5 and 6 in Category A, then participants in places 1 through 6 will proceed to the next phase.

6.6.7. A respondent to the RFI should be entitled to perform a presentation of capabilities in another place of its choice. In this case the following conditions will apply:

6.6.7.1. The respondent to the RFI is required to obtain permission from the INP to perform the presentation. The INP has the authority to decide the conditions of the presentation and the extent of its participation.

6.6.7.2. The respondent will carry out the presentation independently, under his full responsibility, including the flights of the target drones. Ultimately, the respondents will be responsible for obtaining all necessary approvals and clearances in accordance with regulations.

6.6.7.3. The presentation will take place in Israel and in coordination with the INP.

6.6.7.4. It is explicitly stated that a respondent to the RFI who conducts the presentation under this section **will not receive any score and will not be eligible to participate in the demonstration phase.**

6.7. The demonstration phase.



- 6.7.1. The purpose of the demonstration phase, for each category, is to evaluate the system's effectiveness in an operational environment and to gain insights on implications, in terms of technical and operational understanding, over a period of time.
- 6.7.2. Should the INP Tender Committee decides to conduct a demonstration, it will be held exclusively in Israel, at a location and time determined by the INP, under conditions that simulate real-life scenarios.
- 6.7.3. The participation in this phase is conditional on the score of the system in the presentation phase in accordance with section 6.6.6.4
- 6.7.4. For the demonstration, the respondent is kindly asked to provide the system to the INP for examination in a fully operational environment, for a period of three months.
- 6.7.5. For active systems, the respondent to the RFI must produce the approval of the Frequency Committee at the Ministry of Communications of Israel for their system (categories BCD) or the approval of the Civil Aviation Authority of Israel (CAAI), as might be required for category E/drone interceptor. The INP will assist the respondent to a certain extent with the regulator. But the responsibility for obtaining the necessary approval rests with the respondent to the RFI. Failure to obtain approval may disqualify the respondent from participating in this phase.
- 6.7.6. The respondent to the RFI is committed to installing the system at the site which will be chosen by INP.
- 6.7.7. The respondent to the RFI must provide training for the operation of the system and continuous technical support.
- 6.7.8. The respondent to the RFI will be responsible for maintenance of the system. If the system is disabled due to a malfunction, the duration of the downtime will not be included as being a part of the demonstration period.
- 6.7.9. At the end of the said period, the product will be returned to the participant. It should be clarified that the participants will not be entitled to any compensation or indemnification for expenses and / or damages which may incur during the demonstration.
- 6.7.10. During this period, the participant must provide technical support, professional training and support the process, for the product that takes part in the demonstration and as it may be needed.
- 6.7.11. Should INP decide to stop the demonstration, it will be entitled to shorten this period, in accordance with its sole discretion and judgment.
- 6.7.12. All the technical and operational outcomes will be transferred to the exclusive possession of the INP.
- 6.7.13. Prior to the demonstration, the INP will release a detailed testing plan document.
- 6.7.14. Payment of a consideration for a demonstration period:



- 6.7.14.1. A respondent to the RFI participating in the demonstration phase will receive compensation in accordance with what is detailed below. This compensation represents the INP's participation in the expenses arising from the performance of the demonstration, including the use of the system, training, support, maintenance, etc.
- 6.7.14.2. For providing the system for a period of up to 3 months, the compensation will amount to NIS 15,000, inclusive of VAT, for the entire duration.

6.7.15. Insurance

- 6.7.15.1. Participants in the demonstration will be required to sign an insurance appendix as detailed in Appendix C.
- 6.7.15.2. The participant must sign the insurance appendix as evidence of having read and understood its contents. This signature also signifies the participant's commitment to comply with the insurance requirements for the duration of the demonstration phase.
- 6.7.15.3. The participant is required to purchase and maintain all insurance coverage as detailed in the "Insurance requirements in the framework of the procedure" appendix. This coverage must be in place with the State of Israel, the INP, and the Ministry of Internal Security (as applicable) throughout the demonstration period and as long as the participant's responsibilities under the agreement are in effect.

7. The information transfer process, and execution schedules

- 7.1. The participants are requested to submit the responses to the Chief Inspector Ms. Hadas Katz **by August 28th, 2023 at 3:00 p.m.**
- 7.2. The detailed response to the above requirements can be sent by email at hadaskatz@police.gov.il
- 7.3. If necessary, the INP may contact the SPOC of the participants who responded to the RFI and submitted documents, for the purpose of clarification and of completion and to receive additional technical or other material.
- 7.4. For questions and clarifications, it is possible to contact the editor of the RFI in writing at the email address which is indicated above.

**Appendix A****RFI (RFI) Response Table**

The respondent to the RFI should indicate in the table below that the offered product meets at least the requirements which are detailed in the relevant sections and will elaborate as much as possible with regard to the additional capabilities that exist in the product that it presents as part of this procedure.

Paragraph number	Requirement (Title)	Check Yes/No	Details	Remarks
3.1.1.1.1	<u>Deals with:</u> -Commercial drones			
3.1.1.1.2	-DIY drones			
3.1.1.1.3	-Logistic Drones			
3.1.1.1.4	-Additional UAV, up to a weight of 25 kg			
3.1.1.2.1	-RF communication			
3.1.1.2.2	-Cellular/ LTE communication			
3.1.1.2.3	-GNSS communication			
3.1.1.2.4	-FPV communication			
3.1.1.2.5	-Optical navigation communication			
3.1.2.1.1	<u>Urban environment</u> -Dense construction			
3.1.2.1.2	-Day & Night			
3.1.2.1.3	-Changing lights, floodlighting			
3.1.2.1.4	-EMC, noise			
3.1.2.1.5	-Populated areas and vehicles			
3.1.2.2.1	static defense of strategic sites.			
3.1.2.2.2	Large area defense			
3.1.2.2.3	Tactical defense			
3.1.2.3.1	Lower altitude < 500			
3.1.2.3.2	Higher altitude [500,1000]			
3.1.2.4	Independent of flight path			
3.1.3	Weather Compatibility			
3.1.4	Operational Availability			
3.1.5	Robustness			



Paragraph number	Requirement (Title)	Check Yes/No	Details	Remarks
3.1.6	Regulatory Compliance			
3.1.7	Safety			
3.2 Category A	Detection system:			
3.2.1	Detection technology			
3.2.2.1	Define Areas of Interest			
3.2.2.2	Drone Presence Alert			
3.2.2.3	Drone Location			
3.2.2.4	Operator Location			
3.2.2.5	Flight Path Tracking			
3.2.3	RF detection systems:			
3.2.3.1	Frequency Detection			
3.2.3.2	Drone Classification			
3.2.3.3	Drone Identification			
3.2.3.4	Stationary Radar System's Safety			
3.2.3.5	Portable RF detection system:			
3.2.3.5.1	Perimeter coverage			
3.2.3.5.2	Transportation case and Storage			
3.3 Category B	Stationary Jammer:			
3.3.1	Jamming frequencies			
3.3.2	Integration with a detection system			
3.3.3	Scalability by design			
3.3.4	Omni and directional			
3.3.5	Area of Effectiveness Setting			
3.3.6	Simultaneously jamming			
3.4 Category C	Portable jammer:			
3.4.1	Common uplink/downlink jamming frequencies.			
3.4.2	perimetral protection without infrastructure			
3.4.4.1	Single operator			
3.4.4.2	Simple, safe, ergonomic			
3.4.4.3	Enough energy for a continuous operation			
3.5 Category D	Takeover Systems (CRF):			
3.5.1	Takeover and landing in a designated landing point			
3.5.2	Includes a detection system			



Paragraph number	Requirement (Title)	Check Yes/No	Details	Remarks
3.5.3	Simultaneous takeover			
3.5.4	Defining landing location and the path to it			
3.5.5	Portable CRF			
3.5.5.1	Portable CRF doesn't need infrastructure			
3.5.5.5.26.2	Transportation case and Storage			
3.6 Category E	Hard Kill (Interception):			
3.6.2	Drone interceptor:			
3.6.2.1	Drone neutralization and capture.			
3.6.2.2	Integration with a detection system			
3.6.2.3	Ability to carry a commercial drone			
3.6.2.4	Autonomous interception			
3.6.2.5	Determining downing/landing point			
3.6.2.6	Portability			
3.6.2.7	Operational standby mode			
3.6.2.8	High readiness and availability			
3.6.3	Additional equipment:			
3.6.3.1	What is included			
3.6.3.3	Single operator			
3.6.3.4	Compliance with standards			
4.3	Documents			
4.4.1	For all categories:			
4.4.1.1	Description of functionalities			
4.4.1.2	System architecture & subsystems			
4.4.1.3	Urban performances			
4.4.1.4	Scalability			
4.4.1.5	System's limitations			
4.4.1.6	Best practices & strategies			
4.4.1.7	Infrastructures required			
4.4.1.8	Computing requirements			
4.4.1.9	GUI			



Paragraph number	Requirement (Title)	Check Yes/No	Details	Remarks
4.4.2	Category A – Detection:			
4.4.2.1	Settings from C2			
4.4.2.2	Performance:			
4.4.2.2.1	detection and tracking range (Open/Urban)			
4.4.2.2.2	detection and tracking time (LOS 100m)			
4.4.2.2.3	Detects drone and RC			
4.4.2.2.4	Location accuracy			
4.4.2.2.5	False alarm percentage			
4.4.2.3	classification and the identification			
4.4.2.4	Interface with third-party C2			
4.4.2.5	Interface with Interception system			
4.4.3	Category B&C Jammers			
4.4.3.1	capabilities			
4.4.3.2	EMC minimization			
4.4.3.3.1	Antennas' characteristics			
4.4.3.3.2	Max. Output power + dedicated amplifier			
4.4.3.3.3	Frequencies leakage			
4.4.3.4	Directional Jammers:			
4.4.3.4.1	mechanism of directional jamming			
4.4.3.4.2	user interface to achieve directional			
4.4.3.4.3	Settings of vertical /horizontal aperture			
4.4.3.4.4	[Integration with detection system?]			
4.4.4	Category D - Takeover			
4.4.4.1	List of supported protocols			
4.4.4.2	Time to add a new protocol			
4.4.4.3	Operational antenna output			
4.4.4.4	Options for routes and landing points.			
4.4.4.5	Integration with a third-tier C2			
4.4.5	Category E - Hard Kill			



Paragraph number	Requirement (Title)	Check Yes/No	Details	Remarks
4.4.5.1	techniques used to acquire a target			
4.4.5.2	interface with a third-tier C2			
4.4.5.3	Lethality			
4.4.5.4	Drone Interceptor:			
4.4.5.4.1	target drone's parameters for the interception			
4.4.5.4.2	Safety distance			
4.4.5.4.3	required flight conditions			
4.4.5.4.4	Physical requirements			

Name of the table
filler

Telephone number

Signature and stamp



Appendix B

List of law enforcement bodies and units in the world that are using the product.

The model of the product: _____

No.	Name of the organization	Quantity in use	Period of usage	SPOC/Ways of communication			
				Name of authorized contact person	Telephone number	E-Mail	Website URL
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

**Name of the table
filler**

Telephone number

Signature and stamp



Appendix C

To the attention of

The State of Israel – The INP

The national headquarters, Ramla, 41 Baalei Melacha street

Insurance appendix - confirmation of existing insurances

The respondent to the RFI participating in this procedure must obtain and maintain appropriate insurances customary in its field of activity. These may include employers' liability insurance, third-party liability insurance, property insurance, professional liability insurance, product liability insurance, contract work insurance, combined professional/product liability insurance, and vehicle insurances, within reasonable liability limits that align with the nature and scope of the services performed. If the participant employs subcontractors, it must either require them to obtain the above-listed insurances or include coverage for their activities within its insurance..

The participant which is participating in this procedure will make sure that in all of its insurances relating to the services that are the subject of this procedure (with the exception of contract / construction type insurance) will include an extension of indemnity towards the State of Israel - the INP for their responsibility for the acts and / or omissions of the participant.

For sub-contract type insurance related to the services under this procedure, the State of Israel - the INP must be included as additional insured entities.

The participant must include a clause in all relevant insurances waiving the right of exchange/replacement toward the State of Israel - the INP, its employees, and those working on their behalf (this waiver does not apply to malicious damage).

The State of Israel has the right to ask the participant for proof or copies of the insurances mentioned earlier

Failure to comply with the terms of this section constitutes a violation of this contractual engagement.

Date _____

Given and last name _____

Signature and stamp
of the company _____



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**Appendix D**

Evaluation questionnaire to proceed to the demonstration phase (pilot) - will be filled out for each category separately.

Date of the evaluation	
Name of the evaluator	
Role of the evaluator	
Personal ID number	
Name of the respondent to the RFI (SPOC)	
Name of the Solution	
Category	

1. The solution is tailored for operation in urban environments, where conditions are characterized by dense construction, day and night operations, variable lighting, multiple electromagnetic disturbances, and shifting areas.

Not compatible

Compatible

1	2	3	4	5
---	---	---	---	---

2. The solution is designed to handle a diverse range of drones, encompassing various sizes, types, manufacturers, protocols, and other characteristics.

Not compatible

Compatible

1	2	3	4	5
---	---	---	---	---

3. The solution is adaptable to various operational descriptors, including flight speeds, flight altitudes, operational ranges, polygon definitions, and other related parameters.

Not compatible

Compatible

1	2	3	4	5
---	---	---	---	---



4. The solution is user-friendly and does not require specialized or advanced skills to operate.

Not compatible

Compatible

1	2	3	4	5
---	---	---	---	---

5. The participant addresses safety concerns by providing safety surveys, analyzing failure points, defining safety instructions, and ensuring compliance with relevant safety standards.

Not compatible

Compatible

1	2	3	4	5
---	---	---	---	---

6. The system is accurate and suitable for real-time operation (TDOA detection accuracy 10 - 12 m, DF detection accuracy 30°).

Not compatible

Compatible

1	2	3	4	5
---	---	---	---	---

7. The system completes tasks within time frames that align with operational needs, including detection within 2 to 5 seconds, identification within 10 to 20 seconds, takeover within 10 to 30 seconds, soft kill (interception) approximately 30 seconds, and hard kill (interception) approximately 1 minute.

Not compatible

Compatible

1	2	3	4	5
---	---	---	---	---



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8. The system is robust and designed to meet the typical environmental and condition requirements associated with its intended use.

Not compatible			Compatible	
1	2	3	4	5

9. The system is ready for operational use, equipped with functional hardware, high TRL (Technology Readiness Level 9) and the ability to operate under field conditions.

Not compatible			Compatible	
1	2	3	4	5

10. The system is tactical, offering strong portability and ease of deployment in the field, especially when moving from one event to another. This applies specifically to categories C and E.

Not compatible			Compatible	
1	2	3	4	5

11. Interface capabilities: The system can easily interface with third party system such as C2, detection or interception systems. This applies specifically to categories A, B, and D.

Not compatible			Compatible	
1	2	3	4	5

<u>Total score</u>	
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