



## UNMANNED AERIAL SYSTEMS

## REQUEST FOR INFORMATION

28 Mar 2024

# 1. Purpose and Nature of Request for Information

1.1. The International Donor Coordination Centre (IDCC) in support of the Armed Forces of Ukraine (AFU) is requesting industry feedback regarding existing capability for the rapid fielding of medium range Intelligence, Surveillance, Target acquisition, and Reconnaissance (ISR) Unmanned Aerial Systems (UAS) and anti-armour strike UAS.

1.2. The requirements associated with these capabilities are derived from the AFU's need for a low-cost tactical edge against the Russian Armed Forces. The proposed capabilities must be transferable to the AFU within current legal frames.

1.3. The objectives of this UAS Request For Information are to:

1.3.1. Inform industry of the AFU's needs;

1.3.2. Obtain input from Industry on currently available UAS solutions to the AFU's problem set;

1.3.3. Assess potential industrial actors to participate in the live demonstration of their solution;

1.3.4. Obtain indicative costing estimates from Industry; and,

1.3.5. Obtain up-to-date information on industry's capacity to meet the AFU's needs.

1.4. This Request For Information (RFI) is neither a call for tender nor a Request for Proposal. No agreement or contract will be entered into based on this RFI. The issuance of this RFI is not in any way a commitment by the AFU, or the IDCC, to undertake any work that could be charged to either party. This RFI is not to be considered as a commitment to issue a subsequent solicitation or award contract(s) for the work described herein. This RFI is solely for the opportunity to industry to demonstrate the capability that they are presently capable of fielding.

1.5. Although the information collected may be provided as commercial-in-confidence, the IDCC and AFU may use the information to assist in defining a solution to meet their High-Level Mandatory Requirements.

1.6. Respondents are encouraged to identify, in the information they share with the IDCC, any information that they feel is proprietary or confidential. The IDCC will handle the responses in accordance with diligence and not disclose proprietary or commercially sensitive information concerning Respondents or third parties, except for security reasons.

1.7. Respondents are asked to identify if their responses are subject to national Controlled Goods regulations and confirm that their product can be exported to Ukraine.

1.8. Respondents will not be reimbursed for any cost incurred by participating in this RFI or subsequent Demonstrations for any activities associated with the consultation including, but not limited to, travel, lodgings, rental equipment, or hospitality.

1.9. Responses to this RFI will not be returned to the Respondents. Responses will be assessed by the AFU for potential invitation to Demonstrate at a later date. Responses may be used to conduct analysis, and analysis possible future procurements. The IDCC will review all RFI responses.

1.10. An assessment team composed of representatives from the AFU, IDCC, Strategic Assistance Group to Ukraine (SAG-U) will assess each response. The IDCC reserves the right to hire any independent consultant, or use IDCC resources that it considers necessary to review the responses.

## 2. Project Background, Objective, and Milestones

### 2.1. Background

2.1.1. Since the 2014 invasion of Ukraine by Russia the state of the battle field has evolved. In the last two years a notable increase in the use of small to medium sized UAS' has been observed. The Russian forces have been adapting their tactics, techniques, and procedures in an attempt to counter the AFU's use of UAS. The use of GNSS and EW denial equipment by Russian forces has rendered some of the AFU's UAS' ineffective.

2.1.2. The AFU relies on tactical UAS to provide timely ISR data to enable the detection, targeting, and destruction of Russian forces along the front. With advances that have been made in the Counter-UAS realm, many Ukrainian UAS' are intercepted and forced to the ground prior to reaching their targets. Long-range ammunitions are still effective but are costly. The shorter-range systems remain effective; however, their small size make them ineffective against most hardened targets such as Russian Main Battle Tanks.

2.1.3. It is believed that there is an opportunity to make gains in the medium range (within 120km) UAS. To make the desired advances a low-cost solution is sought to maintain ISR and strike capability in an EW and GNSS degraded environment.

2.1.4. The IDCC is tasked with the coordination of military donations to the Armed Forces of Ukraine and as such is looking for a coherent approach to filling an apparent gap in capabilities. By working hand-in-hand with AFU liaison officers, the IDCC is able to coordinate AFU material needs as well as delivery of capabilities and coordination of training requirement through the SAG-U.

2.1.5. Through this process, UAS manufacturers will have the opportunity to propose their existing equipment directly to AFU representatives as well as potentially test their equipment in a EW and GNSS denied environment representative of those currently encountered on the battle field.

## 2.2. Desired Outcome

2.2.1. The desired outcome for this RFI and subsequent events are for the AFU to acquire medium ISR and strike capabilities by means of:

- 2.2.1.1. Ability to conduct medium-range ISR and Strike capabilities;
- 2.2.1.2. Have a low-cost solution that can be easily replenished;
- 2.2.1.3. Continued support from industry to provide production capacity to replenished lost UAS'; and,
- 2.2.1.4. Provide a technological edge to defeat, or render ineffective, Russian countermeasures.

## 2.3. Milestones

2.3.1. These dates are subject to change.

Milestone	Planning Date
RFI Returns from Industry	23 April 2024
Completion of RFI Assessment	7 May 2024
Invitation to demonstrate sent (if desired)	17 May 2024
Live Demonstration (if desired)	17-21 June 2024

## 3. Scope and Preliminary Requirements

### 3.1. Planned Uses

3.1.1. The figure below pictorially shows the general Concept of Operations (CONOPS) which is intended. This being said, it would be preferable if a single UAS platform could demonstrate both ISR and strike capabilities.

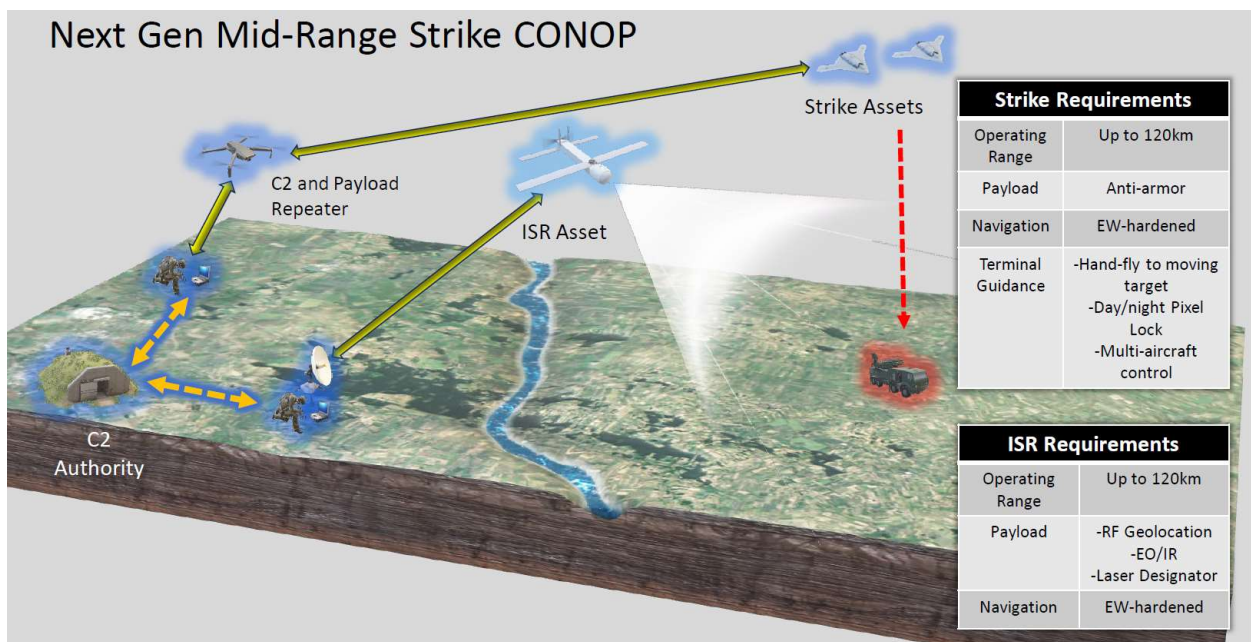


Figure 1 System generic CONOPS

3.1.2. The solution sought after will fulfill both ISR and Strike capabilities in the medium range segment (>40km out to 120km). The ISR platform will be able to operate at an altitude above small arms fire and in a degraded EW and GNSS environment, feeding back intelligence on prospective target locations to the ground station. Either the same drone or a secondary strike drone will then be able to navigate in the same contested environment to the armoured target and destroy it.

## 4. System High Level Mandatory Requirements

4.1. The High-Level Mandatory Requirements (HLMRs) below will form the basis for selection of invitees to demonstrate existing products able to meet the needs of the Armed Forces of Ukraine (AFU).

**Table 1 – ISR Platform HLMRs**

<b>HLMR</b>	<b>Requirement</b>	<b>Target</b>
1 – Range	Be able to operate beyond line of sight.	The goal is a range greater than 120km.
2 – Operability	Be able to operate in an EW contested environment.	The goal is to be resistant to enemy EW and GNSS jamming capabilities.
3 – Visual targeting	Be able to visually acquire enemy forces	The goal is for the platform to have an EO/IR suite that is operable by day or night.
4 - Endurance	Be able to loiter over the operations area prior to having to return for refueling.	The goal is a minimum of 4 hours of loitering time.
5 – Recoverable	The AFU must be able to conduct off-airfield launch and recovery.	The goal is to have a UAS that is field launch and recoverable.
6 - Data gathering	Be able to pass video and positional data.	The goal is to live stream video and positional data back to the operator or C2 command node.

**Table 2 – Strike Platform HLMRs**

<b>HLMR</b>	<b>Requirement</b>	<b>Target</b>
1 – Range	Be able to operate beyond line of sight.	The goal is a range greater than 120km.
2 - Endurance	Be able to orbit near the operations area prior to conducting strike.	The goal is a minimum of 30 minutes of staging time.
3 – Visual Identification	Be able to visually acquire target.	The goal is to allow for visual identification of the target and/or strike commands from the operator.
4 – Airborne coordination	Be able to receive command signal whilst airborne.	The goal is to be receive updated commands either from repeater drones or SATCOM means.
5 – Control versatility	Be able to manually or autonomously acquire target.	The goal is for the operator to be able to manually designate and control the strike on a moving target or have an autonomous system (such as lock on pixel) fly the strike to termination.
6 - EW countering	Be able to target EW targets.	The goal is for the strike package to detect and fly to EW jammers.
7 – Night Operations	Be able to operate at night.	The goal is to operate at night with thermal or low-light cameras.
8 – Payload	Be able to destroy armoured vehicles.	The strike asset must be able to carry a sufficiently destructive payload to destroy a Main Battle Tank.
9 – EW Hardened	Be able to operate in an EW-contested space.	The goal is for the strike UAS to operate in reliably in an EW and GNSS jammed environment.
10 – Low Cost	Be able to be acquired at a low cost.	The goal is deliver a low cost strike capability.

- 4.2. Ideally a provided solution will also be able to meet the following:
  - 4.2.1. Both ISR and Strike capabilities described in the above HLMRs in a single vehicle;
  - 4.2.2. The ISR capability be able to geo-locate radio-frequency emitters;
  - 4.2.3. The ISR capability be able to designated targets for attack; and,
  - 4.2.4. The strike package be able to be coordinate with multiple UAS' from a single ground station.
- 4.3. In lieu of meeting the high-level mandatory requirements described above, any software solutions or low-cost sub-components that could enhance currently fielded systems in meeting the overall intentions will be considered.
- 4.4. Partial solutions that are interoperable with existing platforms that meet the requirements described above are highly desired.
- 4.5. Companies will have to demonstrate the scalability and capacity to produce mass quantities of the platform being demonstrated.

## 5. Information to Include in Response

5.1. Respondents are invited to submit a reply to the RFI that addresses each of the topics listed below. To facilitate the review of responses to this RFI, respondents are asked to provide the requested information in the order in which the topics are presented below.

### 5.2. Respondent Information

5.2.1. Based on the documentation provided the respondent must provide background information on its capability and capacity individually or through partnership(s) or sub-contracting to deliver a solution to the presented problem set.

5.2.2. The respondent must provide clear information that details how their existing product fulfills the needs identified above.

5.2.3. If using a sub-contractor(s) or partnership(s), the identity and national origin of these related suppliers must be clearly identified.

### 5.3. Respondent Representative

5.3.1. The respondents must provide the name, telephone number, and e-mail address of a representative who may be contracted for clarification or other matters related to the respondent's RFI response.

5.4. Given the security posture of this engagement, companies with direct linkages to Russia, China, and Belarus are barred from this process.

### 5.5. Scope Elements of interest

5.5.1. The AFU is interested in a complete end-to-end UAS solution able to combine ISR and strike packages. It is understood, however, that trade-offs in cost, performance, complexity, and production capacity are possible with different configurations. Respondents are requested to

indicate if they can provide all capabilities listed in Section 3.2 or identify which exact subset they are able to deliver upon.

## 5.6. Solution/Capability Element Summaries

5.6.1. The respondents must describe their solution in as much detail as possible in order to demonstrate achieving the required performance / HLMRs and the AFU's targeted outcomes. The respondents must include the following for each solution:

- a. A general breakdown of all solution elements delivered with the following details:
  - i. A description of how the solution detects, identifies, and tracks targets.
  - ii. A detailed description of jamming resistance capabilities.
  - iii. Details on UAS control system used, including operating ranges.
  - iv. Details on UAS lost link capabilities.
  - v. Details on limitations of the systems.
  - vi. What functions would be carried out via on and off-board sensors and processors.
  - vii. Details on range and endurance in various flight conditions and regimes, as well as the use of relays if needed.
  - viii. Details on cruising speed as well as loitering or terminal speed.
  - ix. A description of computer vision functionalities (if used).
  - x. A description of launch and recovery systems (to include mission planning description, launching mechanism, recovery method, surface area needed for takeoff and landing, assembly required, and time required to launch and recover UAV).
  - xi. Details on opensource or proprietary software for UAS operator control.
  - xii. Details on EW emitter sensing and tracking (if equipped).
  - xiii. Details on target designation methodology including LASER designators (if equipped).
  - xiv. Details on ground station control software and ability to control multiple UAVs (if able).
- b. Identification of all sub-contractors that may be employed to build parts/components for the system including their country of origin and history of work with the industry;
- c. An itemized cost breakdown for the entire system (eg. air system, ground control station, relays, training, etc.)
- d. A description of required training, duration, and proposed method and location of delivery.
- e. All system documentation and support needs as identified in Annex A as a single page in the response.
- f. Identification of any solution elements that are subject to export controls such as International Traffic and Arms Regulations (ITAR), Export Administration Regulations (EAR), EU General Export Authorizations (EUGEAs), Controlled Goods regulations, or any other export control regulations that would preclude from transferring the UAS to the AFU.



## 5.7. Capability Trade-Offs

5.7.1. The AFU seeks to optimize the implementation of UAS weapon systems in a way that the requirements are balanced with the unit cost to achieve the requirements. In consideration of the number of requirements and their respective targets, there is a trade-offs space to be considered for each potential solution. The HLMRs have been developed with the intent of finding a single vehicle solution to represent best value (ie. Lowest marginal cost per vehicle). Understanding that a single vehicle system may be over restrictive respondents still are encouraged to respond with a system that clearly solves one of capabilities sets in a tactically meaningful way.

## 5.8. Cost

5.8.1. The respondent must provide substantive cost estimates. Regardless of solution type, the respondent should decompose cost estimates to the greatest extent possible. Respondents are to address the following in their estimates:

- a. Acquisition costs for UAS and ground control stations;
- b. Training costs for new operators and instructional staff (Train-the-Trainer);
- c. Key cost drivers should be identified;
- d. Any underlying assumptions (i.e. transportation, inflations, basis of payment, mark-up and fees);
- e. Currency exchange considerations should be highlighted. For ease of comparison, it is asked that all costs be quoted in Euro (€);
- f. Cost should reflect Nominal Euro (€Current Year), which is defined as the value of a product at the time it was produced.

## 5.9. Schedule

5.9.1. The respondent must provide their schedule for delivery of the capability and any associated equipment required for operation. In order to deliver a fully operational system as rapidly as possible, the respondent should consider the following:

- a. What is the critical path for the deployment or the capability in a 6-12 month horizon?
- b. What respondent-managed issues would significantly impact their ability to deliver mass quantities in terms of cost and schedule.

## 5.10. Recommendations, Suggestions, and Comments

5.10.1. As much as possible, the requirements are not intended to impose unnecessary restrictions on potential solutions. Should any requirement impose a limitation on a Respondent's optimal solution, it should be identified. Respondents should also specify any additions or amendments they could propose to the AFU in order to provide or ensure a more optimal solution within the constraints of time and cost. Respondents are highly encouraged to offer alternatives to any of the concepts outlined in this RFI. These alternatives should be accompanied by a comprehensive analysis that articulates how the proposed amendments would be more advantageous to the AFU with regard to tactical suitability, effectiveness, schedule, and cost.

## 6. Confidentiality

6.1. Respondents are advised that any information submitted to the IDCC and the AFU in response to this RFI may be used by these parties in the development of subsequent RFPs or direct contract as appropriate; and

6.2. As such, respondents should identify any submitted information that is to be considered as either company confidential or proprietary.

## 7. Engagement Process

7.1. The industry engagement begins with the release of this RFP and may lead to an in-situ demonstration in a realistic demonstrative EW environment. At any point the schedule mentioned earlier may change. Except for changes brought about by unforeseen events or adverse weather, the IDCC will endeavour to provide a minimum of five (5) calendar days' notice to respondents of any planned change. A demonstration event as well as one-on-one meetings may be held at a location within Europe to be disclosed upon review of responses.

7.2. Responses are to be sent electronically as a single portable document format (PDF) document to the following email address:

7.2.1. [INTERLINK-IDCC-UAS@mod.gov.uk](mailto:INTERLINK-IDCC-UAS@mod.gov.uk)

## Annex A

Below are mandatory details that must be delivered with responses along with all items listed in Section 5.5.

### UAV Information

Name, type, owner of the UAS:	
Certificate of registration. Under who's authority is registered:	
Airworthiness document/certificate or flight permit:	
Type of Transponder/ transponder mode (state if none equipped):	
ELT code HEXADECIMAL (state if none equipped):	

### Ground Operators/Pilot Information:

Name & ID of operator(s):	
Copy of aeronautical operating certificate (or national equivalent) to be attached.	

### Ground/Airfield Support Operation Requirements:

Means/type of takeoff and landing:	
Ground control facilities deployment requirements:	
Arresting cable type, specifications and installation requirements:	
Electrical Power and fuel requirements:	