



PARCO
ARCHEOLOGICO
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Guidelines for Remotely Piloted Aircraft System (RPAS) Operations in Archaeological Areas

TABLE OF CONTENTS

1. Document versions	3
2. Acronyms and abbreviations	3
3. Introduction	3
4. Document purpose.....	4
5. Area access request procedure	4
5.1. Documents required	4
6. Restrictions for SAPR operators.....	4
6.1. Technical staff	4
6.2. Protection Measures for the area.....	5
6.3. Obligations	5
6.4. Data ownership	5
7. Procedures.....	5
7.1. Receipt and verification of the documents	5
7.2. Management of access to the area	5
7.3. Preparation of the activity	5
7.4. Preparation of the area	6
7.5. Flights.....	6
7.6. Completion of the activity	6
7.7. Document storage.....	6
7.8. System of penalties.....	6
8. Appendices	7

1. DOCUMENT VERSIONS

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2. ACRONYMS AND ABBREVIATIONS

RPAS Remotely Piloted Aircraft System

RPA Remotely Piloted Aircraft

ENAC Ente Nazionale Aviazione Civile (Italian Civil Aviation Authority)

NDA Non-Disclosure Agreement

3. INTRODUCTION

Programmes for the protection and conservation of archaeological sites can benefit from the use of RPAS (Remotely Piloted Aircraft Systems) which, in this context, allow for the following types of specialised operations:

- surveying and gathering of territorial data: activities aimed at exploring the area, identifying features relevant to the study of the history of settlements, producing documentation with optimal precision and detail, and preventive archaeology;
- area surveillance and emergency management: activities aimed at increasing the level of protection of the area from unwanted intrusions or identifying emergency situations such as hydrogeological instability, inspections and emergency reconnaissance.

Depending on the type of operation and mission, one of the following RPAS types may be used:

- rotary-wing or multi-rotor RPAS, for applications requiring a high level of detail (e.g. in-depth investigation of an excavation area) or the ability to intervene in the flight plan at any time during the flight (e.g. surveillance of a specific area of the site);
- fixed-wing RPAS, for applications requiring wider coverage in a short time (e.g. general reconnaissance of the area, reconstruction of settlement maps over large areas).

4. DOCUMENT PURPOSE

The purpose of this document is to present guidelines for conducting operations with RPAS within areas of significant archaeological interest, using the advantages of this technology to enhance knowledge and protection of these sites.

In order to mitigate the risks associated with this type of operation, specific rules and procedures must be introduced, which the RPAS operator (hereinafter referred to as **the Operator**) must comply with in order to maintain the required levels of security (protection against unlawful acts) and safety (operational safety).

The document describes:

- the procedures for requesting access to the archaeological site to carry out operations with RPAS
- the restrictions that the RPAS Operator must comply with
- the procedures

5. AREA ACCESS REQUEST PROCEDURE

Documents required

To obtain permission to have access to the archaeological area involved in the activity, the Operator must complete the **Access Authorisation Application Form** (Appendix A), indicating:

- Operator details (company name, owner, pilot, etc.)
- RPAS registration details with ENAC (D-Flight registration numbers)
- ENAC authorisation number and type
- RPAS manufacturer and type
- RPAS serial number
- Pilot's licence number and date of issue

To complete the access request, the RPAS operator must provide the following documentation:

- Declaration of acknowledgement and compliance with the guidelines contained in this document
- Organisation's Operations Manual
- Documents applicable to flight activities (Risk Assessment, any NOTAM or specific ENAC authorisation)
- Documents applicable to the RPAS (Flight Manual, System Configuration; Test Results)
- Confidentiality document on the data acquired

- Third-party liability insurance (persons and property, define maximum limits)

6. RESTRICTIONS FOR THE RPAS OPERATOR

6.1. TECHNICAL STAFF

The Operator's organisation must have sufficient technical staff with expertise in the areas of activity to be carried out in situ. The Operator must provide documentation describing the organisational structure, the responsibilities associated with the various functions and the CVs of the technical manager and specialist staff. (ref. Operations Manual)

6.2. Protection Measures for the Area

The Operator must provide for the adoption of measures and tools to ensure the protection of the archaeological assets **under survey**. A document must be drawn up describing the active/passive instruments and procedures (restrictions, terminators, parachutes, etc.) specific to the area in question, which must be an integral part of the Risk Assessment.

6.3. OBLIGATIONS

The Operator is required to notify the Superintendency of the total time required **for** the activity by submitting a schedule that includes all the activities necessary to carry out the survey.

The Operator must promptly notify the Superintendency of any significant updates or changes to the schedule relating to the activity (postponement of activities due to adverse weather conditions, etc.).

6.4. DATA OWNERSHIP

Unless otherwise specified, the data collected during the flight activity is the property of the Superintendency.

The Operator undertakes to manage, use and store the data within the limits and for the purposes described in the document ("NDA"), and hereby agrees not to disclose it unless explicitly authorised to do so, and to deliver it at the end of the activities.

The processing of data owned by the Superintendency must in any case be undertaken in compliance with Legislative Decree No. 196 of 30 June 2003, and subsequent amendments ('Personal Data Protection Code').

7. PROCEDURES

7.1. RECEIPT AND VERIFICATION OF DOCUMENTS

The Superintendency examines the documentation provided by the Operator and issues a document of acceptance and authorisation.

The Operator is authorised to carry out the activities from the date of receipt of the formal approval document from the Superintendency.

7.2. MANAGEMENT OF ACCESS TO THE AREA

In order to facilitate the control of the timing of the activities, the Superintendency will provide the Operator upon access with an electronic security device (token) which must be installed on board the RPAS used, designed to record their presence in the designated areas. This device must be returned to the Superintendency at the end of the operation.

7.3. PREPARATION OF THE ACTIVITY

The Operator is required to take all necessary steps to analyse the area covered by the activity properly, using maps, cartography, photos, etc., in order to minimise the level of risk associated with the operation.

Where deemed necessary and applicable, the Operator may, subject to authorisation by the Superintendency and in good time before the planned start of the activity, carry out a physical inspection of the area of operations to identify any possible critical issues that cannot be detected by document analysis.

7.4. PREPARATION OF THE AREA

The Operator must secure the area in accordance with the provisions of the Risk Assessment document and with appropriate instruments (barriers, perimeter guards, support from local law enforcement agencies, etc.) to ensure that the buffer zone and flight termination area are maintained.

7.5. FLIGHTS

Flights must be carried out in full compliance with the conditions and restrictions indicated in the Risk Assessment document. The Operator must comply with the type of operation indicated in the access request and is not authorised to undertake any type of operation outside the indicated area and the communicated times.

The Operator must undertake:

- a pre-flight check, in which they verify the external conditions and the functionality of the RPA for the correct performance of the activity
- continuous checks during the flight to ensure that the conditions and restrictions specified in the access request are maintained
- a post-flight check, downloading of the data collected and verification of the status of the RPA

7.6. COMPLETION OF THE ACTIVITY

At the end of the activities, the Operator is required to carry out the following operations:

- completion of the operation closure report
- submission of the following documentation to the Superintendency:
 - RPA Flight Log(s)
 - Copy of the Pilot Logbook documentation
- Pre-flight and post-flight checklist containing a description of the activities carried out within the area of operations
- Return of the token.

7.7. DOCUMENT STORAGE

The Operator is required to retain a copy of the documents (access request, Risk Assessment, pilot logbook, flight plans, etc.) for at least one year. The documents may be stored using digital techniques, provided that the procedures employed and the IT media used guarantee its full traceability.

7.8. PENALTY SYSTEM

Any RPAS Operator found by the competent authorities to be in breach of the Regulations shall be subject to the penalties set out in Article 30 of the Regulations and the Navigation Code, contained in the Handbook of Offences published by the Italian Ministry of the Interior.

8. APPENDICES

Appendix A . Request for access authorisation

Appendix B . Declaration of acknowledgement of and compliance with the Guidelines for RPAS operations in archaeological areas