



## MIL-UAS-SPECIFIC Project

The objective of MIL-UAS-SPECIFIC project is to develop a Risk Assessment methodology to facilitate non-certified UAS operations in the Specific category of operations (called MIL-UAS-SPECIFIC) when EDA participating Member States are operating cross-border and/or abroad and to support them with a Risk Assessment methodology when no national one exists.

The current European Commission Regulation on civil operations of Unmanned Aircraft Systems (UAS) defines three categories of UAS operations: OPEN, SPECIFIC and, CERTIFIED. The civilian UAS categorization is risk-based (air and ground risks) and operations-centric.

Some EDA participating Member States (pMS) also envisage applying a similar risk-based approach to UAS operations, to remain as close as feasible to the civilian regulations.

In this context, it has been proposed to introduce three categories of Military UAS operations:

MIL-UAS-OPEN, MIL-UAS-SPECIFIC and MIL-UAS-CERTIFIED.

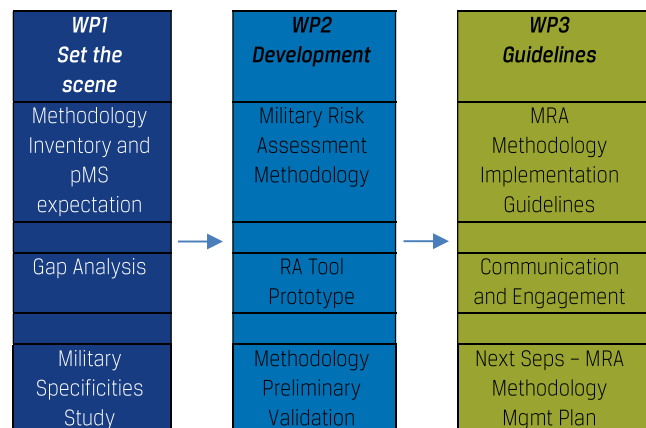
In the MIL-UAS-SPECIFIC category, an assessment of the Air and Ground Risks is envisaged, similarly to the SPECIFIC category in the civil sector. It was reported by some EDA pMS that the civilian Risk Assessment methodology is not adapted to the Military specificities and needs. Some EDA pMS have already defined a national Risk Assessment methodology but there is no harmonized European military methodology. This causes difficulties to the industry offering products or services to both the civil and the military market, leading to increased costs for military procurement.

Furthermore, this lack of harmonization also creates difficulties to any EDA pMS for operating or training in another EDA pMS, as the requesting

nation must know and apply several different methodologies from all the potential host nations. It would at least require additional time and effort.

The study in this project sets the foundations for evaluation of the existing methods, tools, and the specific military operational scenarios, which is essential to possibly promote a harmonized risk assessment methodology among EDA pMS.

The project was composed of three main phases as outlined in the figure below:



## Set the scene

This activity aimed at identifying all methods currently in use for the assessment of Ground and Air risk for military operations in the EDA pMS and the pMS expectations about the characteristics of the methodology/tool to be proposed by this study. Moreover, this task carried out a gap analysis to compare the Risk Assessment methodologies identified with the expectations from EDA pMS in terms of scope and applicability of the methodology and topics addressed in the risk assessment process.

## Development

This activity defined the Air and Ground Risk models to be used in the proposed Risk Assessment methodology considering the existing methods, their current developments, and the expectations of the EDA pMS gathered in the previous step. Moreover, it also developed a static prototype of an online tool that implements the Risk Assessment methodology.

## Guidelines

This activity integrated the MIL-UAS-SPECIFIC Risk Assessment methodology, called MUSRA, by providing additional guidance and examples about how to use it. It also included a preliminary validation of the risk assessment process carried out by applying MUSRA to one civilian and one military uses case.

Finally, it has been outlined a plan to update the methodology in the coming years considering the feedback received from military users and the developments of its parent methodologies and reference documents, such as the latest standards issued by Standard Development Organizations.

## Main outcomes

MUSRA has been developed based on the information collected from EDA pMS. Two existing Risk Assessment methodologies have been considered in the development of MUSRA since they are already used by several EDA pMS:

- as the baseline for the Ground Risk Model, the "Proposed Risk Assessment Tool – pRAT" developed in 2014-2016 by EDA pMS; and
- as the baseline for the Air Risk Model, the "Specific Operations Risk Assessment – SORA" – published by EASA as AMC for the Specific category).

The two methodologies above have been integrated and adapted to consider military specificities and needs, including the feedback gathered during workshops with experts from EDA pMS.

The result is a methodology that aims at harmonizing the risk assessment processes without imposing additional constraints with respect to the parent methodologies and on the other side ensuring that all aspects are properly considered.

## Next steps

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The enhancements will be addressed in the second phase of the project in which a regular maintenance and update of the methodology is planned based on the feedback received from EDA pMS.

In addition, a supporting software tool will be developed and deployed at EDA to facilitate the Risk Assessment process and allow an easier sharing of best practices.

Finally, it is acknowledged that, despite being based on existing methodologies, MUSRA needs to be further validated by applying it to different use cases to test its flexibility and completeness. It is expected that the regular update process planned for the next phase of the project will help in improving the methodology and making it fit-for-purpose considering military specificities and needs.

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