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Conforming to the harmonized UAV regulatory framework in European countries – Experiences from the Preparedness project

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16ENVO4 Preparedness, Metrology for mobile detection of ionizing radiation following a nuclear or radiological incident”, is a project within the EMPIR framework, specifically aimed at metrology institutes. One of its main goals is the development of Unmanned Aerial Measurement Systems (UAMS), along with the novel methods and procedures for their use. It is almost self-evident that drone mounted with an array of compact sensors, which may include specialized equipment, such as gamma spectrometer, would be of great help to first responders. Previously, one of the limiting factors for application of UAMS for emergency response was the legislative regarding UAVs, which was, while similar, not entirely harmonized in Europe, thus hindering development, testing and finally deployment of drones in emergency situations.

This problem was recognized at EU level, and large efforts were put into development of harmonized drone legislation across all member states. The efforts were led by European Aviation Safety Agency (EASA). Besides increasing cooperation potential of manufacturers and research groups, goal of this effort was also to ensure the safety and security of all European citizens who could be affected by drone activities. This made Europe the “first region in the world to have a comprehensive set of rules ensuring safe, secure and sustainable operations of drones both, for commercial and leisure activities”. [1]

While previous version of regulations [2,3] had maximum take-off mass as an important criterion in drone classification, the new unifying EU regulation introduces UAV operation categories based on the “risk level criteria”. New regulation recognizes several categories of drone operations, namely: ‘open’, ‘specific’ and ‘certified’ category. Each category ups the level of needed authorization for drone use. Increased risk requires appropriate measures to be taken, for example, since the use of drones in emergency response may impose BVLOS operation, it is necessary to have integrated collision avoidance systems.

In this paper, experiences from Preparedness project, in the context of the new harmonized EU UAV regulatory framework are presented. Furthermore, planned and already held UAV exercises are briefly described, along with the specialized equipment developed and tested within Preparedness.

References

- [1] “EU wide rules on drones published”, <https://www.easa.europa.eu/>, 11 June 2019 press release.
- [2] Stöcker, Claudia, Rohan Bennett, Francesco Nex, Markus Gerke, and Jaap Zevenbergen. "Review of the current state of UAV regulations." *Remote sensing* 9, no. 5 (2017): 459.
- [3] JARUS - Joint Authorities for Rulemaking on Unmanned Systems, <http://jarus-rpas.org/regulations>

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