



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

Webinar on Nuclear Security Applications of Uncrewed Aerial Systems (UASs) for Radiation Detection and Surveillance

**Organized by the
IAEA Division of Nuclear Security**

Wednesday, 7 December 2022

**Time: 15:00-17:30, Vienna (Austria) Time
(English and Spanish)**

&

Tuesday, 13 December 2022

**Time: 9:30-12:00, Vienna (Austria) Time
(English)**

Duration: 2.5 hours

Information Sheet

Introduction

The growing sophistication, availability and adaptability of Uncrewed Aerial Systems (UASs) have made them an emerging capability both for nuclear safety and nuclear security applications, such as monitoring a radioactive contamination area and locating a radioactive source out of regulatory control. From military application to recreational use, modern UASs come in a wide range of sizes, shapes, cost, and capabilities. A greater understanding is needed regarding their use to support countries' radiological and nuclear security programmes.

This webinar is part of a series of events that address the need for improved research, development, training, testing and guidance on UASs applications for nuclear security. Following a recent [Technical Meeting on the Use of UAS for Radiation Detection and Surveillance](#), this event will address specific applications in greater detail.

Guest speakers will present four cases of UASs use: emergency response, environmental survey and monitoring, radioactive source search, and a special maritime application. The cases in which this technology is used will provide a context for determining when UAS technology is applicable for a specific activity and identify potential UASs requirements. Each use case presentation will discuss key mission requirements, why a UAS was used, environmental constraints, salient UASs capabilities, lessons learned, and conclude with considerations for other similar cases.

Objectives

The main objective of the webinar is to provide and discuss details for a diverse set of scenarios or cases in which UASs could be used to support specific radiological or nuclear security programme activities. A secondary objective is the identification of specific areas for which Member States require further information and investigation.

Target Audience

This webinar is aimed at expert organizations, policy makers, and front-line organizations involved in the specification, procurement, and use of equipment to meet radiological and nuclear security and safety programme requirements.

Working Languages

Same programme will be offered on:

- Wednesday, 7 December 2022, in English with simultaneous Spanish interpretation
- Tuesday, 13 December 2022, in English.

Registration

Please register for the webinar using [this link](#) not later than **5 December 2022**.

After the acceptance of your participation, you will receive an electronic mail with a hyperlink to join the WebEx meeting or calling in by phone.

For additional help regarding registration, please contact Mr Mark D. Ladd (DST@iaea.org) and Ms Yumiko Everton (Y.Everton@iaea.org), at the IAEA Division of Nuclear Security.

Webinar presentations will be made available after the event at the IAEA's Nuclear Security Information Portal (NUSEC). Instructions on accessing the portal will be provided during the webinar.

Webinar Programme

Opening Remarks

Mr Charles Massey, *Senior Nuclear Security Officer, Nuclear Security of Materials Outside Regulatory Control Section, Department of Nuclear Safety and Security, IAEA*

Introduction: Context for Webinar

Mr Milan Matos, *Senior Laboratory Technician (Nuclear Science), Nuclear Science and Instrumentation Laboratory, Physics Section, Department of Nuclear Sciences and Applications, IAEA*

Drone Use Case Assessment Framework

Mr Mark D. Ladd, *Nuclear Security Officer (Emerging Technologies), Nuclear Security of Materials Outside Regulatory Control Section, Department of Nuclear Safety and Security, IAEA*

Use Case 1: Emergency Response

Mr Luigi De Dominicis, *Responsible of the Division for Physical Technologies for Security and Health, Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA)*

Use Case 2: Environmental Survey or Monitoring

Mr Tom Scott, *RAEng Professor, University of Bristol*

Break (15 minutes)

Use Case 3: Radioactive Source Search

Mr. Cao Van Hiep, *Research Assistant, Vietnam Military Institute of Chemical and Environmental Engineering (MICEE)*

Use Case 4: Special Applications-Maritime Monitoring

Mr Øyvind Aas-Hansen, *Senior Adviser, Norwegian Radiation and Nuclear Safety Authority (DSA)*

Discussion - Questions and Answers

Facilitator: Mr Robert Olsen, *Associate Nuclear Security Officer (Sci Tech), Nuclear Security of Materials Outside Regulatory Control Section, Department of Nuclear Safety and Security, IAEA*

Concluding Remarks and Next Steps

Mr Mark Ladd, *Nuclear Security Officer (Emerging Technologies), Nuclear Security of Materials Outside Regulatory Control Section, Department of Nuclear Safety and Security, IAEA*