

# Autonomous and remotely operated systems: Benefits and challenges to nuclear security

The World Institute for Nuclear Security (WINS) is pleased to announce an International Best Practices Workshop to review and discuss existing and upcoming advanced security technologies, in particular autonomous and remotely operated systems, and to explore challenges and opportunities associated with their implementation.



Vienna, Austria  
Wolke 19 in Ares Tower



2-4 April  
2019

## INTRODUCTION

The management of security programmes is changing rapidly with the development and availability of the new security technologies. Together with their obvious benefits, some of these technologies can also be used for malicious purposes. For example, unmanned aerial vehicles (UAV) are among those technologies that are of significant concern for managers at critical infrastructure sites, including airports and nuclear sites. In addition, criminals and terrorists are making increased use of cyberattack tools and technologies, including encrypted communication, to coordinate their activities and try to escape law enforcement detection and control measures.

Governments are aware of these threats and are implementing new strategies to protect their critical infrastructure that underpins vital societal services. When it comes to the nuclear industry, governments and operators are seeking to reduce vulnerabilities within their facilities while simultaneously increasing resilience. Nuclear security protection has already progressed beyond the traditional domain of gates, guns and guards, and advanced defence systems are being developed to protect nuclear facilities. Various stakeholders are investing in research and development of cutting-edge technologies to minimise the risk and consequences should potential adversaries attack these facilities. One way to increase effectiveness is through recent advances in technology, such as Remotely Operated Weapons (ROWs) and the use of Robotics that may help security professionals and law-enforcement agencies protect valuable

assets by increasing deterrence and response efficiency. It is expected that remotely operated and autonomous technologies gradually enter the portfolio of protective measures and provide significant improvement in the performance of security systems. To reduce the cost of security, operators may also seek options to replace activities currently implemented by humans with semi or fully autonomous systems.

It is important to understand that new technologies present both a threat and an opportunity. It is the responsibility of regulators, operators, international organisations and law enforcement agencies to address the challenges of implementing advanced technologies in the nuclear industry in the most effective way possible.



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## KEY OBJECTIVES

The purpose of this workshop is to discuss technological changes, in particular autonomous and remotely operated systems and components in the field of nuclear security, that might take place in the coming years and explore how nuclear organisations and other nuclear security stakeholders can strategically anticipate and benefit from them. The workshop will build on the key findings of previous WINS activities and will review in particular the main topics detailed in the WINS Special Report on *Evolving Security Threats and Advanced Security Technologies* published in 2018.



## THE KEY OBJECTIVES OF THE WORKSHOP ARE TO DISCUSS AND ANSWER SUCH QUESTIONS AS:

- What are the different types of autonomous and remotely operated systems and components in the field of security? How do they apply to the nuclear industry?
- What further evolution can we expect in the coming years? What technology will become a game-changer for risk management?
- What kind of threats and opportunities do these technologies in the nuclear security industry pose? Will they increase nuclear security, or will they increase vulnerabilities?
- When should these technologies be implemented in the nuclear industry? What are the relevant decision-making criteria when deploying advanced nuclear security technologies?
- What potential strategies can be used to assess the value—and define the optimal use of—these technologies in the nuclear sector?
- Will the implementation of autonomous and remotely operated systems and components decrease the cost of nuclear security and therefore improve its effectiveness? Will it be possible to completely replace the guard force in nuclear facilities?
- How should regulators address the implementation of autonomous and remotely operated systems and components? What are the legal barriers for the deployment of these technologies? Are regulators agile enough to respond effectively to the implementation of emerging technologies?
- How could authorities help prevent the use of these technologies for malicious purposes?

## WORKSHOP ANNOUNCEMENT

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**TARGETED AUDIENCE**

This workshop aims to bring together experts and leading thinkers in advanced security. We will invite no more than **0 delegates** for this event so that the workshop can benefit from the exchange of best practice in different sectors. WINS also plans to publish the findings and additional proposals for further research following the workshop.

Attendees will be expected to meet their own costs for travel and accommodation. Workshop costs will be met by WINS. **No registration fee is required.**

**In addition to invited speakers, we welcome applications from the following:**

- Security managers from the nuclear industry and other critical infrastructure sectors
- Regulators and other governmental organisations
- Law enforcement agencies
- Transport security and communications experts
- Leading researchers and practitioners in advanced security technologies
- Experts in data analytics and associated technological fields
- Business managers who approve security expenditure
- Security experts, consultants and vendors

**This interactive, professionally facilitated workshop will consist of presentations and plenary and group discussions. It will be conducted in English and draw only on unclassified information.**

**WORKSHOP LOCATION**

**Wolke 19 in Ares Tower**  
Donau-City-Strasse 11  
1220 Vienna, Austria

**CONTACT INFORMATION:**

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