

AUTONOMOUS AND REMOTELY OPERATED SYSTEMS: BENEFITS AND CHALLENGES TO NUCLEAR SECURITY

Vienna, Austria. 02-04 April 2019

Preliminary Programme – As of 11 March 2019

DAY 1: TUESDAY 02 APRIL 2019

08:30 – 09:00 Registration / Coffee & Tea

OPENING SESSION

09:00 – 09:30 Welcome remarks and objectives of the workshop (WINS)

09:30 – 10:00 Participants introductions and expectations (Facilitator)

10:00 – 10:30 **Keynote presentation** on *Keeping Pace with Security Risks and Opportunities*

10:30 – 10:45 **Discussion** to develop a common understanding and terminology

10:45 – 11:00 Coffee break

SESSION 1: **THE EVOLVING THREAT LANDSCAPE AND THE INTERSECTION BETWEEN THREATS AND TECHNOLOGIES**

Key issues:

- ✓ What changes can we expect in the threat landscape?
- ✓ How have technological advances influenced adversary capabilities and strategies?
- ✓ How will technological changes in the next 10 years influence the threat and security protective measures?

11:00 – 11:30 **Emerging technologies and CBRN terrorism**

11:30 – 12:00 **Case study** on the use of advanced technologies for terrorist and other malicious purpose

12:00 – 12:30 **Discussion** on best practices for assessing and anticipating long-term threats

12:30 – 13:30 Lunch

SESSION 2: **ADVANCED TECHNOLOGIES – INTRODUCTION TO AUTONOMOUS AND REMOTELY OPERATED SYSTEMS RELEVANT TO NUCLEAR SECURITY**

Key issues:

- ✓ What do we mean by *advanced technologies for security*? What are the different types of autonomous and remotely operated systems?
- ✓ What are the main applications of advanced technologies in the nuclear industry? When should an advanced technology be implemented in the nuclear industry?
- ✓ What are the relevant decision-making criteria when deploying advanced security technologies? Will any of these technologies become a game-changer for risk management?

13:30 – 14:00 **Overview** of advanced technologies for offense and defence

14:00 – 14:30 **Discussion** on the impact of emerging technologies on the security strategies

14:30 – 15:15 **A Nuclear operator approach for identifying and assessing the benefits and risks of an emerging technology**

15:15 – 15:30 Coffee break

15:30 – 16:15 **Discussion** to share practical experiences on the deployment of advance technologies and to identify best practices for keeping pace with innovation risks and opportunities

- 16:15 – 17:15** **Learning from other sectors**
- An aviation security perspective
 - A global approach to critical infrastructure protection
- 17:15 – 17:30** **Review of the day** (facilitator)
- 17:30** **Workshop cocktail**

DAY 2: WEDNESDAY 3rd APRIL 2019

09:00 – 09:30 **Key findings of Day 1 and objectives of Day 2** (Facilitator)

SESSION 3: A COMPREHENSIVE REVIEW OF AUTONOMOUS AND REMOTELY OPERATED SYSTEMS FOR SECURITY

Key issues:

- ✓ What kind of autonomous and remotely operated systems already exist?
- ✓ Are they an opportunity or a threat to nuclear security?
- ✓ What prerequisites are necessary for their deployment? What can we learn from past experiences?

- 09:30 – 10:30** **Advanced access control systems. Biometric and Face Recognition Technology**
- 10:30 – 10:45** **Discussion** to reflect experiences in the room and share perspectives
- 10:45 – 11:00** **Coffee break**
- 11:00 – 11:30** **How nuclear operators can respond to the threat from drones, and what can be done about them**
- 11:30 – 12:00** **UAV detection systems in Chinese NPPs**
- 12:00 – 12:30** **Discussion** on risks and opportunities with UAVs
- 12:30 – 13:30** **Lunch**
- 13:30 – 14:30** **Modelling the use of remotely operated weapons**
- 14:30 – 15:00** **Discussion** to further explore the topic:
- What is the rationale for deploying ROWs?
 - What prerequisites are necessary for their deployment?
 - What can we learn from past experience?
- 15:00 – 15:15** **Coffee break**
- 15:15 – 15:45** **Robotics and security**
- 15:45 – 16:45** **Break-out group** to review available technologies, assess their contribution to nuclear security, and identify prerequisites to their deployment, including justifying the return on investment
- 16:45 – 17:00** **Review of the day** (facilitator)
- 17:00** **End of Day 2**

DAY 3: THURSDAY 4TH APRIL 2019

09:00 – 09:30 Key findings of Day 2 and objectives of Day 3 (Facilitator)

SESSION 4: BROADER CONSIDERATIONS TO ADOPTING ADVANCED TECHNOLOGIES

Key issues:

- ✓ How do we ensure the cybersecurity of advanced technologies?
- ✓ Are there regulatory challenges associated with the use of advanced technologies?
- ✓ What are the ethical and legal considerations—including the potential impact on staff—when deploying advanced technologies?

09:30 – 10:00 **Securing the Development Lifecycle in Productions Systems Engineering**

10:00 – 10:15 Discussion to further explore the topic.

10:15 – 10:30 Coffee break

10:30 – 11:00 Ethical and legal considerations associated with the use of advanced technologies

11:00 – 11:30 **Regulating the use of UAVs**

11:30 – 12:00 **Discussion**

- 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?
- How could authorities help prevent the use of these technologies for malicious purposes?

CONCLUSION SESSION

12:00 – 12:45 **Way Forward**

- What are the key lessons that have arisen from this workshop?
- What questions and challenges remain to be addressed?
- How can we ensure a follow-up to the key findings?

12:45 – 13:00 **Workshop evaluation and closing remarks**

13:00 **End of the workshop**