



World Institute for
Nuclear Security

WINS: Update and Workshop Objectives

**Roger Howsley
Executive Director**

Vienna, 19th March 2018

Welcome to the Workshop!



EVOLVING SECURITY THREATS AND ADVANCED SECURITY TECHNOLOGIES

Date: 19th – 21st March 2018

Venue: Wolke 19, Vienna

Please take note of these dates.
Further details will follow shortly.



INTRODUCTION

The threat landscape has evolved—and is continuing to evolve—at an almost unimaginable pace, especially in the cyber world. Cyber terrorism (perpetrated by both States and individuals) has become an enormous threat to businesses, industries and governments around the world. Political upheavals in several regions of the world (greatly assisted by the development of smart phones, internet and social media technology) have led to the rapid rise of terrorist groups using more and more sophisticated tools and weapons. Although difficult to predict on a

important benefits is data analytics, which enables the analysis of huge amounts of data in near real-time. On the other hand, technology has also resulted in such negatives as cyberterrorism and the creation of improvised explosive devices that can be easily transported, hidden and detonated.

Clearly, rapid changes are going to continue taking place in the years ahead. Nuclear reactors will change, including the deployment of small modular reactors, and the threats—many of which have not even been anticipated yet—will evolve. It is crucial that those with responsibility for nuclear materials understand the nature

Outline

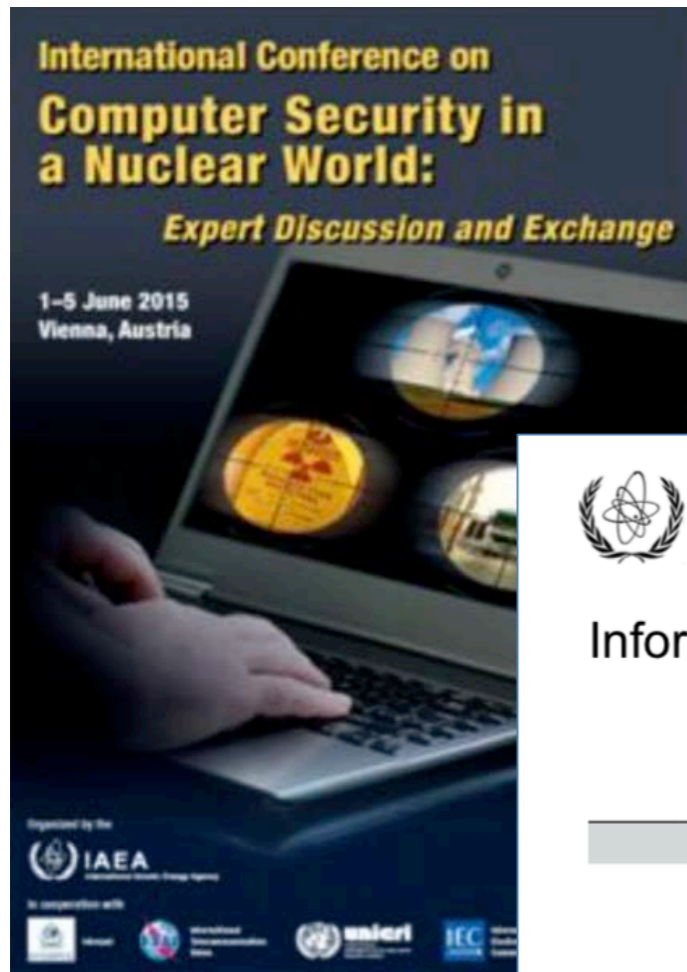
-  **WINS Update**
-  **The WINS Academy**
-  **Workshop Objectives**


Nuclear Security Summits 2010-2016



Nuclear Industry Summits 2010-2016





 **IAEA**
Atoms for Peace

Information Circular

INFCIRC/274/Rev.1/Mod.1
Date: 9 May 2016

General Distribution
Original: Arabic, Chinese, English, French, Russian,
Spanish

Amendment to the Convention on the Physical
Protection of Nuclear Material

WINS Vision & Mission

All nuclear and other radiological materials and facilities are effectively secured by demonstrably competent professionals applying best practice to achieve operational excellence

To be the leader in knowledge exchange, professional development and certification for nuclear security management

Performance Measured by WINS' Achievements

80+

International
Best Practice
Workshops



35

International
Best Practice
Guides



10

Nuclear Security
Management
Certification
Modules





4,424

Members worldwide in

123 countries



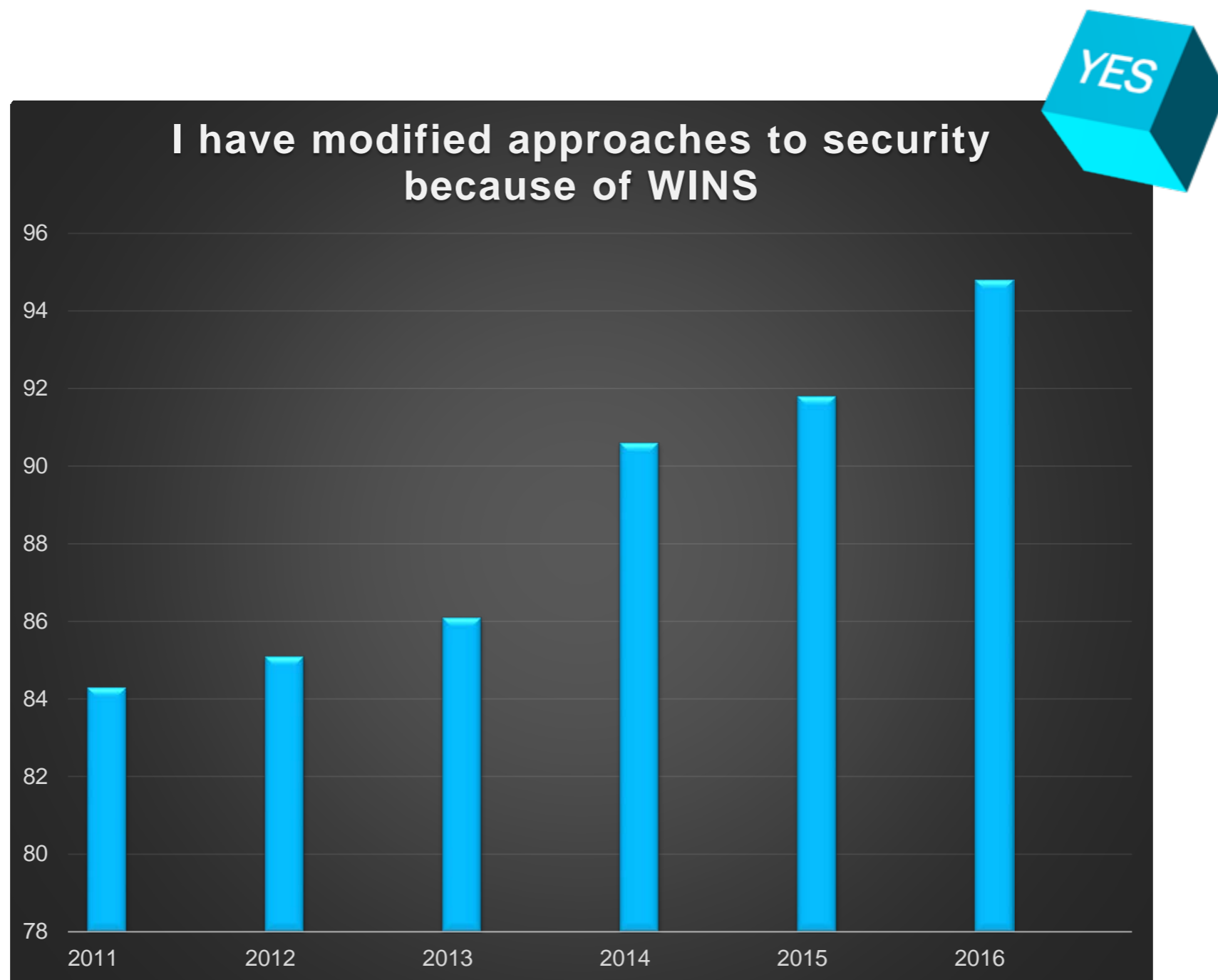
4,424

Members worldwide in

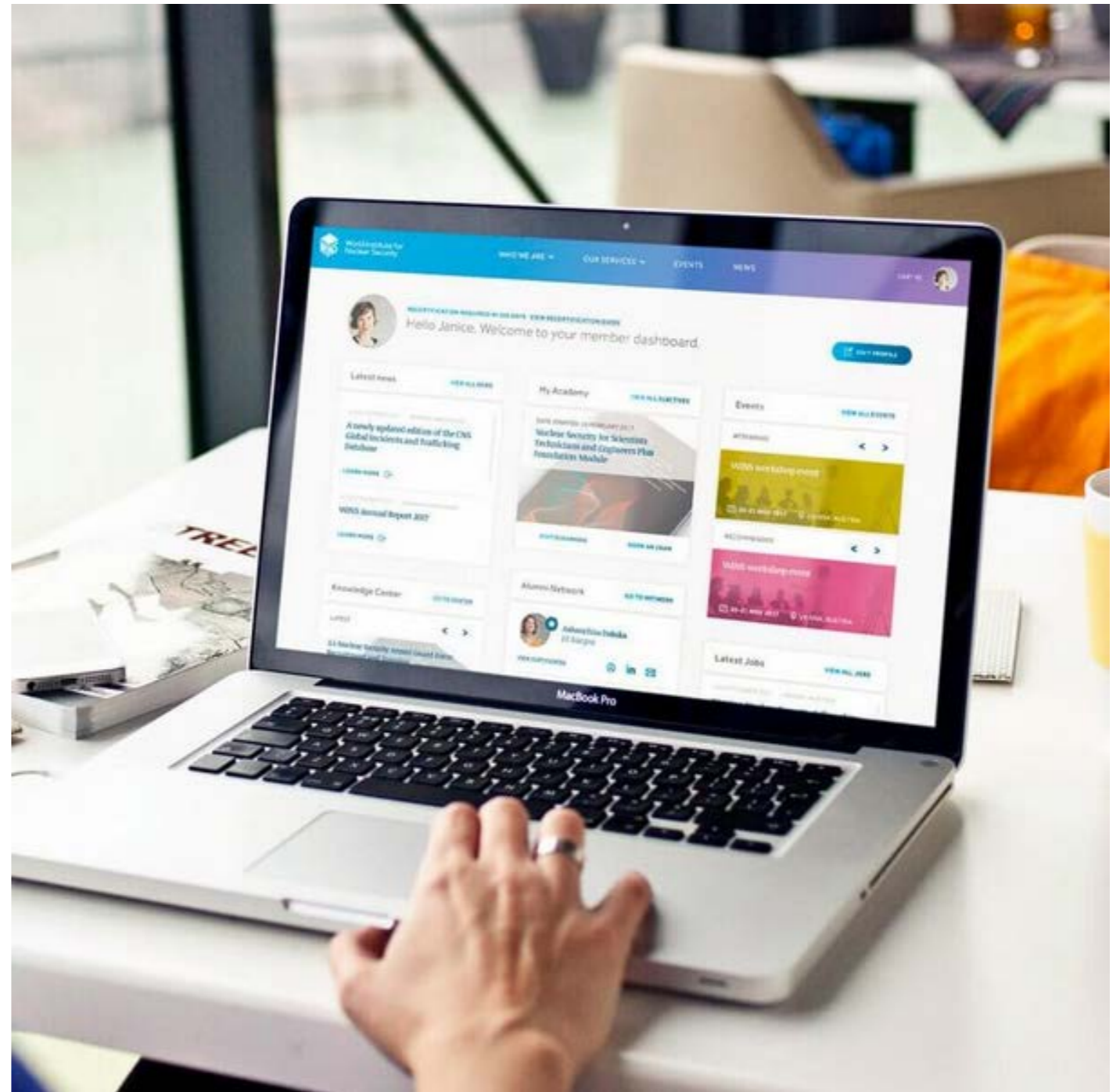
123 countries

JOIN TODAY IF YOU'RE NOT A MEMBER ALREADY!

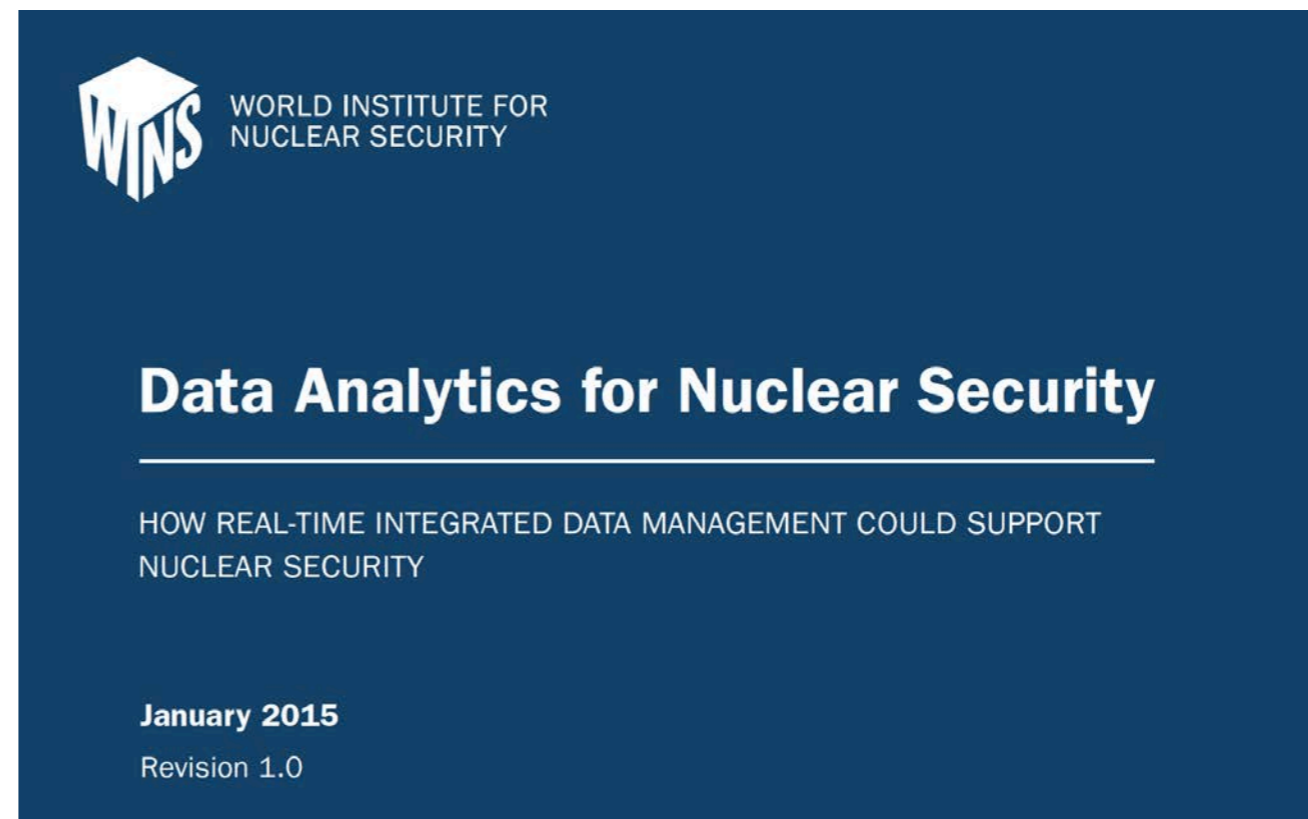
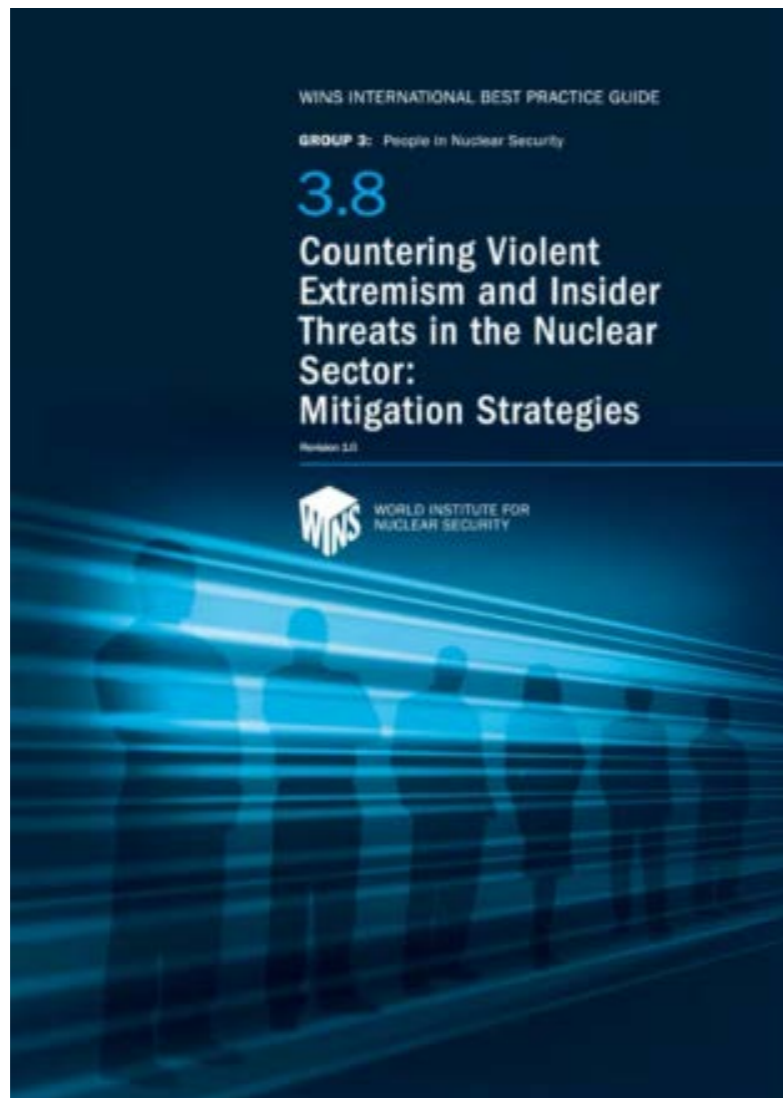
Membership Questionnaire



Website relaunch with new Operating System and Data Analytics, including a Member Dashboard



Agile and Relevant: WINS Leadership in Identifying Emerging Issues



WINS Gender Champions Initiative

WINS Programme will focus on identifying and overcoming the barriers to women's greater participation in nuclear security: we need greater diversity to address the evolving threats



Outline

- **WINS Update**
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Demonstrable Security Management Competence in other Professions



Maritime Security

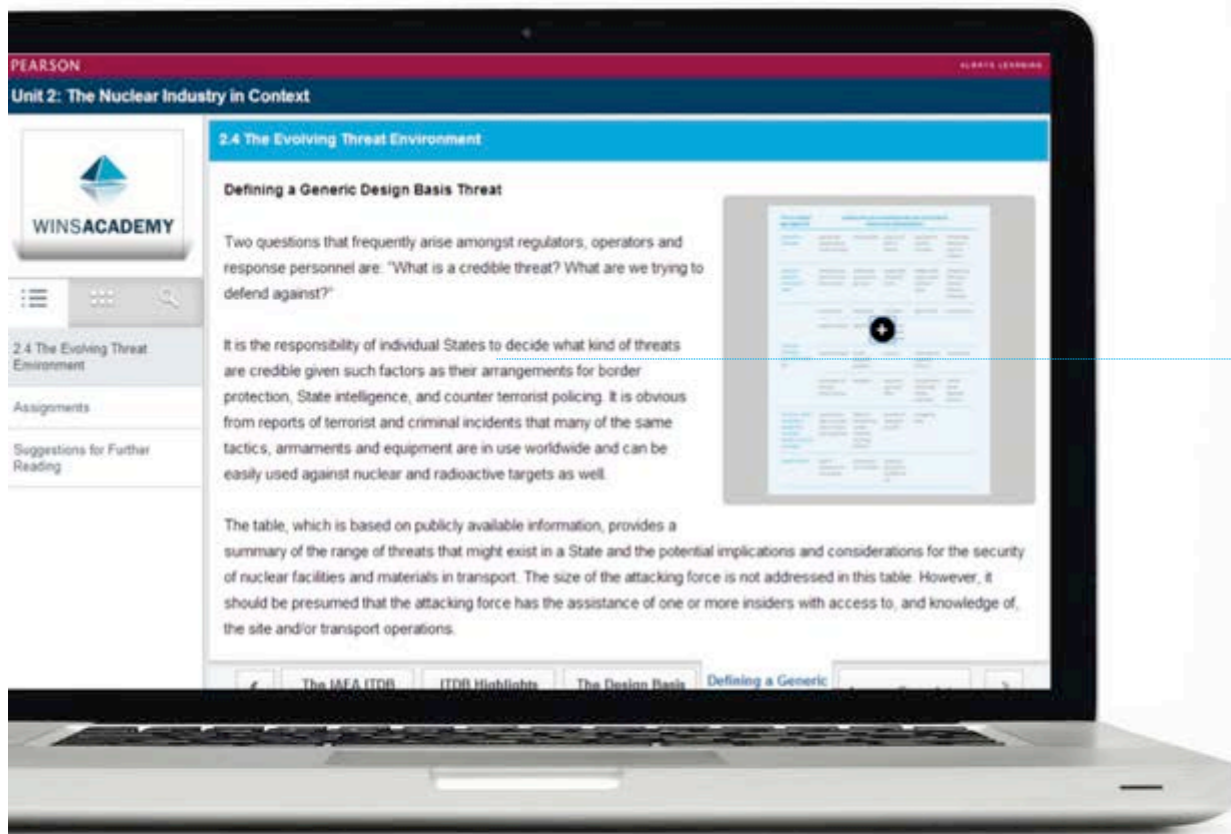
- [Ship Security Officer](#)
- [SSO Certificate of Proficiency](#)
- [Company Security Officer \(CSO\)](#)
- [Marine Facility Security Officer \(MFSO\)](#)
- [Persons with Security Responsibilities](#)
- [Auditor Course](#)
- [Port Workers Security Awareness Course](#)
- [Other Maritime Security Courses](#)

The screenshot shows the ICAO website's AVSEC PMC page. At the top, the ICAO logo and name are displayed, along with the text 'INTERNATIONAL CIVIL AVIATION ORGANIZATION' and 'A United Nations Specialized Agency'. A search bar and language options (Français) are visible. The main navigation menu includes 'Home', 'Simulation', 'Courses & Programs', 'Registration', and 'Locations'. The page content is organized into a sidebar and a main area. The sidebar contains a list of links: 'AVSEC PMC', 'ISD Security Home', 'Structure', 'Assistance', 'Training', 'ICAO AVSEC Professional Managers', 'PMC Schedule', 'PMC Flyer', 'PMC Statistics', 'AVSEC PMC Article', and 'Contact us'. The main area features a large heading 'AVSEC PMC' and a sub-heading 'PROFESSIONAL MANAGEMENT COURSE (AVSEC PMC)'. Below this, there is a paragraph describing the course as the most advanced aviation security training programme in existence, and another paragraph detailing its development by ICAO in collaboration with Concordia University in 2004.

The WINS Academy: Electives on Offer



Module Delivery Online



5,100+ accredited test centres in over 180 countries worldwide

Hard Copy Textbooks



WINS was re-certificated to ISO Standards in December 2017



qualityaustria

SYSTEM CERTIFIED

ISO 9001:2015

No.13020/0

ISO 29990:2010

No.00027/0



Academy Participants Exceeded **1,000** Worldwide in 2017

1,050 Participants from **80+** Countries

291 Certified Nuclear Security Professionals



Sustaining the Engagement – The WINS Professional Network



79%

of our participants are from developing countries



96%

of our Alumni say that WINS certification has positively impacted their professional image



50%

of our Alumni have received a significant increase in responsibility

The WINS Academy: Impact Analysis



INFCIRC/901; now 14 Signatories



WORLD INSTITUTE FOR
NUCLEAR SECURITY

THE GOVERNMENT OF CANADA AND 11 OTHER STATES ENDORSE THE WINS ACADEMY'S COMMITMENT TO PROVIDING CERTIFIED PROFESSIONAL DEVELOPMENT FOR NUCLEAR SECURITY WORLDWIDE – IAEA INFCIRC/901

Vienna, Austria, December 14, 2016 – The World Institute for Nuclear Security (WINS) is pleased to announce that on 1 December 2016 the Government of Canada submitted a Joint Statement on Certified Training for Nuclear Security Management to the Secretariat of the International Atomic Energy Agency (IAEA). The Statement acknowledges the international recognition of the need for nuclear security training, education and certification and commits to providing advocacy, peer review, contributions and other means as necessary to support the WINS Academy's efforts to expand its international certification programme.

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***“Predicting the future is easy
... getting it right is the hard
part.”***

A History of the Future of Work

(BBC – 12 March 2018)



HYPE

Unfounded
fears

HOPE

Utopian
predictions





c.370BC

Writing will ruin our memories



"If men learn this, it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written" said Socrates. We remember his views on this because Plato wrote them down.



16th-17th

Century

**Books will
render us
'confused' and
'barbarous'**



In 1545, Swiss scholar Conrad Gesner complained of a *"confusing and harmful abundance of books"*. In 1685, French scholar Adrien Baillet wrote there was *"reason to fear"* that a *"multitude of books"* would drive us into a *"barbarous"* state.



1888



We'll all retire at 45

In his utopian novel 'Looking Backward: 2000-1887', Edward Bellamy imagines the year 2000, when *"working hours are short, the vacations regular and that all emulation ceases at forty-five, with the attainment of middle life."*

1930



We'll be working 15-hour weeks

Economist John Maynard Keynes predicted automation would usher in an *"age of leisure and abundance"* within 100 years. *"Everybody will need to do some work if he is to be contented"*, he wrote, but *"three hours a day is quite enough"*.



1950
We'll commute by helicopter



Popular Mechanics magazine envisioned that the commuters of the year 2000 will "go to the city [...] in huge aerial busses that hold 200 passengers. Hundreds of thousands [will] make such journeys twice a day in their own helicopters."



1959

Artificial intelligence will take all our jobs



"The time it will take to develop a really useful artificial brain is 20 years multiplied or divided by 1 1/2", guessed mathematician I.J. Good. "All the problems of science and technology will be handed over to machines and it will no longer be necessary for people to work."

1932: *“There is not the slightest indication that nuclear energy will ever be obtainable. It would mean that the atom would have to be shattered at will.”*

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Albert Einstein.

1955: *"Nuclear powered vacuum cleaners will probably be a reality within 10 years."*

Alex Lewyt, President of the
Lewyt Vacuum Cleaner Company.



1962: Lewyt went bankrupt. The electronic models had a tendency of shorting out and giving the user a shock which resulted in a number of lawsuits that bankrupted the company.

Report Outline



World Institute for
Nuclear Security

EVOLVING SECURITY THREATS AND ADVANCED SECURITY TECHNOLOGY: ANTICIPATING THE NEEDS OF THE NUCLEAR INDUSTRY

REPORT OUTLINE

- 1. THE THREAT ENVIRONMENT OVER THE LAST 40 YEARS:**
 - 1.1. GENERAL CONSIDERATIONS
 - 1.2. NUCLEAR SPECIFIC
 - 1.3. OTHER CRITICAL INFRASTRUCTURE SECTORS

- 2. THREAT PREDICTIONS AND TRENDS OVER THE NEXT 10 YEARS:**
 - 2.1. GENERAL PESTLE¹ CONSIDERATIONS
 - 2.2. NUCLEAR SPECIFIC
 - 2.3. OTHER CRITICAL INFRASTRUCTURE SECTORS

Report Outline

3. THE INTERSECTION BETWEEN THREATS AND TECHNOLOGY

3.1. HOW EXISTING TECHNOLOGICAL ADVANCES HAVE INFLUENCED THE THREAT AND SECURITY PROTECTIVE MEASURES

3.2. HOW TECHNOLOGICAL CHANGES IN THE NEXT 10 YEARS WILL INFLUENCE THE THREAT AND SECURITY PROTECTIVE MEASURES:

3.2.1. TECHNOLOGY BY SUBJECT AREA

- 3.2.1.1. DRONES
- 3.2.1.2. REMOTELY OPERATED WEAPON SYSTEMS (ROWS)
- 3.2.1.3. ROBOTICS FOR SECURITY
- 3.2.1.4. ARTIFICIAL INTELLIGENCE
- 3.2.1.5. ENHANCED HUMAN PERFORMANCE
- 3.2.1.6. CYBER SECURITY
- 3.2.1.7. BEHAVIOURAL OBSERVATION
- 3.2.1.8. MODELLING AND SIMULATION
- 3.2.1.9. ACCESS CONTROL AND BIOMETRICS
- 3.2.1.10. TRACKING AND MONITORING
- 3.2.1.11. DATA ANALYTICS

Report Outline

- 4. BROADER CONSIDERATIONS TO ADOPTING ADVANCED TECHNOLOGIES IN THE NUCLEAR SECTOR**
 - 4.1. OPPORTUNITIES FOR SECURITY BY DESIGN, INCLUDING SMALL MODULAR REACTORS
 - 4.2. JUSTIFYING THE RETURN ON INVESTMENT
 - 4.3. CHALLENGES FOR REGULATION AND THREAT ASSESSMENT/COMMUNICATION
 - 4.4. ETHICAL AND LEGAL CONSIDERATIONS, INCLUDING THE POTENTIAL IMPACT ON STAFF

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