SAND2013-3617P

Basis for Threat Assessment and Risk Informed Approach

Threat and Risk Curriculum
Module E

Threat and Risk Concepts and Terminology

Threat Assessment and Risk Informed Approach

- Basis for Threat Assessment and Risk-Informed Approach
- Intro to the Risk Informed Approach Cycle
- Nuclear Security Risk Scenarios
- Risk Assessment Methodologies
- Targets and Consequences
- Expert Elicitation
- Threat Assessment Methodologies
- Uncertainty & Sensitivity
- Communicating Threat and Risk
- The Risk Informed Approach

Applying the Risk Informed Approach to a Fictional State

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Threat Assessment and Risk Informed Approach

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Nuclear Security Risk Scenarios

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Module Objectives

Participants will understand the elements necessary to conduct and utilize a threat assessment and risk informed approach for the implementation of nuclear security measures for nuclear and other radioactive material out of regulatory control. Topics include:

- National policy and strategy
- Legal and regulatory framework
- Roles and responsibilities
- Coordination mechanism
- International cooperation

Motivating Questions

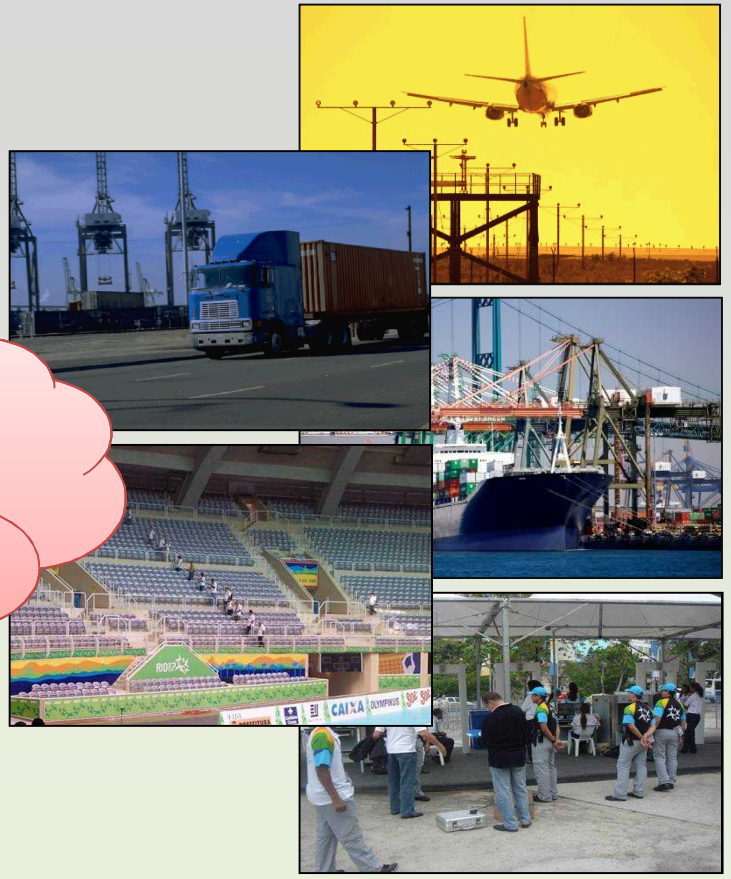
Imagine that your government's policymakers have created a mandate to make transit hubs more secure against nuclear and other radioactive threats.

- How do you effectively utilize limited available resources in the near term and in the long term?
- Which transit hubs do you address first?
- Is there a particular geographic region that you focus on?
- Is there a particular modality (air, land, sea) that you focus on?

A threat and risk assessment can help inform the answers to these questions

Limited Resources

Threat Assessment and Risk Informed Approach



Diverse Architecture

A threat assessment and risk informed approach assists decision makers in utilizing resources and developing capabilities

Conceptual Example

Nuclear Security Systems and Measures

- Prioritizes deployment of detection capabilities for screening of arriving international travelers and air cargo.
- Works with international partners to promote radiation screening at foreign departure points.
- Provides for a graded and targeted approach to screening of domestic travelers and air cargo, based on risk analysis and targeted selection.

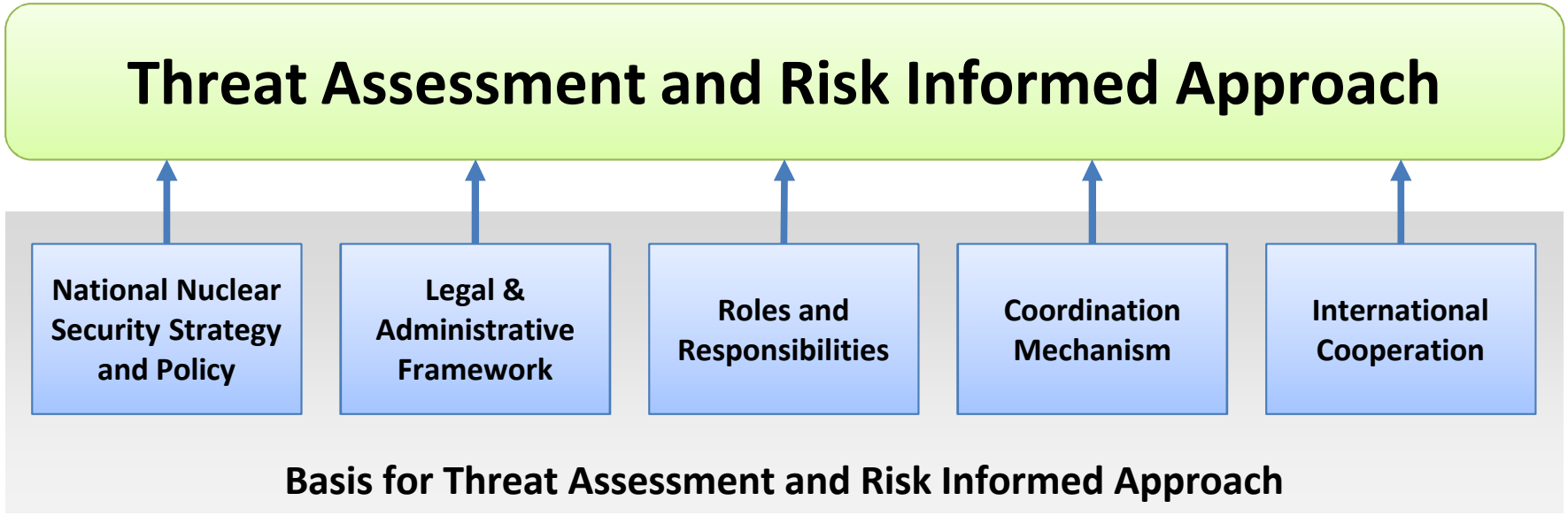
Threat Assessment and Risk Informed Approach

- Identifies airports as transit hubs or potential targets for radioactive material out of regulatory control.
- Determines that the most significant risk is from arriving international travelers and air cargo.

Effective development of nuclear security systems and measures should be informed by threat and risk

Institutional Support

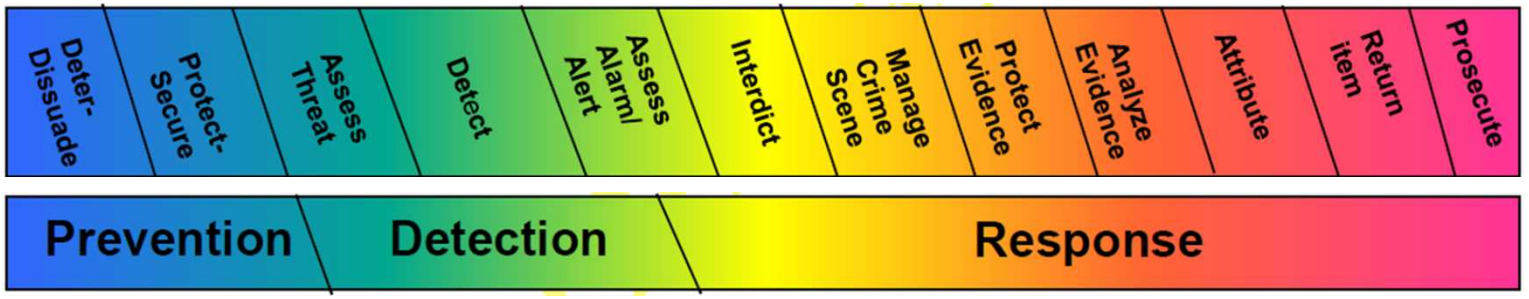
- Threat and risk assessments cannot be performed in isolation and require institutional support
- The base elements provide a solid foundation for threat and risk assessments



Threat Assessment and Risk Informed Approach

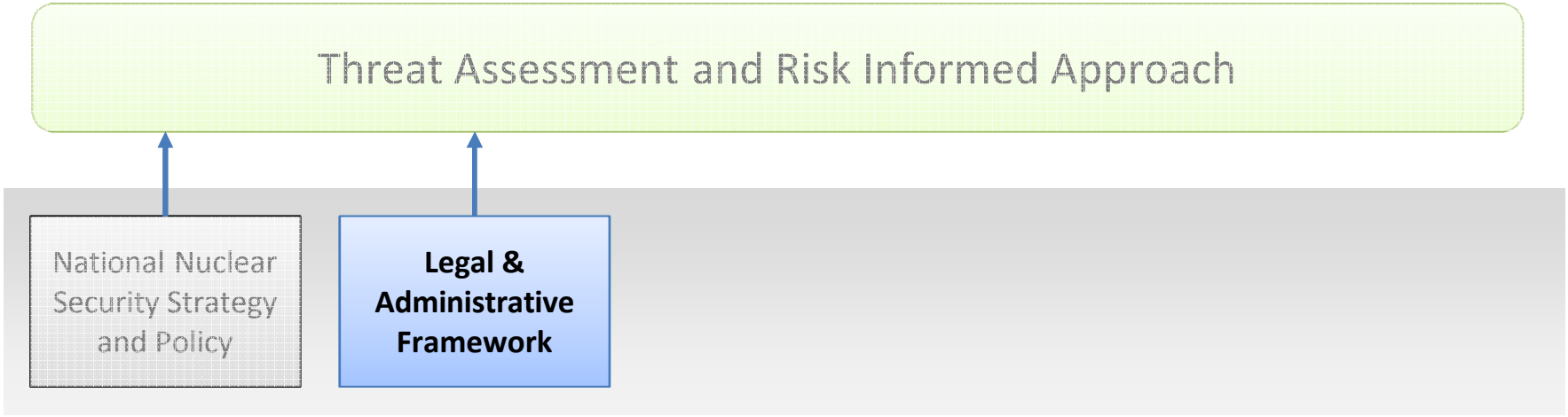
National Nuclear Security Strategy and Policy

- Articulates the nuclear security goals and objectives
- Informed by a national nuclear security threat and risk assessment
- Determines the scope and priority of prevention, detection, and response measures
- Mandates a threat assessment and risk informed approach to inform implementation of detection measures
- Should include requirement for updating assessments

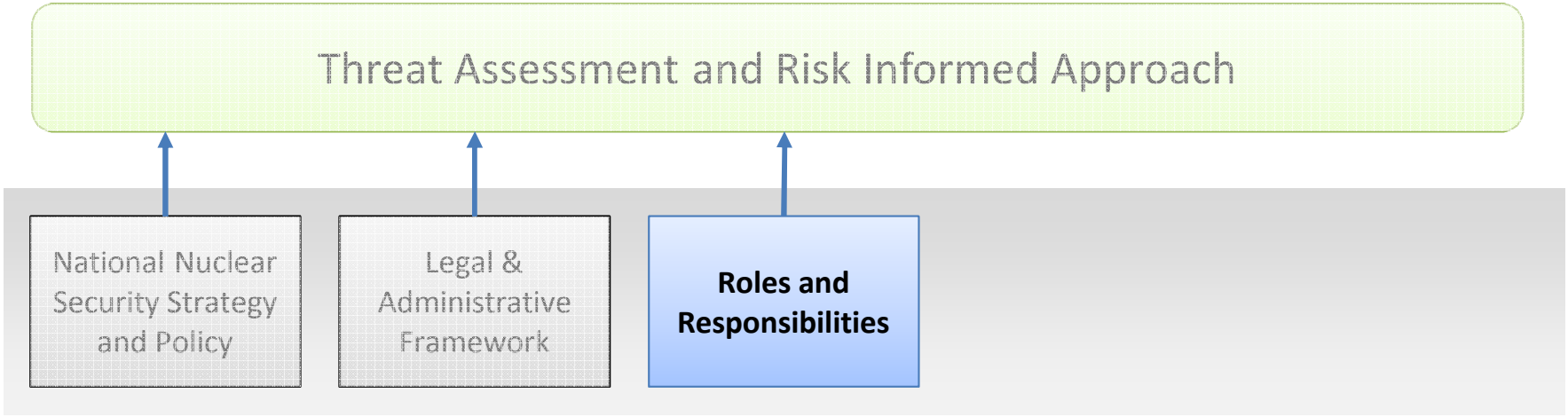


Updating the Assessments

- Assessments should be updated periodically and when:
  - The threat changes
  - New capabilities are developed
  - National priorities and policies change
- Any changes should be communicated to all relevant stakeholders
- Periodic updates should be aligned with budgetary or programmatic cycles, ensuring that decision makers have necessary information



- Codifies the requirement for a threat assessment and risk informed approach for the implementation of detection measures
- Provides the framework for assigning roles and responsibilities
- Includes provisions for:
  - Full cooperation of relevant competent authorities
  - Periodic review and update
  - Utilization of assessment results



- Roles include those responsible for:
  - Performing assessments
  - Supporting assessments
  - Utilizing outputs
- Several competent authorities may be involved
  - Appropriate support and guidance should be provided
  - Efforts should be made to avoid duplication of efforts
  - Assessments should take all perspectives into account
- ***Competent and qualified staff*** should have the ***resources and capabilities*** necessary to perform the assessments

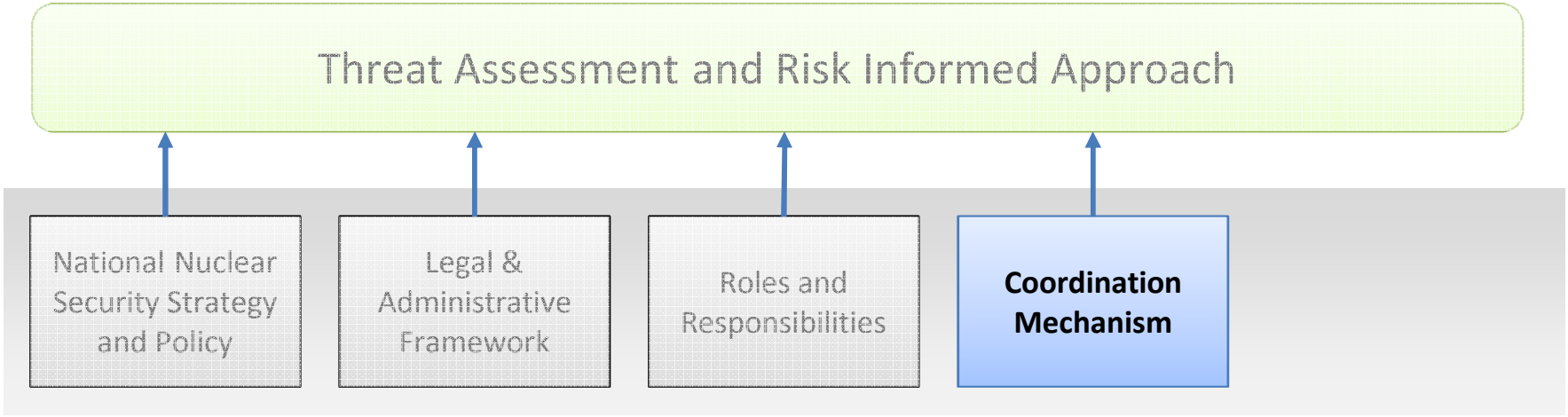
Competent and Qualified Staff

- Staff should have the skills to conduct the desired assessment, including having relevant:
  - Education
  - Experience
  - Certifications
- Different methodologies have different needs
  - Quantitative methods may require numerical backgrounds
  - Qualitative methods may require expertise in elicitation

Resources and Capabilities

The resources and capabilities necessary to execute the assessments should be identified, including:

- Financial resources
- Human resources
- Technology assets



Considerations for coordination include:

- Protecting sensitive information
- Ensuring information is provided and received in a timely manner
- Sharing data and information on events with nuclear security implications
- Keeping competent authorities informed of changes to the assessment

Communication Among Competent Authorities

Various organizations may:

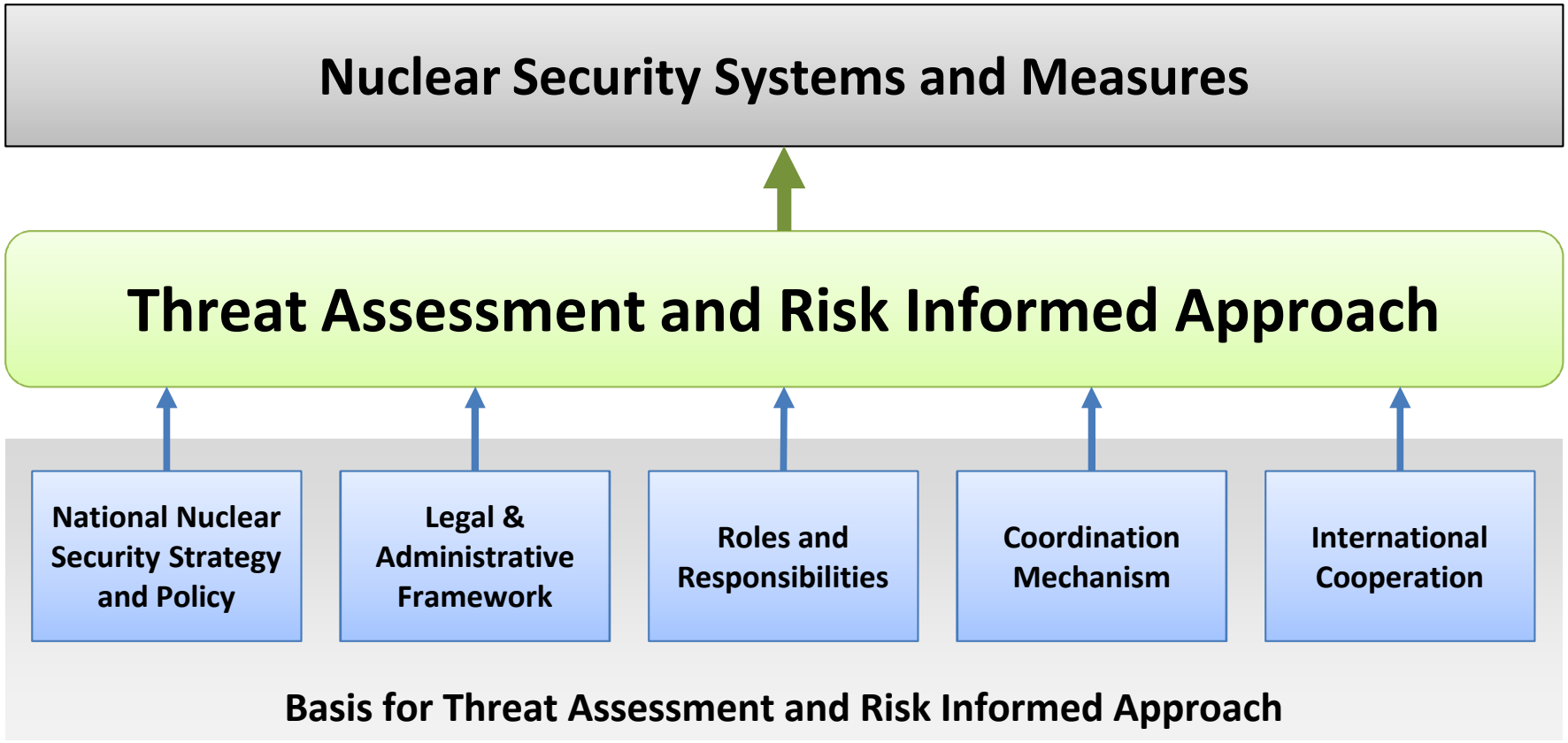
- Be responsible for conducting threat and risk assessments
- Utilize the results of the assessments
- Be able to contribute to an assessment
  - Law enforcement
  - Counter-terrorism
  - Emergency responders
- Hold relevant data
- Have expertise in conducting assessments

- Regional partners may share the same nuclear security threats; communication can improve assessments
- Awareness of external nuclear security threats and events can inform domestic assessments
  - IAEA's Incident and Trafficking Database (ITDB)
- International cooperation can familiarize competent authorities on the latest methodologies for conducting assessments

International Organizations

These organizations may have information that could help inform the threat and risk assessments

Summary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