Improving Use of Risk to Inform Homeland Security Decision-Making

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"We need to adopt a risk-based approach in both our operations and our philosophy. Risk management is fundamental to managing the threat, while retaining our quality of life and living in freedom. Risk management must guide our decision making as we examine how we can best organize to prevent, respond and recover from an attack."

Secretary Michael Chertoff
Department of Homeland Security
16 March 2005

- Absolutely essential to use risk information when making decisions
- The Question is "How?"

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Fundamental Propositions

- At best, decisions can only be Risk-Informed, never "Risk-Based"
- Managing risk is everyone's job in DHS, but the risks managed will be a function of
  - Specific Area of Responsibility/Mission
  - Organizational Level – Strategic, Operational or Tactical
- There is no Risk Assessment or Risk Management "Silver Bullet"
- Needed
  - A suite of different risk assessment and risk analytic tools tailored to specific problems or issues but which remain true to core principles
  - A framework identifying invariant elements of any risk assessment methodology

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Desired Characteristics

- Intellectually sound at a conceptual level
- Common understanding of the role of “risk” in decision-making
- A clear lexicon that is standardized yet also flexible
- A menu of proven methodologies with guidance on applicability and proper usage
- Specific tools, built using proven methodologies but appropriately tailored to the problem or issue in question
- Use of quantitative measures/data when possible and appropriate
- Ban on quantitative measures when they are not possible or appropriate
- Use of subjective or qualitative data when necessary or appropriate, coupled with methods of reducing variability
- Use of appropriate methods to elicit expert opinion

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Risk Responsibilities Across DHS

- Each agency or component responsible in its own area(s) of responsibility or assigned mission
- Where multiple agencies or components share common interests, data and methods must be addressed in a coordinated manner
- Office of Risk Management and Analysis (Preparedness Directorate)
  - Departmental policies and guidance
  - Internal oversight & validation of agency and component activities
  - Comparability across disparate problems/issues
- Risk Sciences Branch (S&T Directorate)
  - Assist S&T elements
  - Assist RMA & agencies/components w/ conceptual issues
  - Provide entry point into academic research community for fundamental research into risk analytics
  - Additional validation source for RMA &agency/component efforts
- RMA and RSB roles and division of labor still being defined

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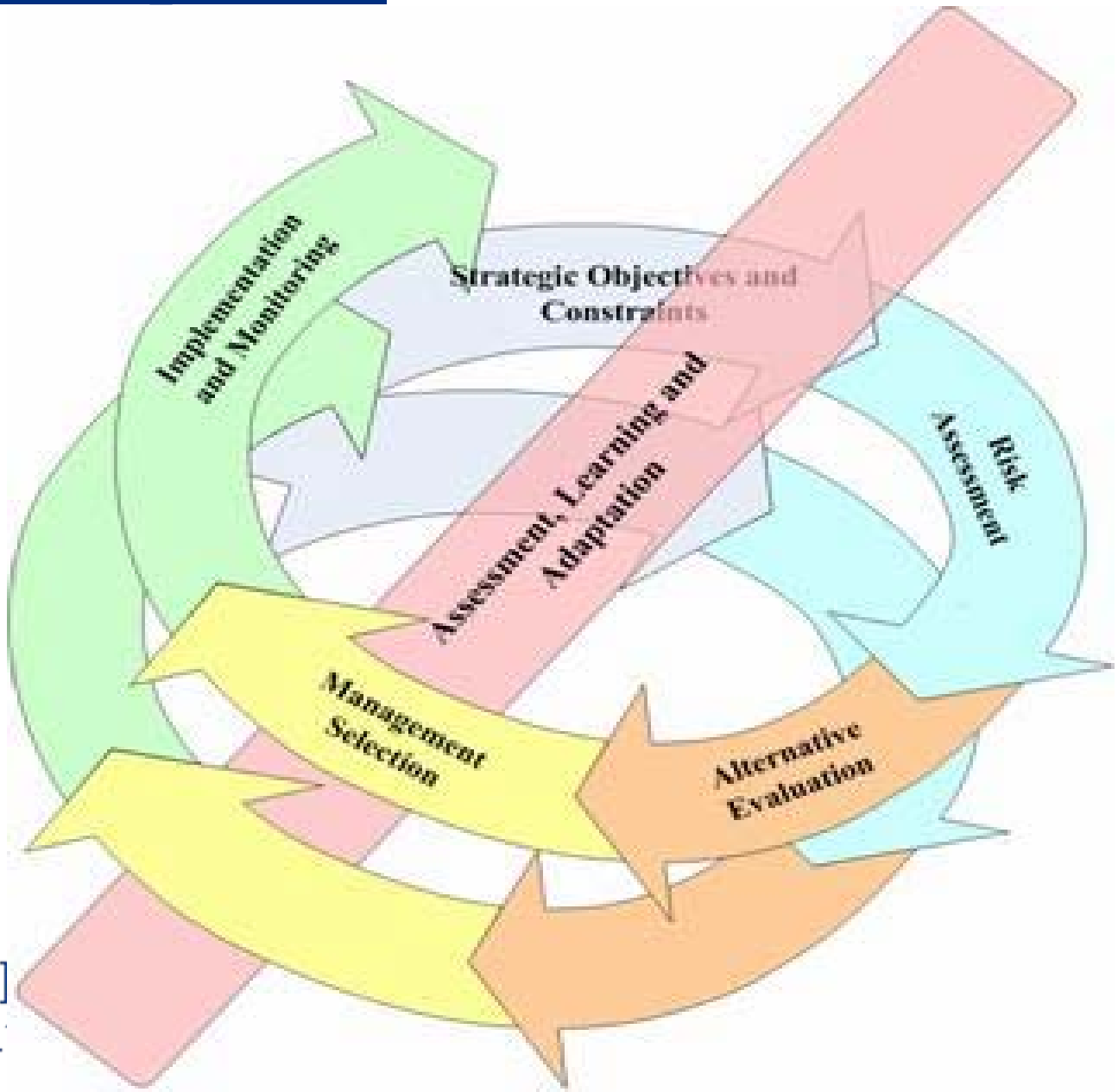
Spiral Development



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Spiral Development

- If this were easy we would have already done it
- The state of the art in Risk Assessment and related analyses is inadequate to the Homeland Security problem-space
- We must do the best we can with the tools available
- We must remain dedicated to improving risk assessment and risk analytics capabilities over time

Needs & Sources of Support

Needs (partial list)

- Methodologies tailored to specific problems/issues
- Basic and applied research to fill gaps in risk assessment and risk analytics state of the art
- Improved Risk Communications
  - Generally
  - Within specific disciplines or other communities of interest

Sources

- Homeland Security Institute
- Other FFRDCs
- National Labs
- Consultants/Contractors
- University Centers of Excellence

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Closing Thoughts

- Under the best of circumstances Risk can be difficult to address – it requires understanding and careful thought

- Homeland Security risk considerations are not taking place under the best of circumstances
  - Highly Complex Problems, Rampant Uncertainty, Significant Ambiguity
  - Numerous legitimate but competing public & private goods
  - Social Complexity is High (Politics)

- Everyone wants Risk-Informed decisions, at least until…

- Current decision-support tools and decision-making processes are inadequate to the task

  Analytic Methods – Discursive Approaches (epistemological – reflective – participative) – Consistent Lexicon – Comparable Results – Etc.

- If it were easy we would have already solved the problem

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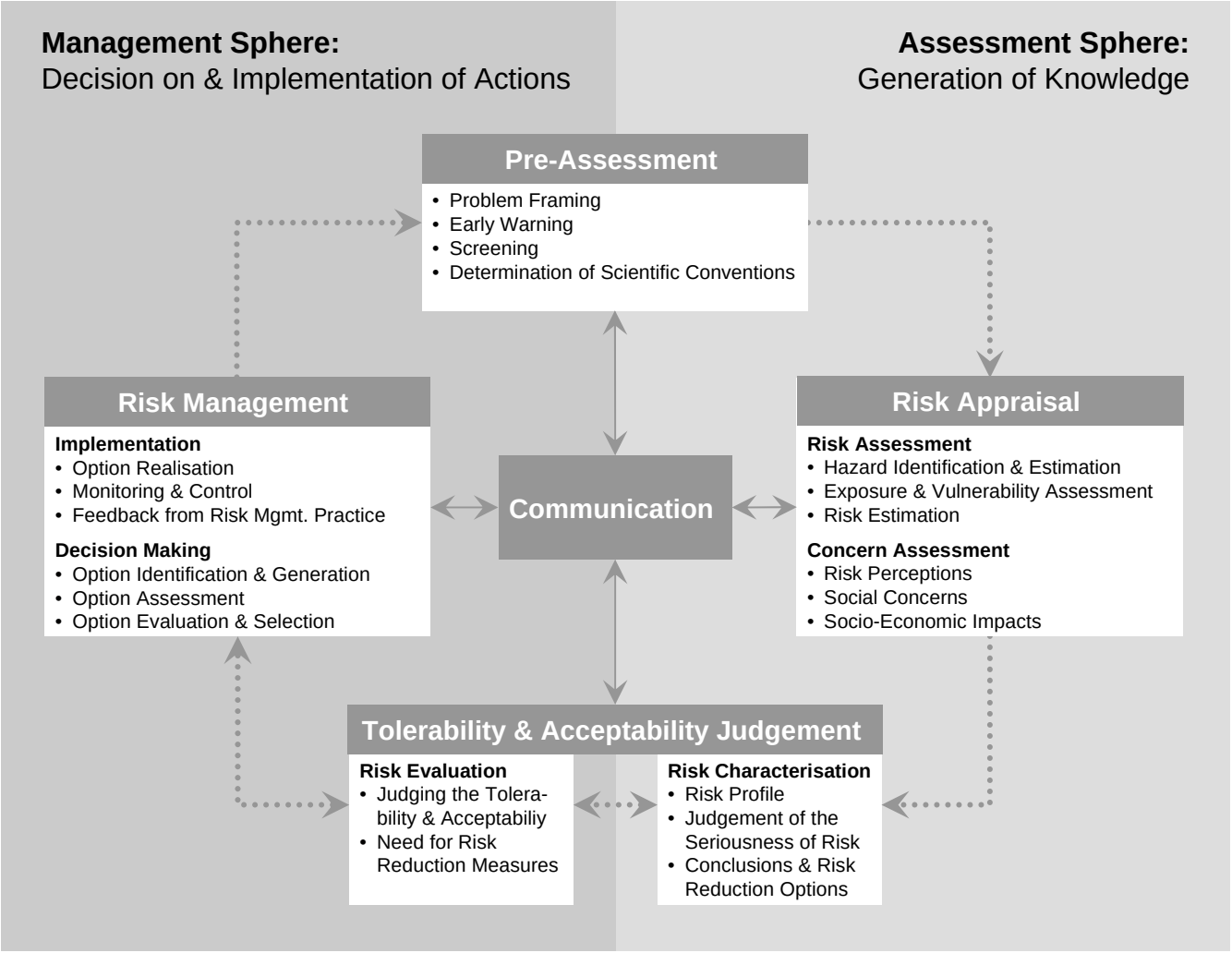
IRGC RISK GOVERNANCE FRAMEWORK CORE PROCESS



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Prof Ortwein Renn University of Stuttgart

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QUESTIONS?

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