



# A Blueprint for Effective Enterprise Risk Management (ERM)

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INCOSE IS2010  
12 Jul 10

# NAS Today – An Enterprise on Many Levels

- **Systems**
- **Organizations**
- **Geographic Areas**
- **Equities**



# The Air Traffic Management Trade Space

## Enablers

**Environmental**

**Safety**

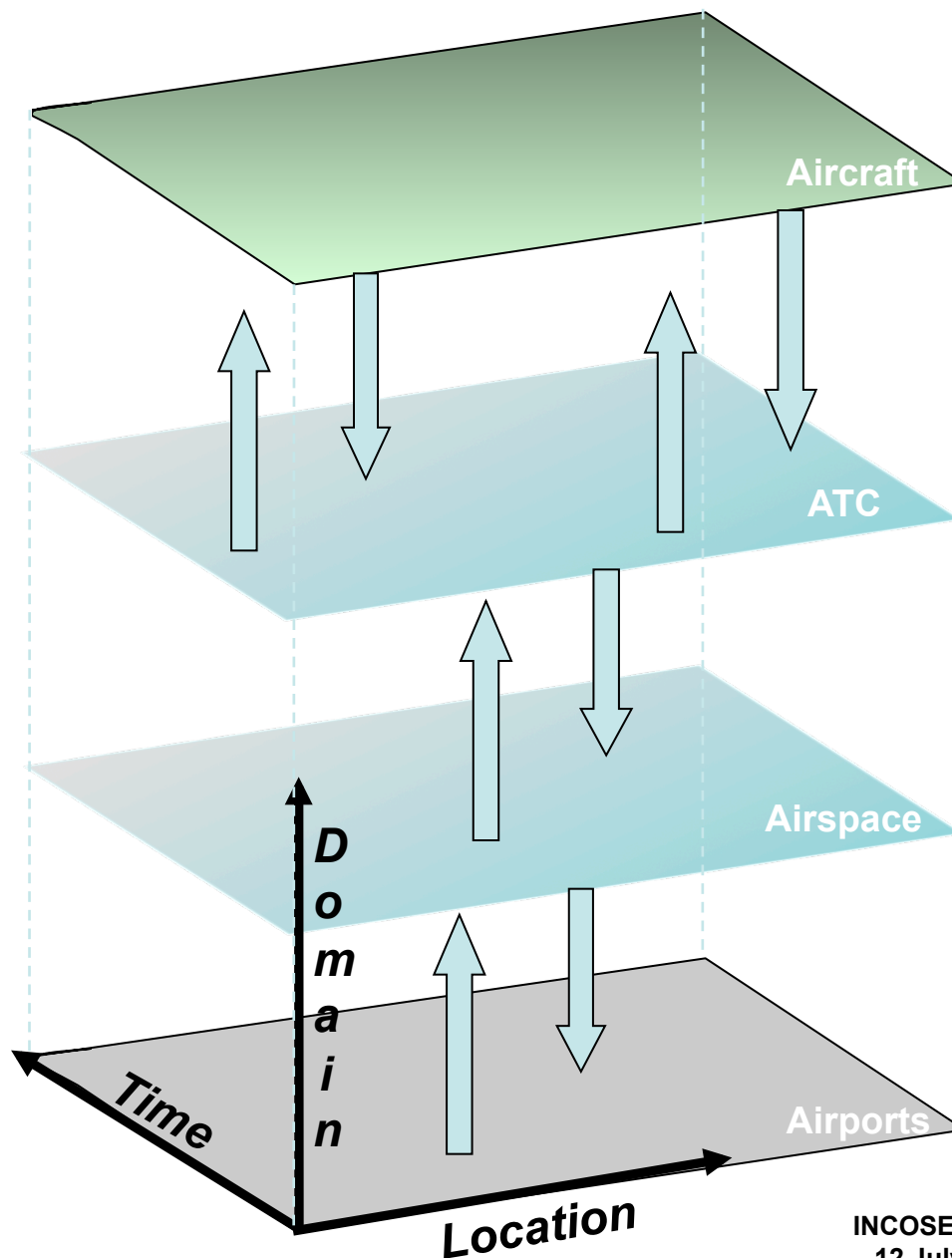
**Information  
Security**

**Economic**

**International**

### Legend:

	Private Sector
	FAA (USG)
	Local entities



# Enterprise Risk Management (ERM) Framework Program Elements



## Strategy

*Statement of purpose and approach to managing opportunity/risk in the context of a SoS*

## ERM Plan

*Plan to establish the operating scope, process, tools, documentation, & roles/responsibilities*

## Process Framework

*Overall process structure to systematically and consistently identify, analyze, and manage enterprise level opportunities/risks*

## Integration

*Interaction with other key enterprise systems/processes such as the IMS and EA*

## Governance

*The policies and mechanisms to render decisions regarding enterprise level opportunities/risks*

## Products & Tools

*A suite of products and tools to enable effective analysis and management of enterprise opportunities/risks.*

## Workforce & Training

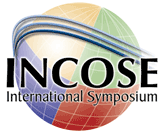
*Courseware Objective measures of practitioner competencies or skills coupled with role based training decision makers, practitioners and affected stakeholders*

## Deployment

*Phased roll out to ensure that the participating organizations & functions achieve an appropriate level of maturity to improve their overall performance.*

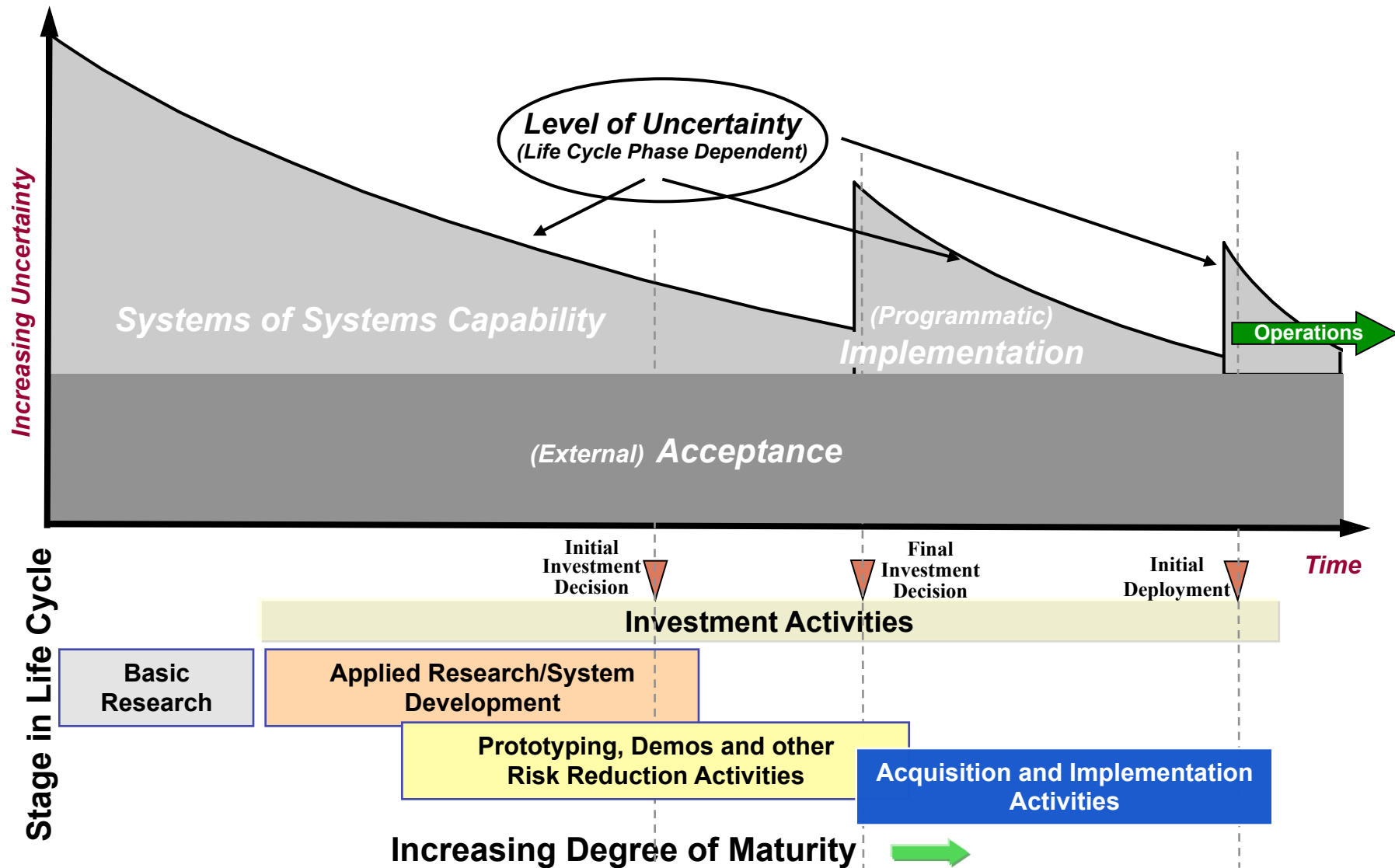


# Enterprise Risk Management Framework Benefits



- **Consistency across the SoS community**
- **(Shared) Knowledge database – Single authoritative source**
- **(Shared) Understanding of the problem space and actions being taken**
- .....
- **Credibility based on shared objective decision criteria**
- **Efficiency in consolidated risk treatment, documentation, and reporting**
- **Compliance with specific regulations and standards, both present and emerging.**

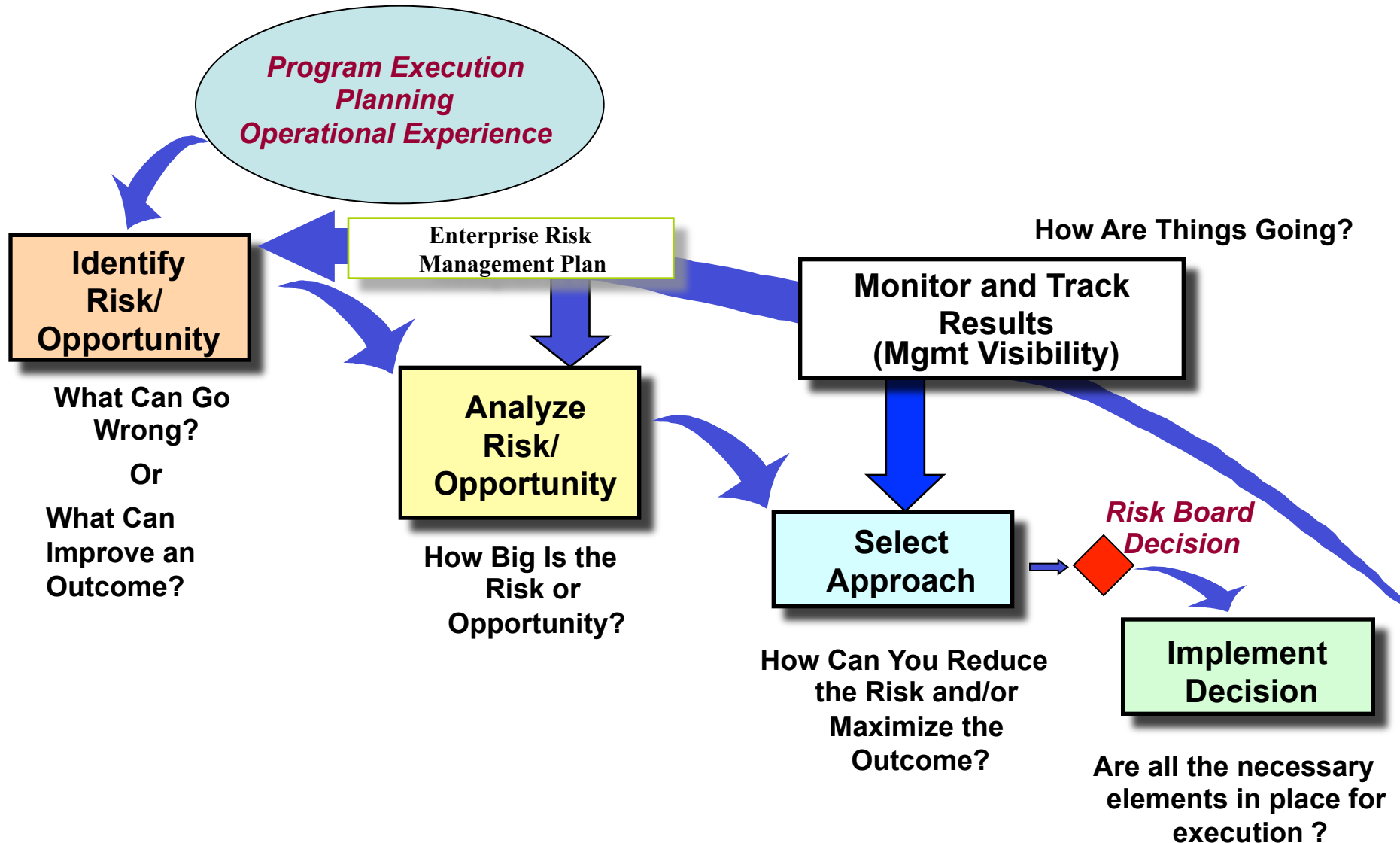
# Enterprise Risk Management Framework Spans the Full Life Cycle



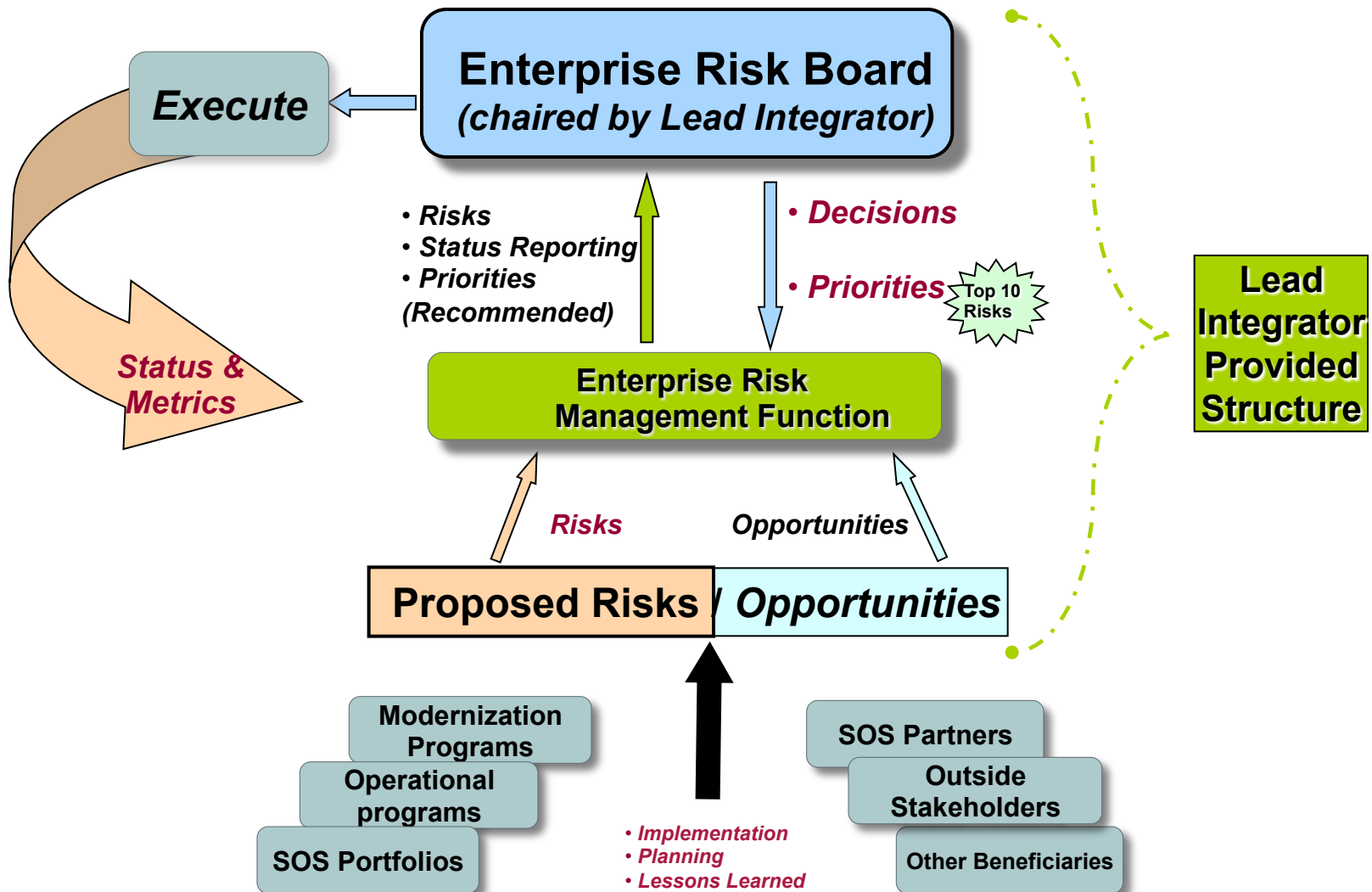
# Enterprise Risk Management Framework

**Risk:** A future situation or circumstance which creates uncertainties about achieving NextGen objectives.

**Opportunity:** A future situation or circumstance with a realistic (non-zero nor 100 percent) likelihood/probability of occurring and which may create a favorable outcome toward advancing enterprise objectives

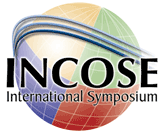


# Enterprise Risk Management Governance





# Enterprise Risk Board (ERB)



## ***Board review to consider:***

- **Risks**

- New, High (Red), and Changed*

- Includes analysis, proposed mitigations and execution OPR*

- Standardized reporting format*

- **Recommended Priorities**

- Provides basis for guidance on Enterprise priorities*

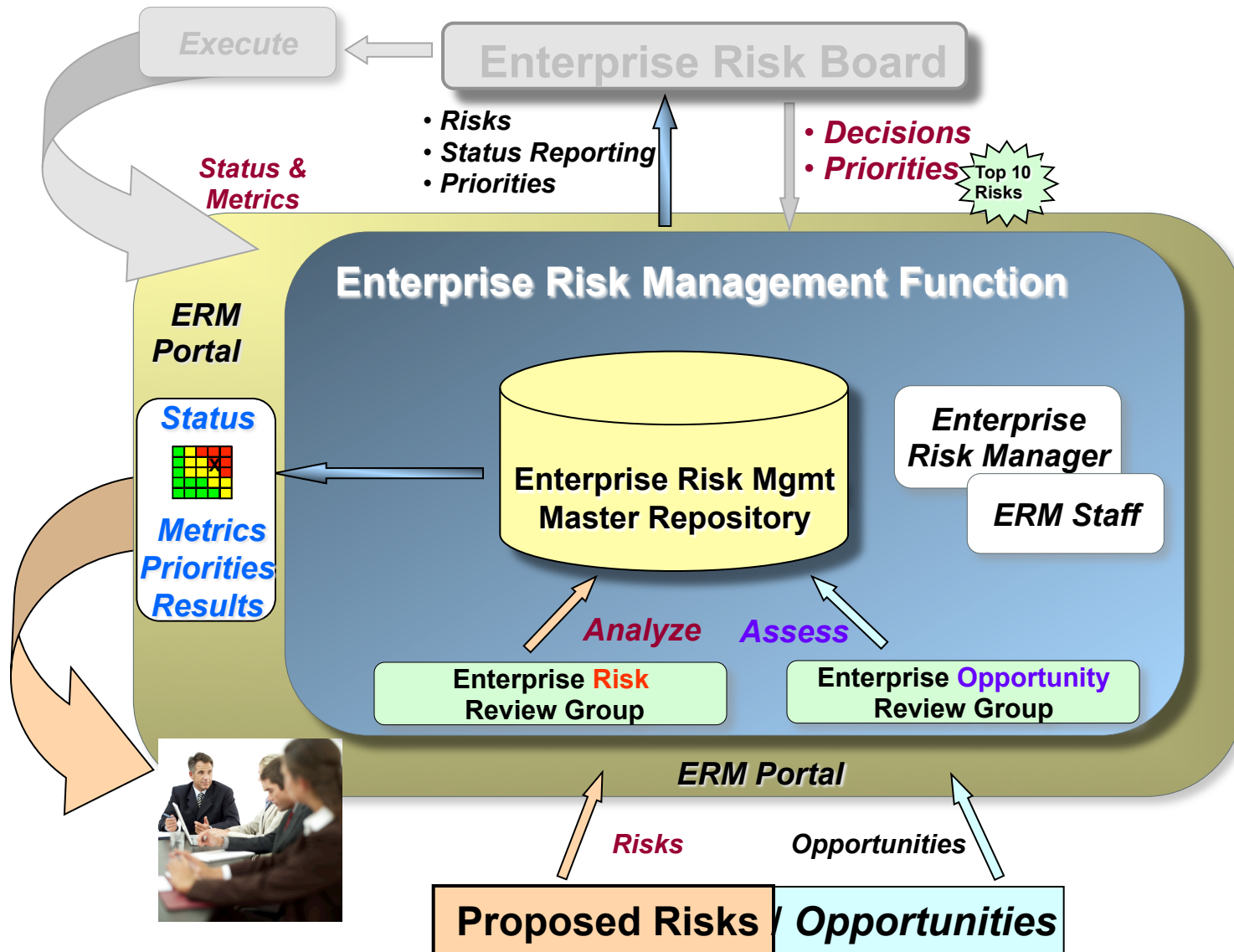
- Based on criteria established by Risk Board*

- **Status Reporting**

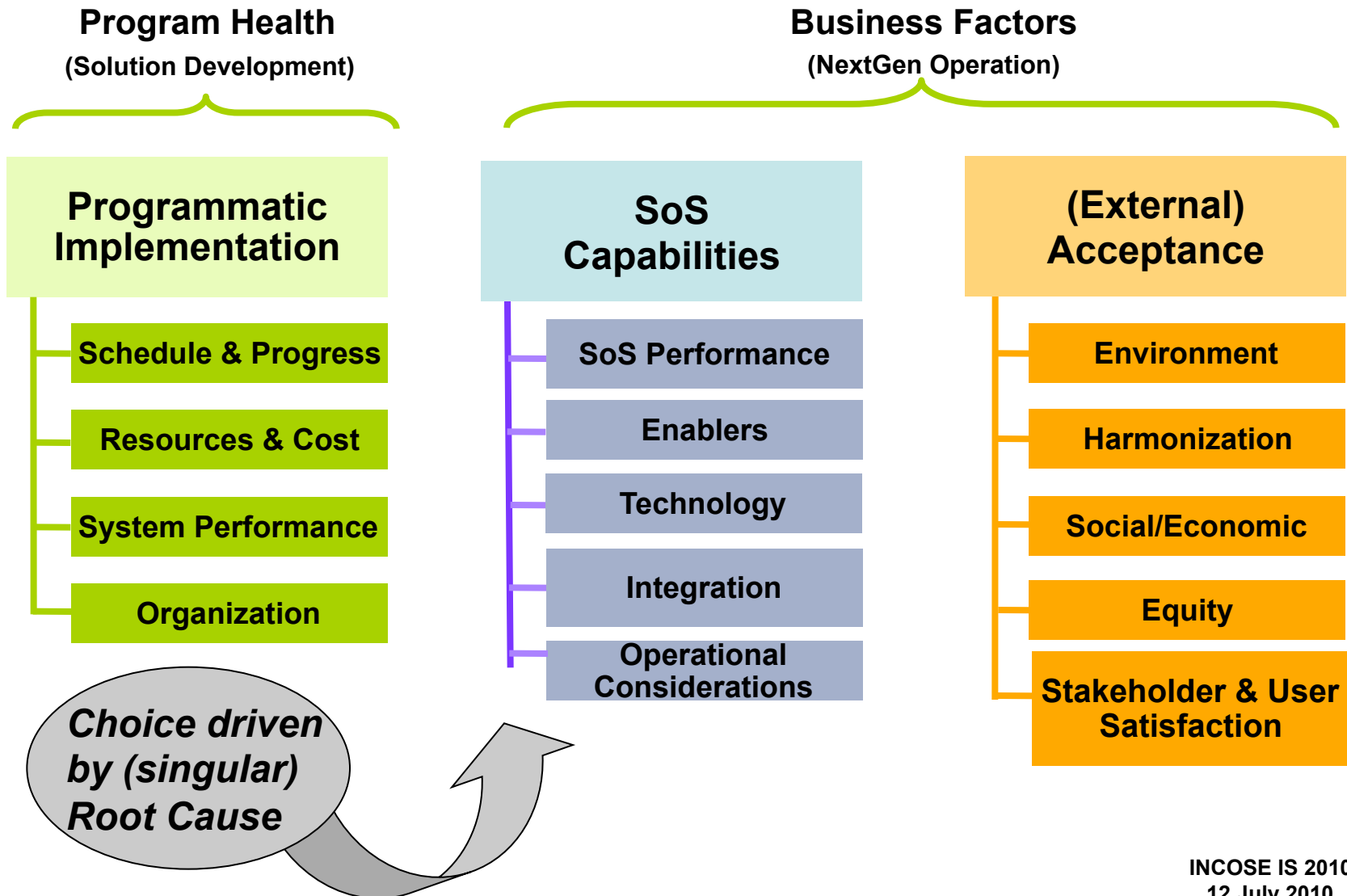
- Overall Enterprise Risk Profile*

- Mitigation execution metrics*

# Enterprise Risk Management Function



# Three Pillars - Tailoring Traditional Risk Categories to the Enterprise



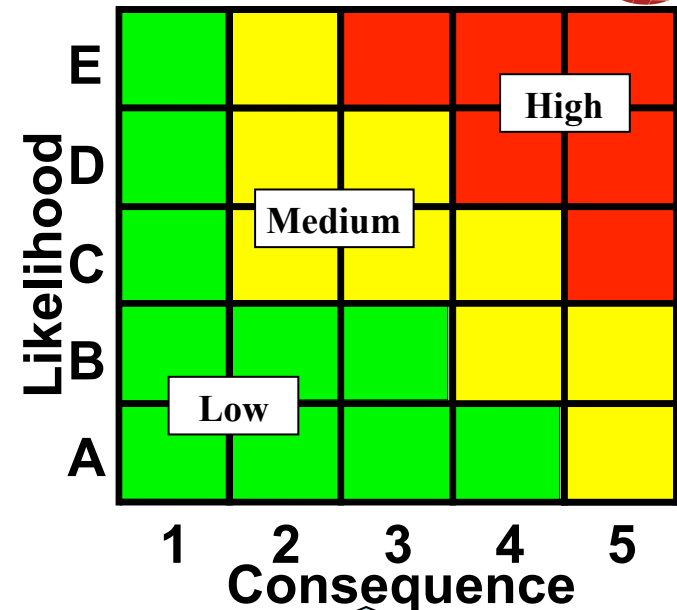
# Risk Analysis Criteria and Grid

What is the Likelihood the risk will happen?



Likelihood

Level	Likelihood	Existing Infrastructure, Concepts & Processes
E	Near Certainty	... Cannot achieve Enterprise objectives and/or concepts required. ( <i>&gt;90% chance it WILL happen</i> )
D	Highly Likely	...Major changes to Enterprise objectives and/or concepts required. ( <i>&gt;2/3 chance it WILL happen</i> )
C	Likely	... Changes required to Enterprise objectives and/or concepts ( <i>~50% chance it WILL happen</i> )
B	Low Likelihood	...Some Enterprise objectives / concept changes may be required. ( <i>&lt;1/3 chance it WILL happen</i> )
A	Not Likely	...Easily achieve Enterprise objectives and/or concepts. ( <i>&lt;10% chance it WILL happen</i> )



Given the risk is realized, what would be the magnitude of the impact?

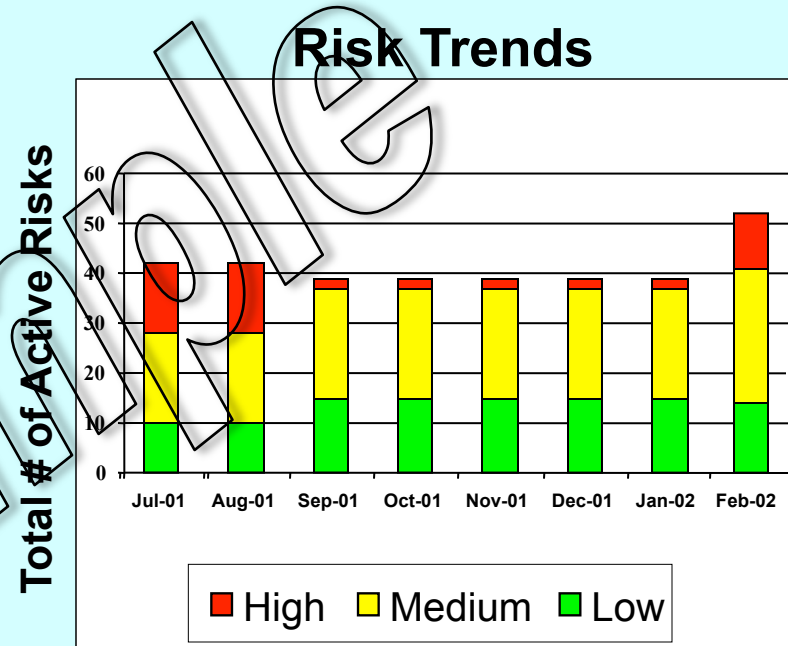
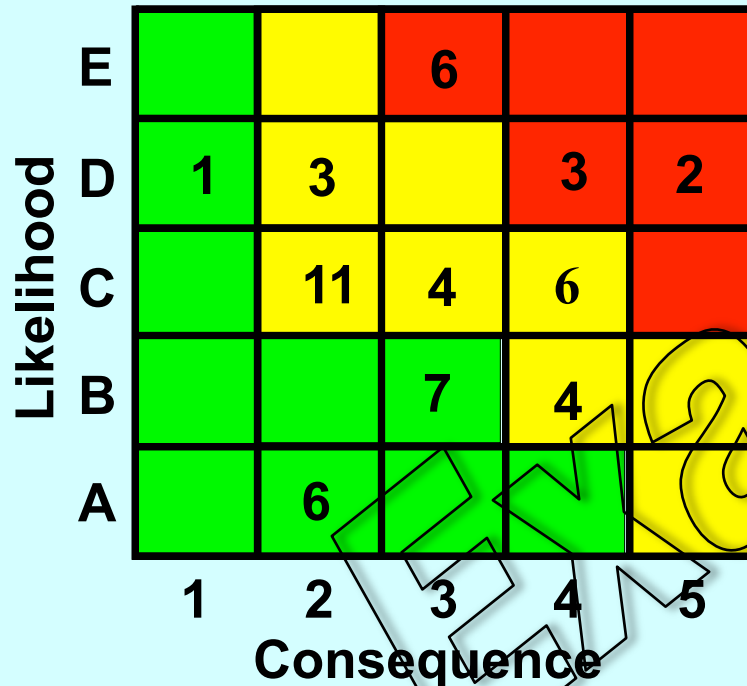


Consequence

Level	SoS Capability	Implementation	Acceptance
1 – No impact to Enterprise success	Minimal Impact	Minimal Impact	Minimal Impact
2 – Minor impact to Enterprise success	Minor capability shortfall, same approach retained	Implementation baseline variance $\leq 1\%$	Minor variance from Stakeholder objectives
3 – Limited impact to Enterprise success	Moderate capability short- fall, alternatives available	Implementation baseline variance $> 1\% \ \& \ \leq 5\%$	Requires modification to support objectives
4 –Enterprise success could be jeopardized	Unacceptable capability but alternatives available	Implementation baseline variance $> 5\% \ \& \ \leq 10\%$	Requires major changes to support objectives
5 –Enterprise success in doubt	Unacceptable capability and NO alternatives exist	Implementation baseline variance $> 10\%$	No longer compatible with objectives

# Enterprise Risk Summary Profile

Status as of xx-xx-2011



Risk data is to reported on a **MONTHLY** basis with a minimum of 6 months data is required.

## Risk Summary

Total Active SoS Risks	53
Risks with Approved Mitigation Plans	25
New Risks Pending	14

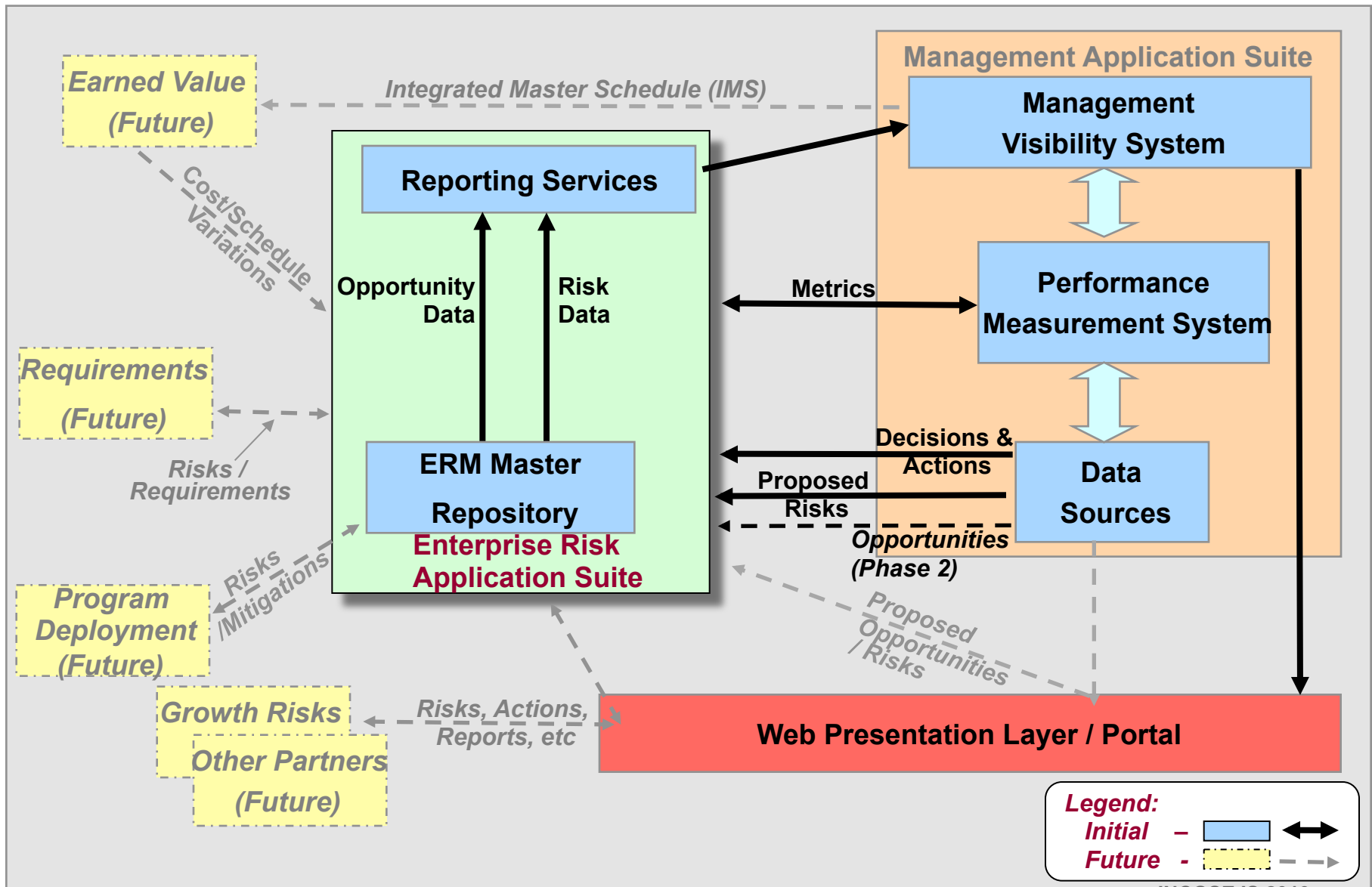
## Likelihood

A = Not likely
B = Low likelihood
C = Likely
D = Highly likely
E = Near certainty

## Consequence

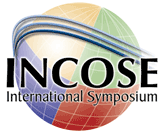
1 = Minimal or no impact
2 = Minor, able to maintain same approach
3 = Moderate shortfalls, workaround exists
4 = Unacceptable, workaround exists
5 = Unacceptable, no alternative exists

# Staged Deployment





# Enterprise Risk Management Growth Capabilities



*Integration with Program Risk efforts*

*Integration with Partners' Risk efforts*

*Pursuit of potential Enterprise Investment Opportunities*

## **Opportunity Management**

- **Risk and Opportunity will be managed through the same framework.**
  - For example, any Acceleration Initiative should be managed as an opportunity
    - Opportunity Benefits
    - Opportunity Costs
    - Risks associated with Acceleration



# Questions?