



A Blueprint for Effective Enterprise Risk Management (ERM)

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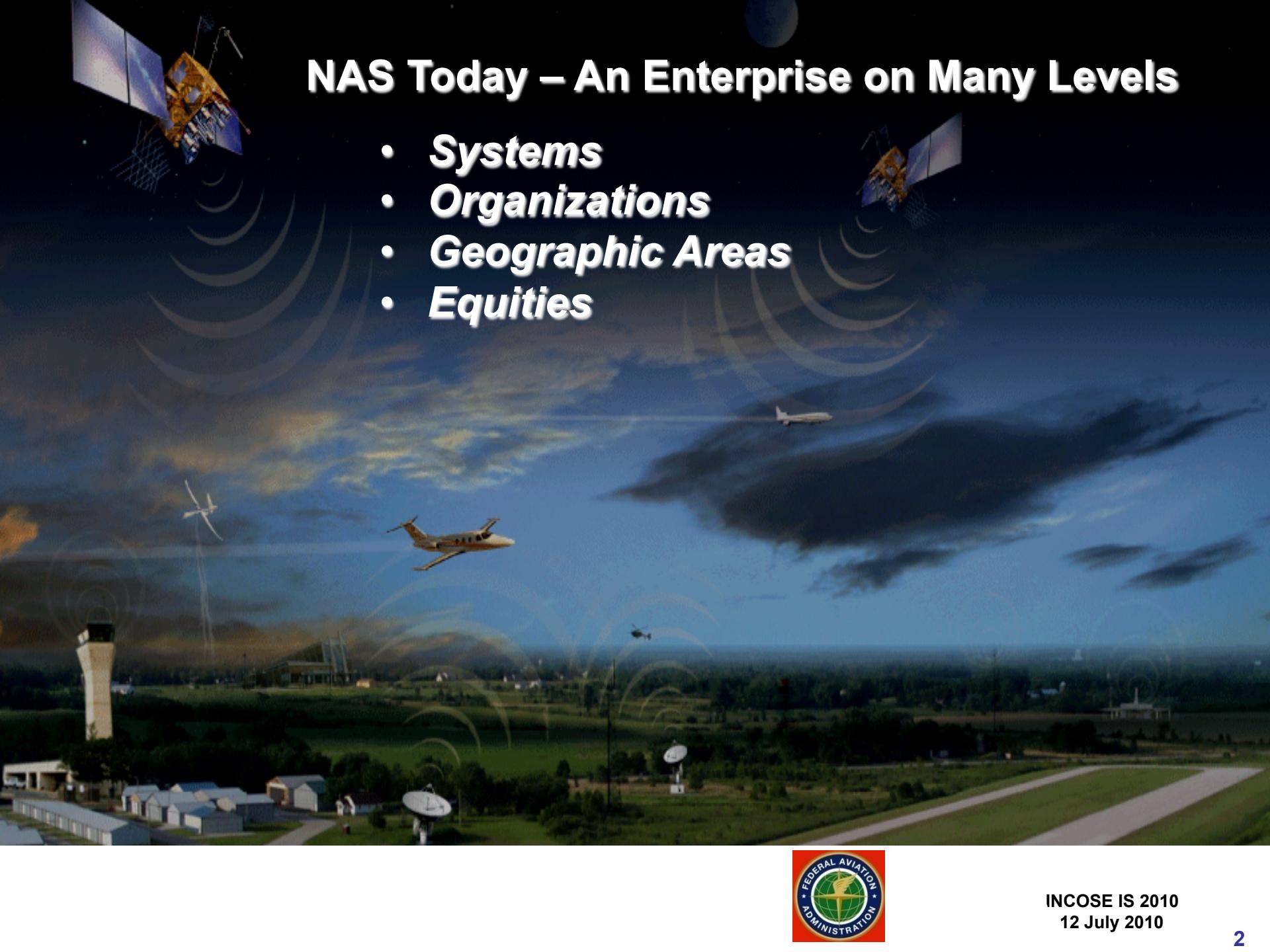
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NAS Today – An Enterprise on Many Levels

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



The Air Traffic Management Trade Space

Enablers

Environmental

Safety

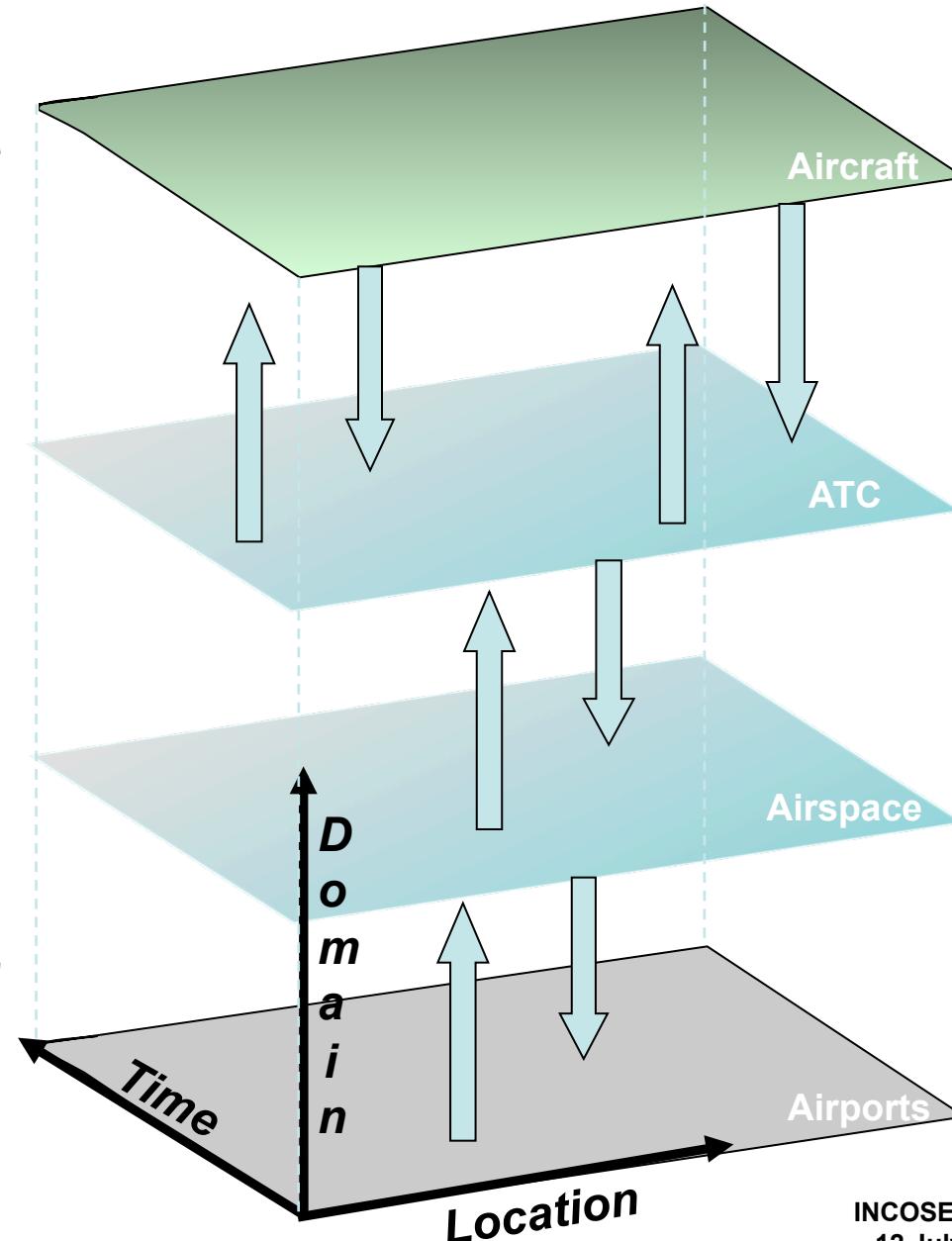
Information Security

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

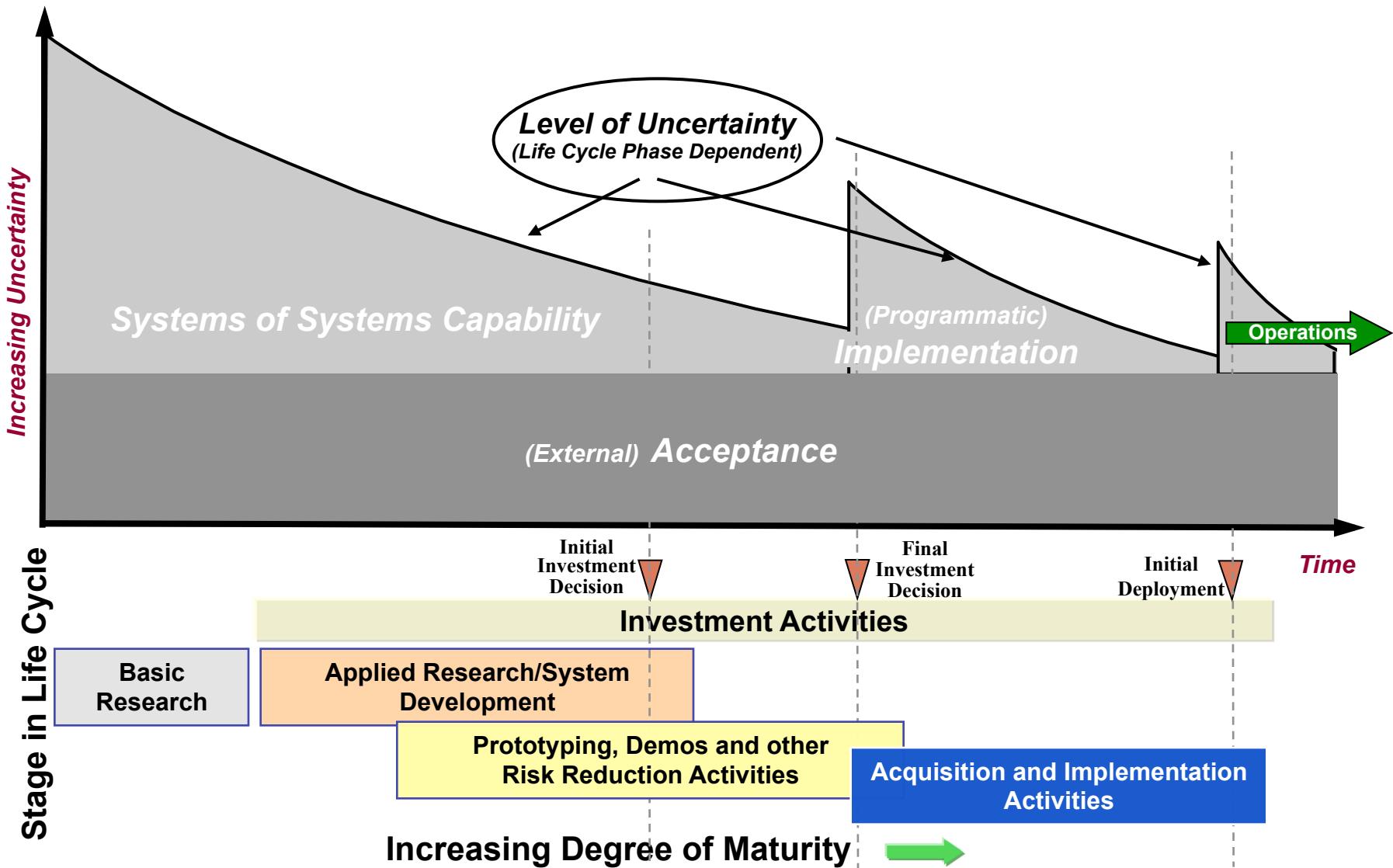
Phased roll out to ensure that the participating organizations & functions achieve an appropriate level of maturity to improve their overall performance.

Enterprise Risk Management Framework Benefits

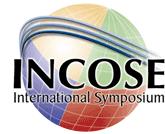


- **Consistency across the SoS community**
- **(Shared) Knowledge database – Single authoritative source**
- **(Shared) Understanding of the problem space and actions being taken**
.....
- **Credibility based on shared objective decision criteria**
- **Efficiency in consolidated risk treatment, documentation,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

Enterprise Risk Management Framework Spans the Full Life Cycle

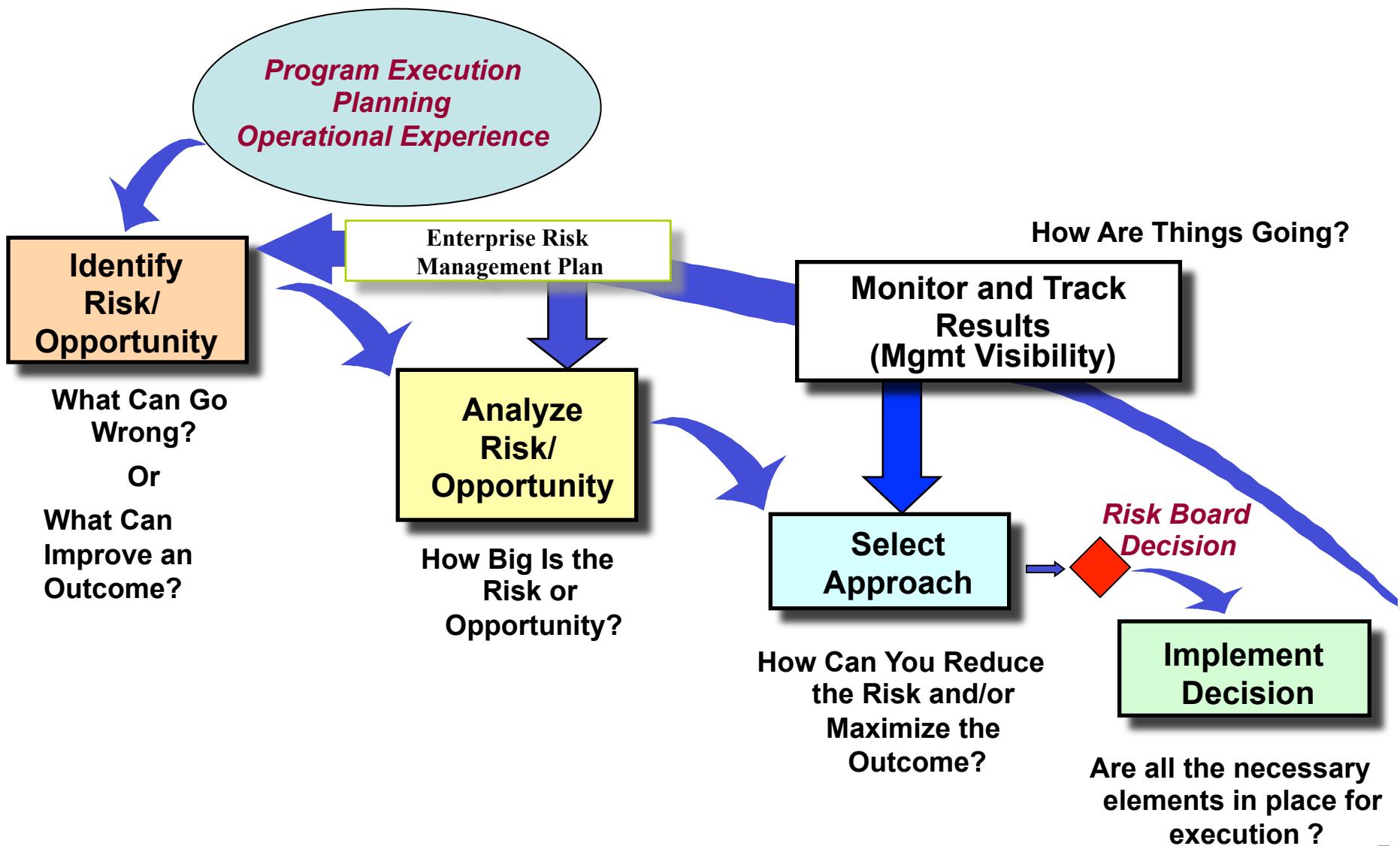


Enterprise Risk Management Framework

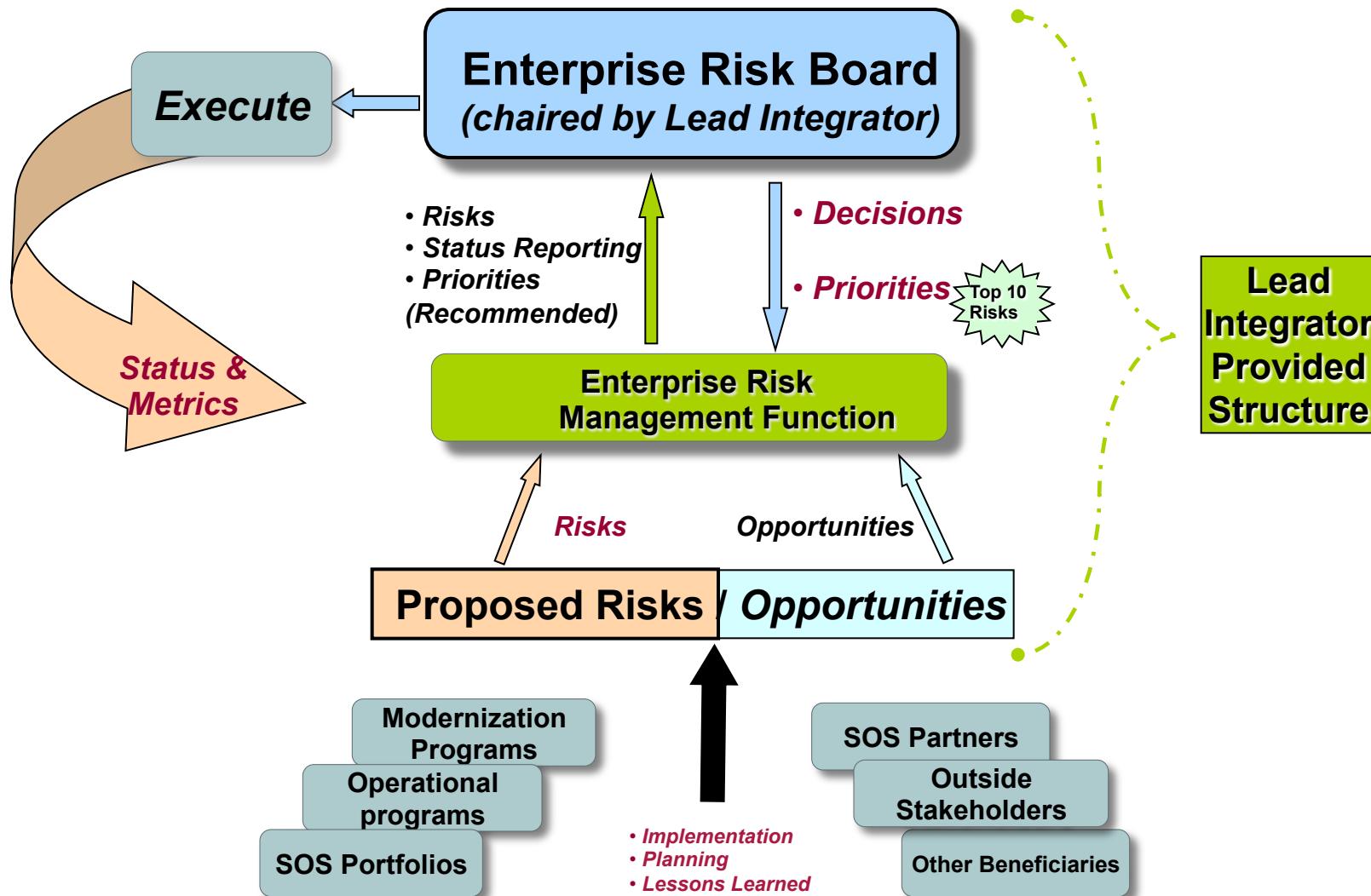


Risk: A future situation or circumstance which creates uncertainties about achieving NextGen objectives.

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

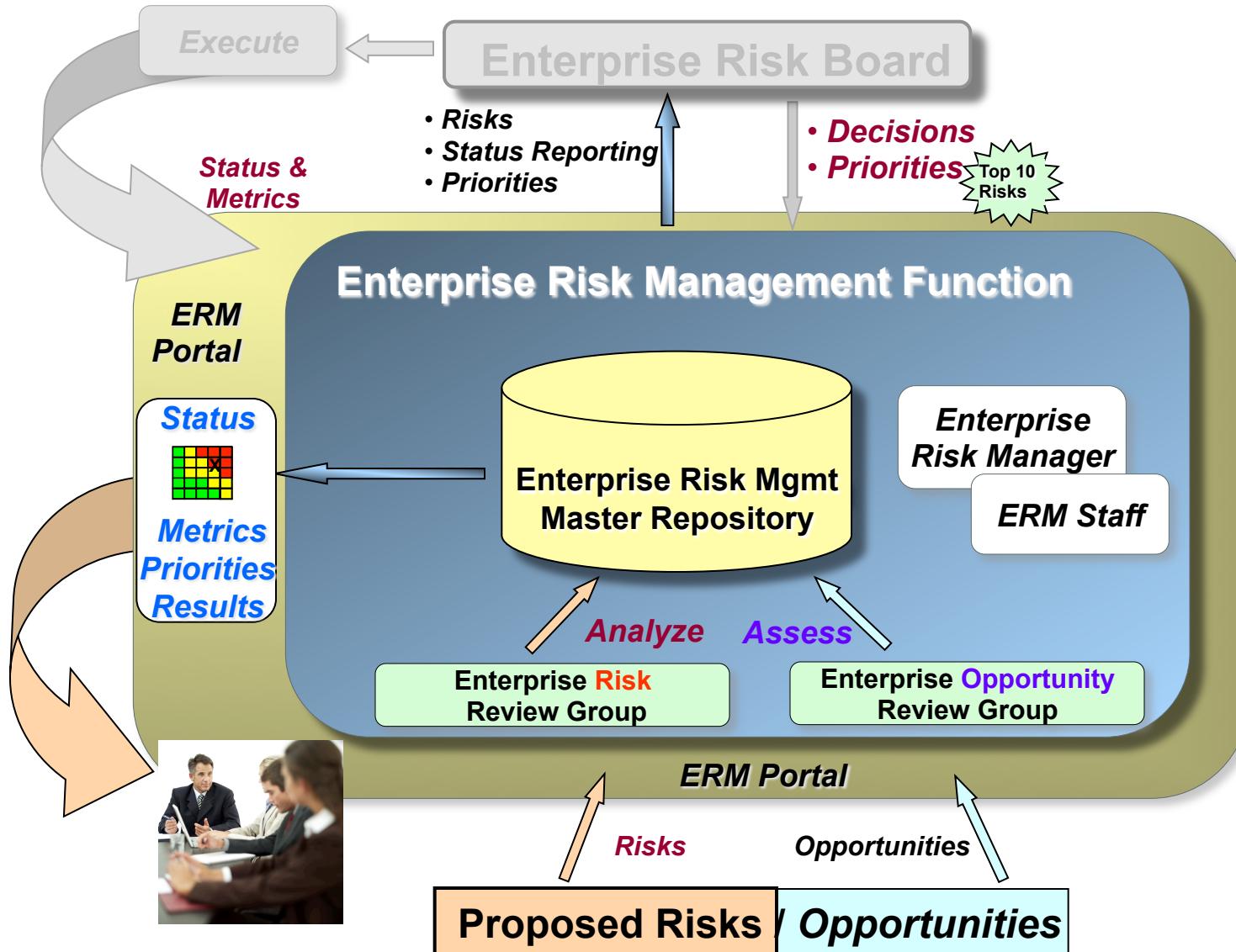
Based on criteria established by Risk Board

- **Status Reporting**

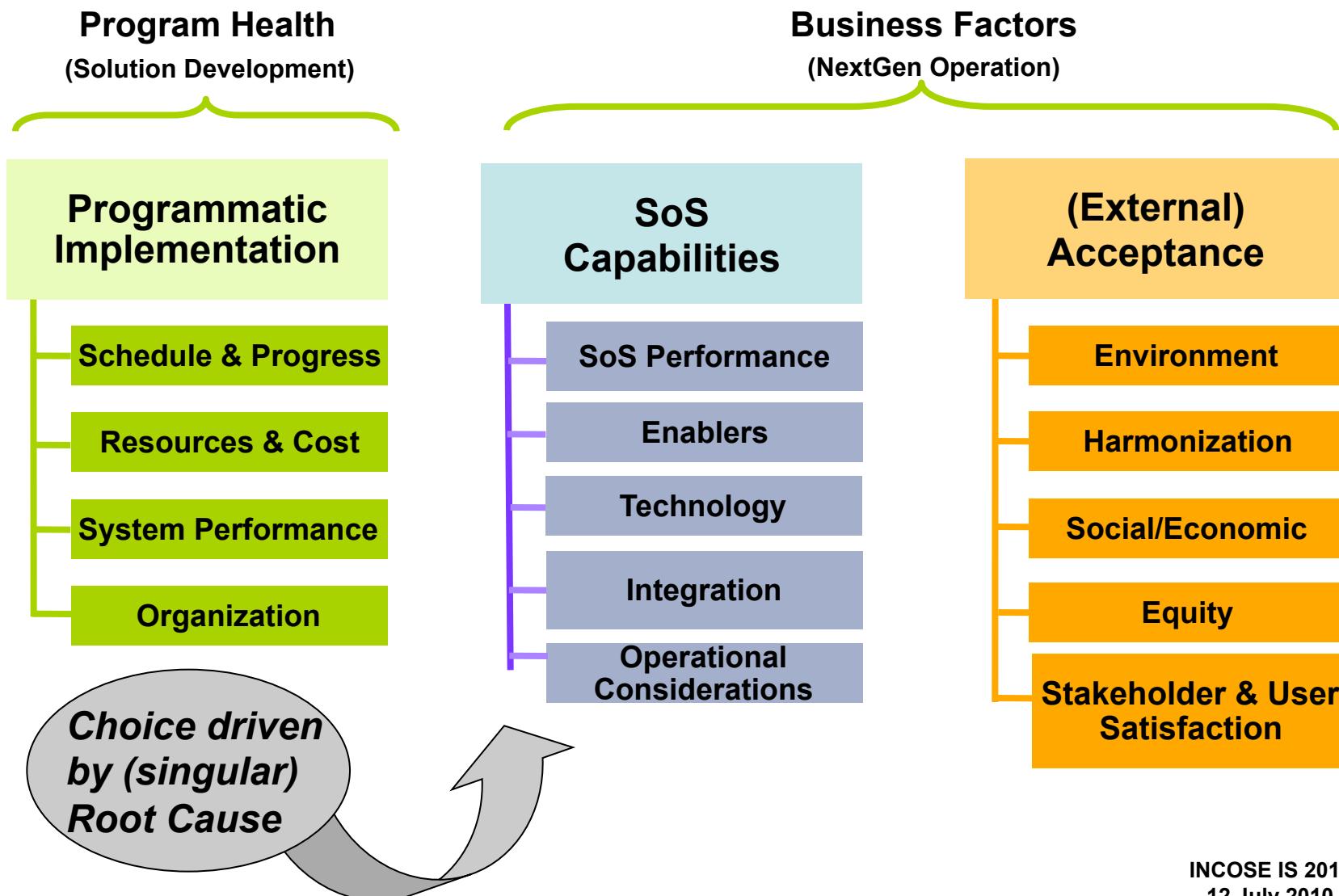
Overall Enterprise Risk Profile

Mitigation execution metrics

Enterprise Risk Management Function



Three Pillars - Tailoring Traditional Risk Categories to the Enterprise

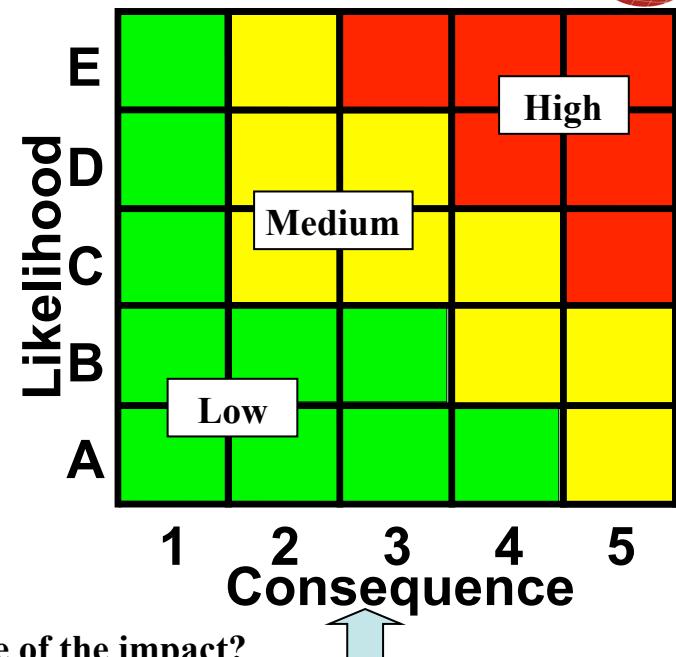


Risk Analysis Criteria and Grid

Likelihood

What is the Likelihood the risk will happen?

Level	Likelihood	Existing Infrastructure, Concepts & Processes
E	Near Certainty	... Cannot achieve Enterprise objectives and/or concepts required. (<i>>90% chance it WILL happen</i>)
D	Highly Likely	...Major changes to Enterprise objectives and/or concepts required. (<i>>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><1/3 chance it WILL happen</i>)
A	Not Likely	...Easily achieve Enterprise objectives and/or concepts. (<i><10% chance it WILL happen</i>)



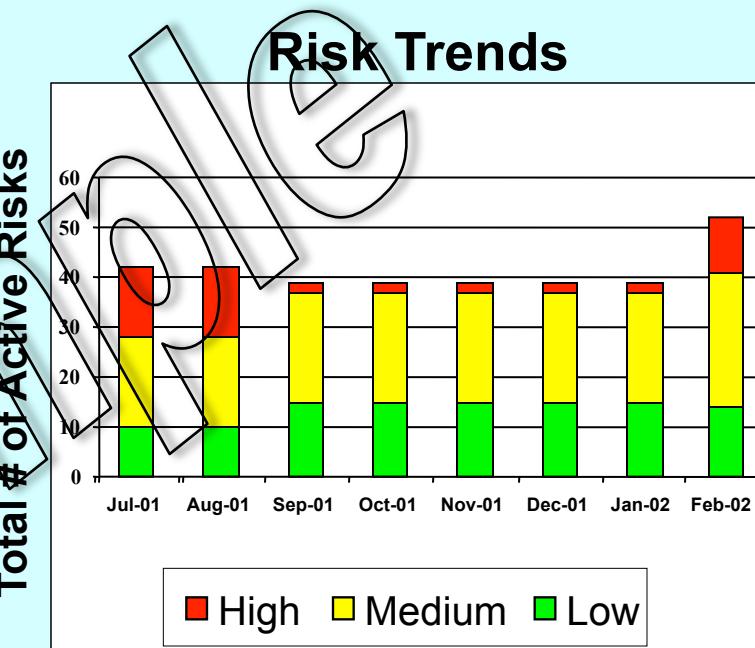
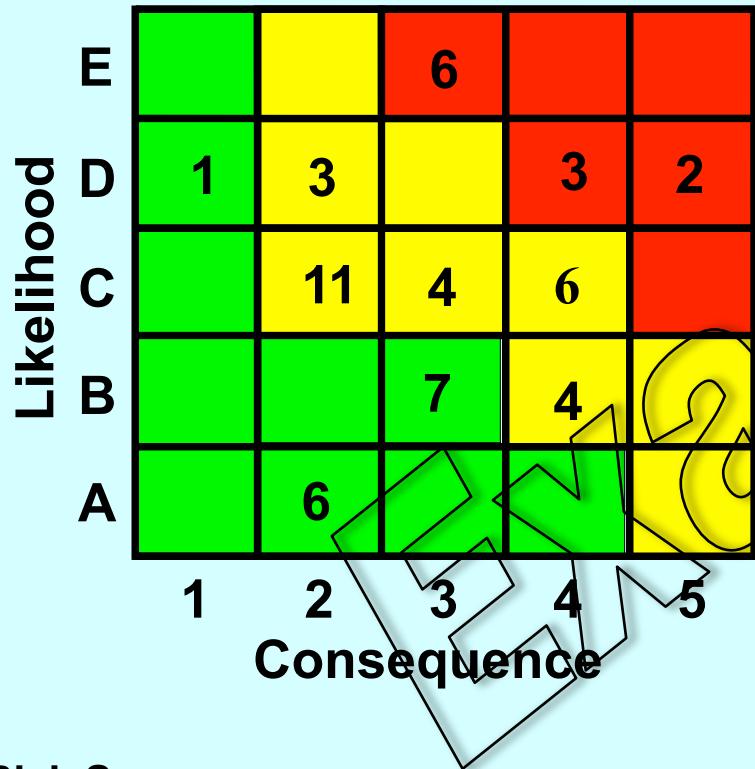
Consequence

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

Level	SoS Capability	Implementation	Acceptance
1 – <i>No impact to Enterprise success</i>	Minimal Impact	Minimal Impact	Minimal Impact
2 – <i>Minor impact to Enterprise success</i>	Minor capability shortfall, same approach retained	Implementation baseline variance $\leq 1\%$	Minor variance from Stakeholder objectives
3 – <i>Limited impact to Enterprise success</i>	Moderate capability shortfall, alternatives available	Implementation baseline variance $> 1\% & \leq 5\%$	Requires modification to support objectives
4 – <i>Enterprise success could be jeopardized</i>	Unacceptable capability but alternatives available	Implementation baseline variance $> 5\% & \leq 10\%$	Requires major changes to support objectives
5 – <i>Enterprise success in doubt</i>	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 be reported on a **MONTHLY** basis with a minimum of 6 months data is required.

Risk Summary

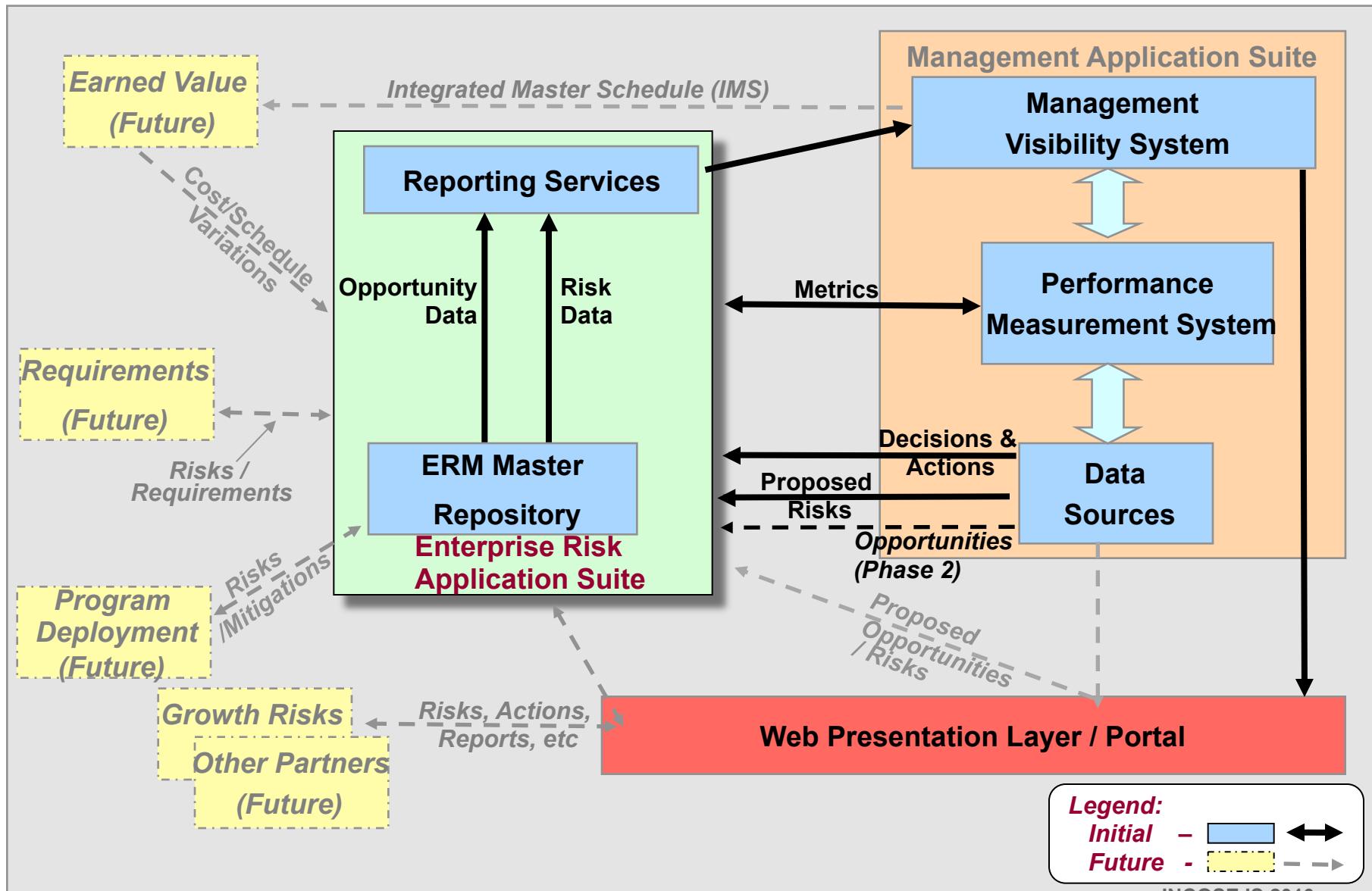
Total Active SoS Risks

Risks with Approved Mitigation Plans

New Risks Pending

	<u>Likelihood</u>	<u>Consequence</u>
53	A = Not likely	1 = Minimal or no impact
25	B = Low likelihood	2 = Minor, able to maintain same approach
14	C = Likely	3 = Moderate shortfalls, workaround exists
	D = Highly likely	4 = Unacceptable, workaround exists
	E = Near certainty	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?