



Moving Beyond Risk Assessment: Measuring the Effectiveness of Risk Mitigation Strategies

University of Massachusetts Systemwide Enterprise Risk Management Program

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Agenda

- University of Massachusetts System Overview
- UMass Systemwide ERM Program Overview
- UMass ERM Risk Assessment Process and Systemwide Risk Registry
- Moving Beyond Risk Assessment
- Demo of MATRX – UMass Mitigation Assessment Tool
- Conclusion and Take-Aways
- Questions

Please note: throughout the presentation, all underlined text indicates there is a link to additional or source information.



Overview of the University of Massachusetts System



University of Massachusetts System Overview

Five undergraduate & graduate campuses

- Medical School
- Law School
- 74,000 students
- 19,000 new graduates annually

- Third-largest research university in Massachusetts (\$813M)
- Fourth-largest research university in New England

- Annual budget of \$3.8B
- Responsible for \$7.5 B in overall economic impact across Massachusetts

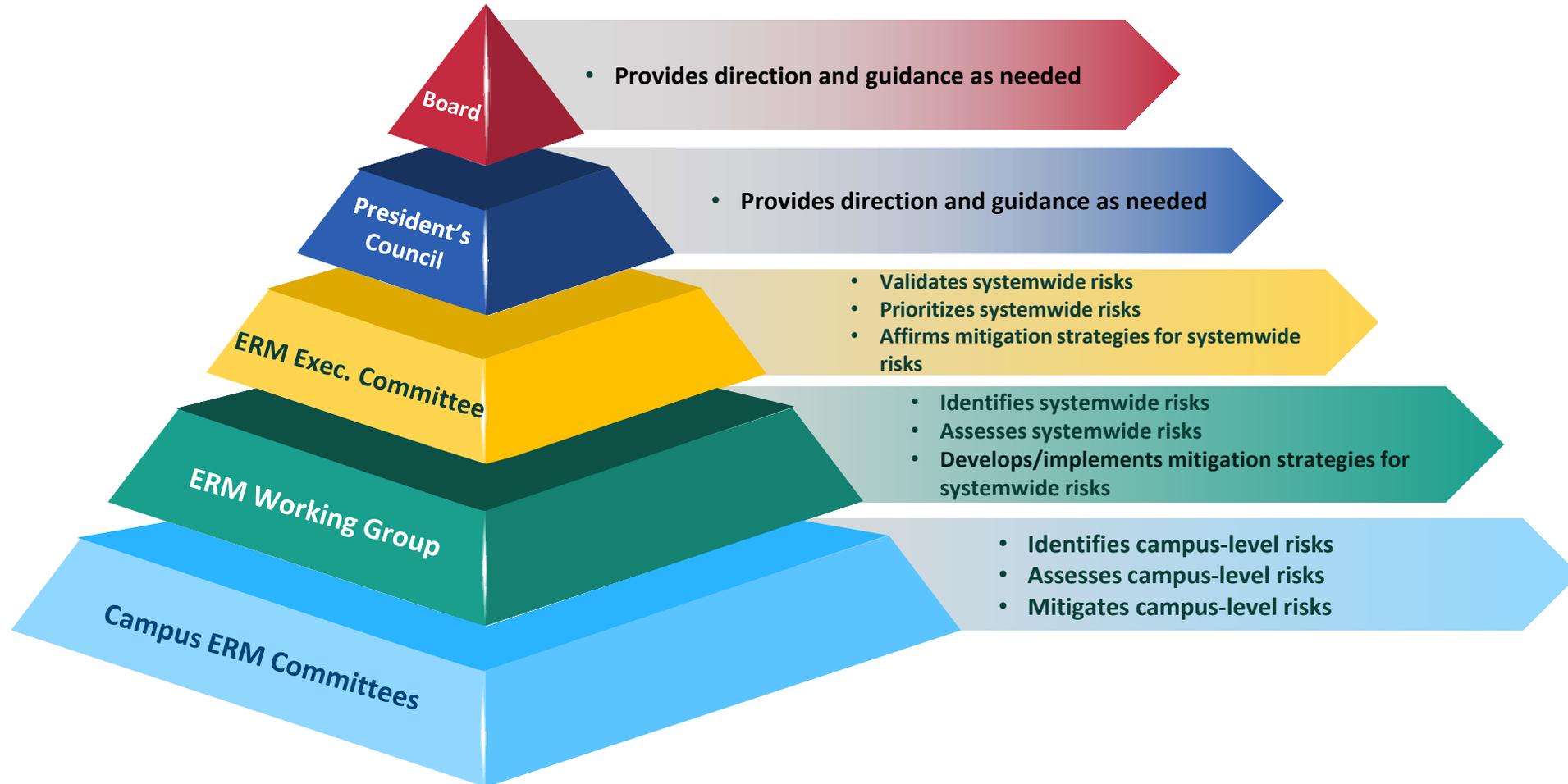
Third largest employer in Massachusetts with more than 24,000 employees



UMass Systemwide Enterprise Risk Management Program



UMass Systemwide ERM Program Governance Structure





UMass Systemwide Enterprise Risk Management Program

Two Year ERM Program Cycle



- Proactively identify risks *across the University system*
- Assess the potential *systemwide* impact of risks
- Prioritize risks across the University
- Document and assess mitigation strategies
- Monitor risks and risk mitigation actions
- Provide regular [reporting](#) on program



How the Systemwide ERM Program Functions at UMass



- Identify and assess risks with systemwide implications
- Support informed decision-making
 - Transparency of information/activity
 - Normalized review/prioritization of risk
- Facilitate systemwide coordination on risk identification and assessment
- Assist in identifying risk owners
- Facilitate coordination of mitigation activities for crisis response
- Facilitate the assessment of effectiveness of mitigation activities on risk



- Own risk
- Own risk mitigation strategies
- Implement risk mitigation strategies
- Own compliance review or monitoring
- Own campus ERM programs or plans



Risk Assessment Process & Systemwide Risk Registry



Risk Assessment Process

- Focuses on systemwide impacts
- Evaluates ***inherent*** exposure of the University to the risk
 - Does ***not*** account for mitigation strategies
 - Generates an Inherent Risk Score for each risk
- Rates risks across three factors
 - Values are assigned to each rating
 - Likelihood: Could the University system experience this risk?
 - Consequence: How much would the University system be impacted by this risk?
 - Service/Operations Disruption
 - Financial
 - Legal/Compliance
 - Workforce
 - Reputation
 - Life Safety
 - Urgency: How soon does the University system need to prioritize this risk?



Assessing Likelihood of Risk

What is the likelihood the University system could experience this risk?

Risk partner chooses from the most pertinent column

Rating	Description	OR	Probability of Occurrence	OR	Rate of Occurrence
4 Certain or Almost Certain	HIGH - Almost certain to occur, expected in most circumstances	OR	>75%	OR	more than 2x per year
3 Likely	MEDIUM HIGH - Likely to occur or will probably occur		50 to 75%		1-2x per year
2 Possible	MEDIUM - Possible, this could occur		25 to 50%		once every 2-5 years
1 Unlikely	LOW - Unlikely, not expected to occur		Up to 25%		more than 5 years



Assessing Consequences of Risk

How much would the University system be impacted by the risk?

Rating	Service Disruption, Process Impact on Operations	Financial Impact	Legal / Compliance	Workforce	Reputation	Life Safety	Rating
4 High	Serious disruption to or failure of service <i>AND/OR</i> Significant impacts to more than two campus	State appropriation reduction of more than 15 percent <i>AND/OR</i> Loss of revenue or increase in expenses of greater than 15 percent or combination of both <i>AND/OR</i> Need to use stabilization fund <i>AND/OR</i> Impacts to all campuses	Increased state or federal regulatory scrutiny for additional campus(es) <i>AND/OR</i> External agency sanctions such as debarment or civil and/or criminal liability <i>AND/OR</i> Litigation exposure with significant financial (\$10M+), reputational or precedent exposure <i>AND/OR</i> Substantial audit findings	Inability to recruit or retain employees with essential knowledge, skills and abilities <i>AND/OR</i> Work culture is defined by excessive internal conflict or widespread negativity <i>AND/OR</i> Inability to collaborate across the system or limited information sharing and cooperation <i>AND/OR</i> Low level of trust among colleagues	Negative national media coverage or negative social media activity ("viral") for multiple days <i>AND/OR</i> Tangible, long-term impacts to enrollment (more than one cycle), philanthropy and public support <i>AND/OR</i> Significant personnel actions <i>AND/OR</i> Widespread internal reaction	Fatality or permanent disability of one or more people	4 High
3 Medium	Moderate disruption to service <i>AND/OR</i> Significant impact to one campus	State appropriation reduction of 10-15 percent <i>AND/OR</i> Loss of revenue or cost increase of 5-10 percent, or combination of both (est. \$175M - \$350M) <i>AND/OR</i> Impacts to BDL or UMA or UMMS	Restrictions or requirements placed on the University's operational activities <i>AND/OR</i> Substantial (\$1M+) regulatory fines and/or response costs <i>AND/OR</i> Moderate audit findings <i>AND/OR</i> Litigation with substantial financial (\$1M - \$10M), reputational or precedent exposure	Difficulty recruiting or retaining employees with essential knowledge, skills and abilities <i>AND/OR</i> Work culture experiences frequent internal conflict or significant <i>AND/OR</i> Significant obstacles to system-wide collaboration <i>AND/OR</i> Decreased information sharing in many circumstances	Negative regional (northeast) media coverage or some negative social media activity <i>AND/OR</i> Tangible, short-term impacts to enrollment (one cycle), philanthropy and public support <i>AND/OR</i> Significant internal reaction	Serious injury of one or more people	3 Medium
2 Low	Minor impact on service <i>AND/OR</i> Some impact to more than one campus	Between \$5M and 1 - 5 percent revenue loss or expense increase or combination of both (est. \$5M to \$175M impact) <i>AND/OR</i> Impacts to up to two campuses	Regulatory fines (less than \$1M) <i>AND/OR</i> Minor audit findings <i>AND/OR</i> Litigation with financial (less than \$1M), reputational or precedent exposure <i>AND/OR</i> Internally-imposed consequences or requirement for formal corrective action	Minor impact to recruitment or retention <i>AND/OR</i> Work culture experiences some internal conflict or negativity <i>AND/OR</i> Challenges with system-wide collaboration <i>AND/OR</i> Decreased information sharing and cooperation in limited circumstances	Negative local media coverage or minimal social media activity <i>AND/OR</i> Moderate on-campus/internal reaction	Minor injury to more than one person	2 Low
1 Negligible	Annoyance	Less than \$5M impact	No to minimal impact	No to minimal impact to recruitment or retention <i>AND/OR</i> No to minimal impact to workplace culture <i>AND/OR</i> No to minimal impact to system-wide collaboration or information sharing	No to minor internal reaction	No impact or minor injury to individual	1 Negligible
Rating	3	3	3	3	3	3	Total Consequence Rating 18



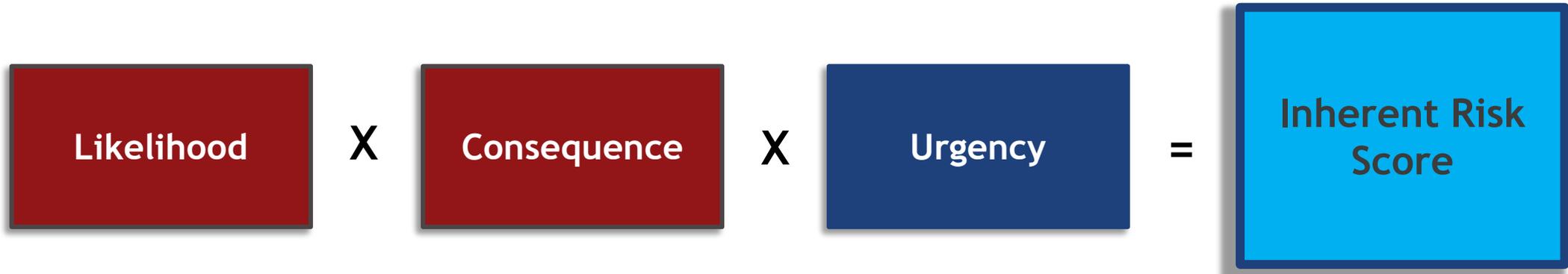
Assessing Urgency of Risk

How soon do we need to prioritize this risk?

Level		Timeframe
3	High	Within the next 12 months
2	Moderate	1-3 years
1	Low	More than 3 years



Calculating Inherent Risk Score



-  Assessed by ERM Working Group
-  Assessed by ERM Executive Committee



UMass FY22 Systemwide Risk Registry

■ Priority Risks

Rank	Risk
1	Enrollment
2	Information Security
3	Financial Sustainability
4	Facilities and Deferred Maintenance
5	Student Health & Mental Health Support
6	Vendor Risk Management
7	Attract, Recruit, Retain Faculty and Staff
8	International Activities
9	Information Privacy
10	Diversity, Equity, Inclusion and Accessibility

Rank	Risk
11	All Hazards Planning & Response Capabilities
12	Multi-State Payroll Tax
13	Labor Relations
14	Data Management
15	Research
16	Multi-State Business Tax
17	Sexual Assault Policies & Response Procedures
18	IT Disaster Recovery
19	Continuity Planning
20	Environmental Health, Public Health, & Safety Regulations

Rank	Risk
21	Alcohol and Substance Abuse
22	Crisis Communications
23	Immigration Rules and Regulations
24	Fraud, Waste, and Abuse
25	Uninsured Loss
26	Employment Laws and Regulations
27	NCAA Regulations
28	Policies and Procedures Regarding Minors on Campus
29	Academic Quality and Standards
30	Oversight of Student Organizations



Reality Sets In...





Moving Beyond Risk Assessment



Goals

- Document risk mitigation strategies to increase transparency and enhance our common operating picture
- Demonstrate progress – or lack of progress - in reducing our risk exposure
- Correlate assessment of risk mitigation strategies to a risk's Inherent Risk Score
- Achieve all of this through a single, user-friendly process and tool



Approach

- Researched publicly available tools
 - Few available
 - Existing tools involved two processes to assess the impact of mitigation on risk
 - Stand alone process to evaluate risk mitigation strategy
 - Separate re-evaluation of risk against the mitigation strategy
- Sought to develop our own methodology and tool
 - Engaged with a consultant to provide guidance
 - Created UMass Mitigation Assessment Tool for Reducing Risk Exposure (MATRX)

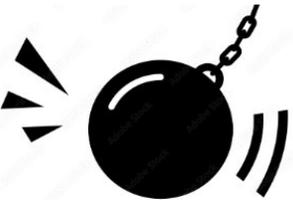




Overview of



Mitigation Assessment Aligns with Risk Assessment

Factor	Risk Assessment Process Evaluates impact of risk on the University	Risk Mitigation Assessment Process Evaluates impact of mitigation on risk exposure
		
Consequence	Assesses impact a risk has on the University system across six risk exposure categories.	Assesses how much the mitigation strategy reduces exposure across six categories of impact.
Likelihood	Assesses the likelihood of the risk impacting the University system.	Assesses whether the mitigation strategy influences the likelihood of the risk impacting the University.
Urgency	Identifies how soon the University needs to prioritize the risk.	



MATRIX Methodology

Individual Effectiveness

Measure the effectiveness of an *individual* mitigation strategy on reducing risk exposure

Individual Effectiveness Score

Comparative Effectiveness

Compare the effectiveness of *multiple* mitigation strategies on reducing risk exposure

Rank and Category Comparison

Aggregate Effectiveness

Measure the *aggregate* effectiveness of all risk mitigation strategies on reducing risk exposure

Residual Risk Score



MATRX follows a three-step process

1

Capture Mitigation Strategy Data

2

Assess Impact of Mitigation Strategy on Risk's Consequence

3

Assess Impact of Mitigation Strategy on Risk's Likelihood



Step 1: Capturing Mitigation Strategy Data

All Data is Provided by Mitigation Partner(s) Conducting the Assessment of the Mitigation Strategy



Data Point		Description
Free-Form Text	Title	<ul style="list-style-type: none"> Title of mitigation strategy being documented & assessed
	Description	<ul style="list-style-type: none"> Brief description of mitigation strategy
Dropdown Menu	Mitigation Type	<ul style="list-style-type: none"> Everyday Operational (regularly occurring) activity Project-based (initiative or time-bound) activity
	Mitigation Status	<ul style="list-style-type: none"> Proposed (not yet approved or funded) Planned (approved and funded, but not yet implemented) Ongoing Complete
	Implementation Level	<ul style="list-style-type: none"> Fully: Mitigation strategy is fully implemented Partially: Mitigation strategy is not yet implemented at full capacity N/A: Not applicable or not yet implemented





Step 1: Capturing Mitigation Strategy Data

Enlarged Screenshot



Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level
1	Strategy 1	Description	Operational	Ongoing	Partially
2	Strategy 2	Description	Project-Based	Planned	N/A
3	Strategy 3	Description	Project-Based	Completed	Fully
4	Strategy 4	Description	Project-Based	Proposed	N/A





Step 2: Assessing Mitigation Strategy's Impact on the Risk's Consequence

Evaluation

Users evaluate the degree of effectiveness the mitigation strategy has on a risk within each risk consequence category:

- Service Disruption, Process Impact on Operations
- Finance
- Legal/Compliance
- Workforce
- Reputation
- Life Safety

These consequence categories align with the consequence categories used in the [risk assessment process](#).

Rating Options

What effect does or would the mitigation strategy have on the risk category?

Rating	Description
Significant Effect	Greatly reduces the University's exposure in this risk category.
Moderate Effect	Somewhat reduces the University's exposure in this risk category.
Little to No Effect	Barely or does not reduce the University's exposure in the risk category.
Adverse Effect	Creates additional/increases exposure in the risk category.



Step 2: Assessing Mitigation Strategy's Impact on the Risk's Consequences

Enlarged Screenshot

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level
1	Strategy 1	Description	Operational	Ongoing	Partially
2	Strategy 2	Description	Project-Based	Planned	N/A
3	Strategy 3	Description	Project-Based	Completed	Fully
4	Strategy 4	Description	Project-Based	Proposed	N/A

Consequence Ratings					
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible
Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)
Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect
Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect
Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect
Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect



Step 3: Assessing Mitigation Strategy's Impact on Risk's Likelihood

Evaluation

Users evaluate whether the likelihood of the risk occurring has been impacted as a result of the risk mitigation strategy.

Rating Options

Does or would this mitigation strategy impact the likelihood of this risk occurring?

Rating	Description
Decreases	Mitigation strategy has decreased the likelihood that the risk will occur (made it better)
Does Not Change	Mitigation strategy has made no impact on the likelihood that the risk will occur (neutral)
Increases	Mitigation strategy has increased the likelihood that the risk will occur (made it worse)



Step 3: Assessing Mitigation Strategy's Impact on the Risk's Likelihood



Enlarged Screenshot.

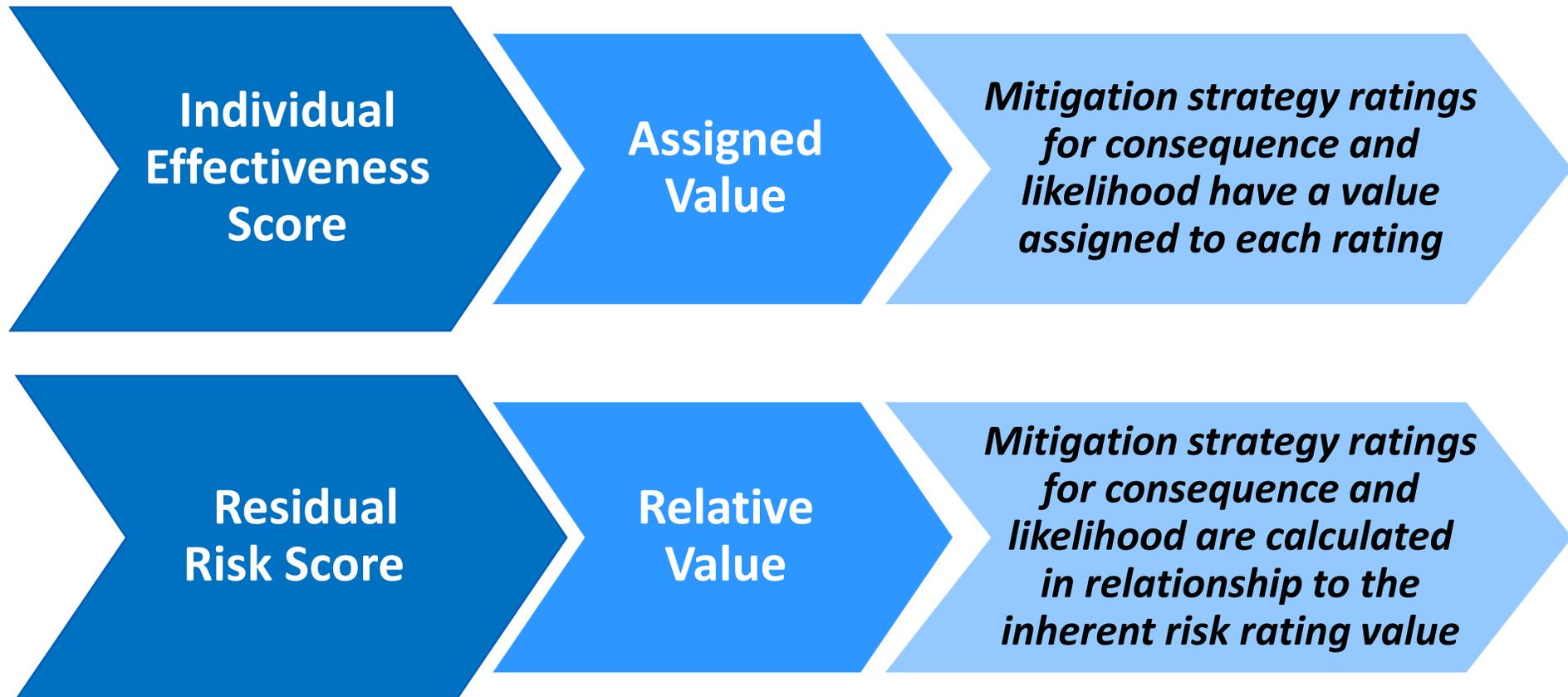
						Consequence Ratings						Likelihood Rating	
						Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety		Inherent Risk Rating: Likely
						Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible		
Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating	
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases	
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases	
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change	
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change	



Mitigation Assessment Values and Calculations

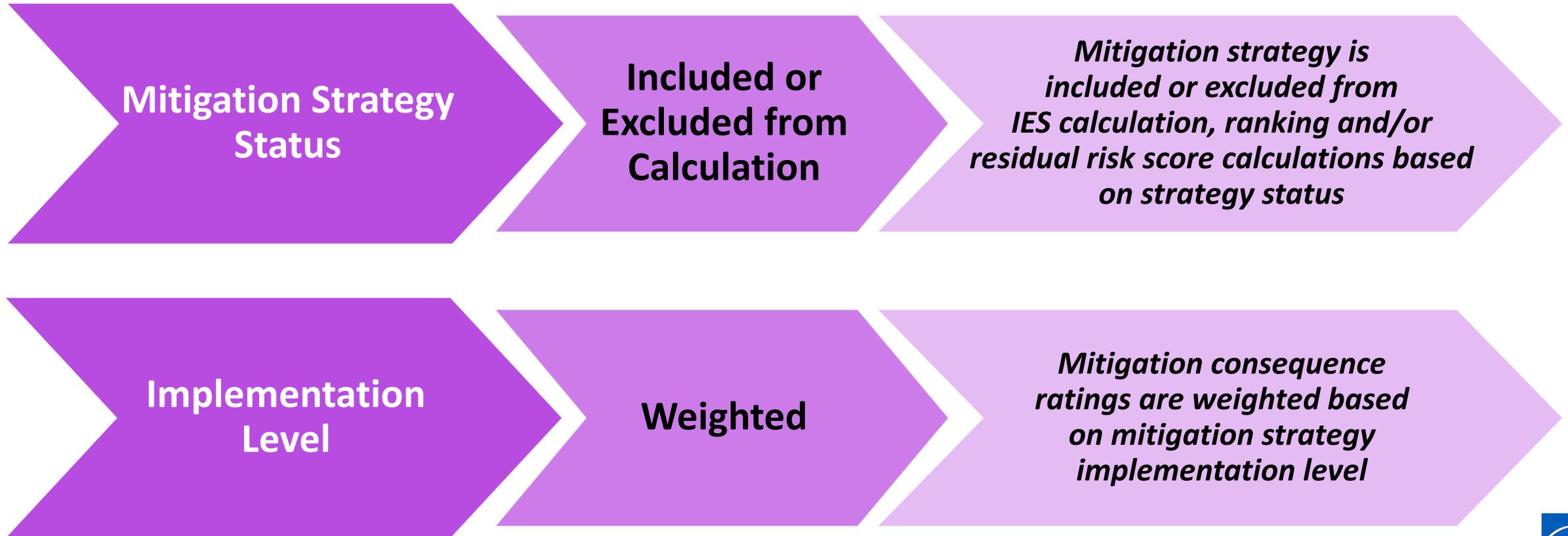


Mitigation Assessment Values Are Based on Rating and Type of Calculation





Mitigation Assessment Scoring is Impacted by Mitigation Strategy Type and Implementation Level





Mitigation Assessment Scoring is Impacted by Mitigation Strategy Type and Implementation Level

Mitigation Strategy Status

Implementation Level

Mitigation Strategy Status	Is the Mitigation Strategy Included in the Calculation?		
	Individual Effectiveness Score (IES)	IES Rank	Residual Risk Score
Ongoing	Included	Included	Included
Completed	Included	Included	Included
Planned	Included	Included	Excluded
Proposed	Excluded	Excluded	Excluded

Mitigation Implementation Level	Are the Mitigation Strategy Ratings Weighted?	
	Individual Effectiveness Score	Residual Risk Score
Fully	No	No
Partially	Yes	Yes
N/A	No	No



Results



Result #1: Individual Effectiveness Score



The higher the score, the more effective the mitigation strategy

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score					
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases	34
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases	14
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change	30
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change	N/A



Result #1: Individual Effectiveness Score Values



Values are assigned based on rating

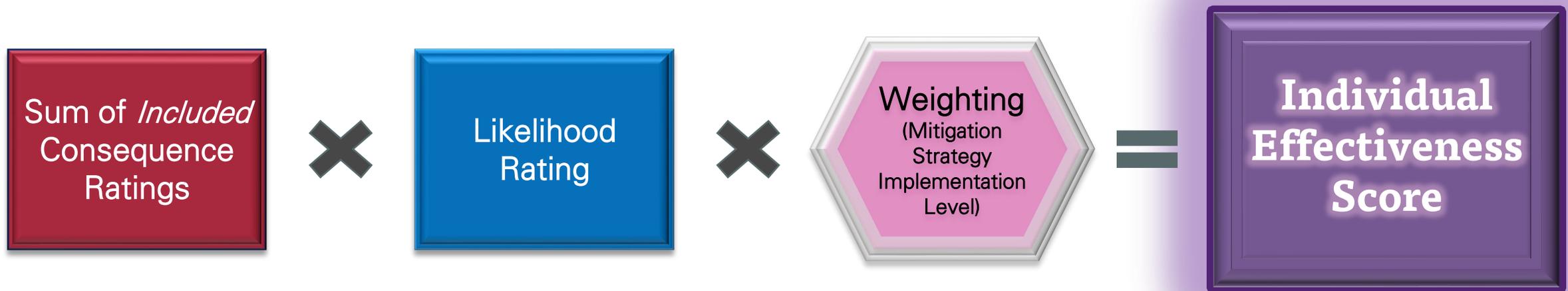
Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score					
1	Strategy 1	Description	Operational	Ongoing	Partially	4	2	3	2	2	2	3	34
2	Strategy 2	Description	Project-Based	Planned	N/A	2	1	4	2	3	2	1	14
3	Strategy 3	Description	Project-Based	Completed	Fully	3	2	2	4	2	2	2	30
4	Strategy 4	Description	Project-Based	Proposed	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Individual Effectiveness Score Calculation

- The Consequence Rating Values for the Individual Effectiveness Score Calculations are a set value that are separate from the ratings from the Inherent Risk Score
- Each of the Consequence and Likelihood Ratings are multiplied by the Implementation Level before being multiplied and rounded to the nearest whole number for the Individual Effectiveness Score





Result #2A: Mitigation Strategy Rank



Mitigation strategies are ranked based on Individual Effectiveness Score

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score	Individual Mitigation Strategy Rank					
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases	34	1
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases	14	3
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change	30	2
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change	N/A	N/A



Result #2B: Consequence Category Comparison



Effectiveness of mitigation strategies can be compared within each consequence category

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Negligible	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level	Mitigation Strategy Rating	Mitigation Strategy Likelihood Rating	Individual Effectiveness Score	Individual Mitigation Strategy Rank					
1	Strategy 1	Description	Operational	Ongoing	Partially	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases	34	1
2	Strategy 2	Description	Project-Based	Planned	N/A	Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases	14	3
3	Strategy 3	Description	Project-Based	Completed	Fully	Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change	30	2
4	Strategy 4	Description	Project-Based	Proposed	N/A	Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change	N/A	N/A

Result #3: Residual Risk Score



The lower the score, the more effective the mitigation strategies are collectively

Risk Score Data	
Inherent Risk Score	Residual Risk Score
90	75

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level
1	Strategy 1	Description	Operational	Ongoing	Partially
2	Strategy 2	Description	Project-Based	Planned	N/A
3	Strategy 3	Description	Project-Based	Completed	Fully
4	Strategy 4	Description	Project-Based	Proposed	N/A

Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating					
Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Little to No Effect	Little to No Effect	Decreases
Little to No Effect	Adverse Effect	Significant Effect	Little to No Effect	Moderate Effect	Little to No Effect	Increases
Moderate Effect	Little to No Effect	Little to No Effect	Significant Effect	Little to No Effect	Little to No Effect	Does Not Change
Significant Effect	Little to No Effect	Little to No Effect	Little to No Effect	Moderate Effect	Little to No Effect	Does Not Change
Average						

Result #3: Residual Risk Score Values

Risk Score Data	
<u>Inherent</u> Risk Score	<u>Residual</u> Risk Score
90	75



Values are relative to the inherent risk ratings

Consequence Ratings						Likelihood Rating
Service Disruption, Process Impact on Operations	Financial	Legal/ Compliance	Workforce	Reputation	Life Safety	
Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Low	Inherent Risk Rating: Low	Inherent Risk Rating: Medium	Inherent Risk Rating: Likely

Mitigation Strategy Number	Mitigation Strategy Title	Mitigation Strategy Description	Mitigation Strategy Type	Mitigation Strategy Status	Implementation Level
1	Strategy 1	Description	Operational	Ongoing	Partially
2	Strategy 2	Description	Project-Based	Planned	N/A
3	Strategy 3	Description	Project-Based	Completed	Fully
4	Strategy 4	Description	Project-Based	Proposed	N/A

Mitigation Strategy Rating (Select)	Mitigation Strategy Likelihood Rating					
1	2	1	4	3	1	2
N/A						
2	2	2	2	3	1	3
N/A						
Average						



Residual Risk Score Calculation

- The Mitigation values for each consequence rating are relative to the inherent consequence risk rating
- The inherent Urgency Value is used for the calculation
- Each of the Consequence and Likelihood Ratings are multiplied by the Implementation Level





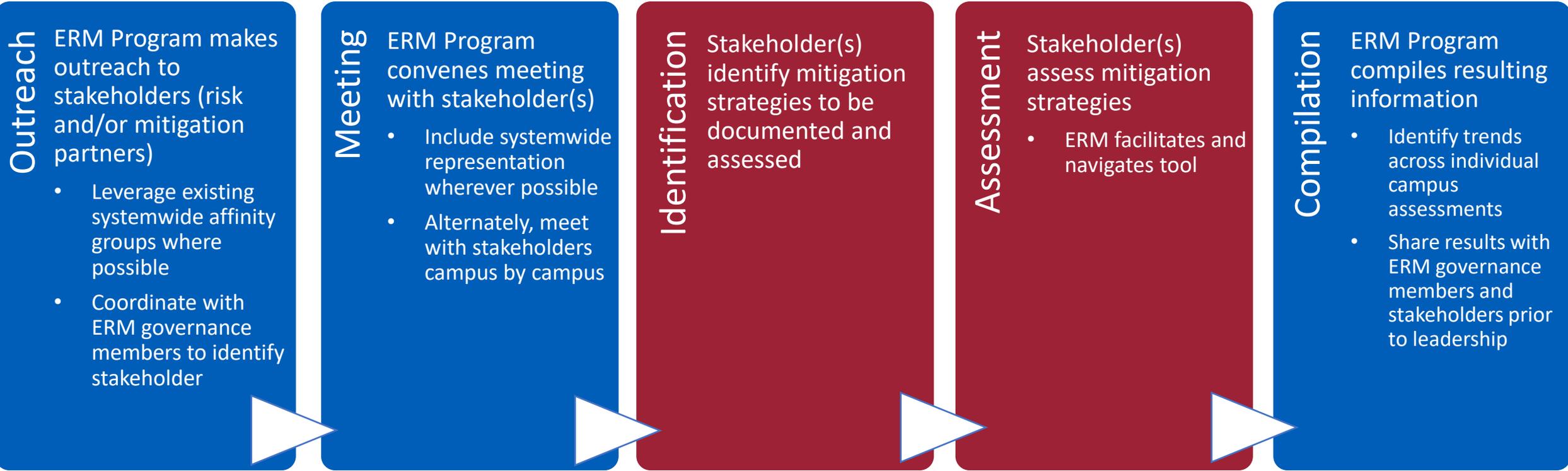
Demo



Stakeholder Engagement



Mitigation Assessment - Stakeholder Engagement Process



ERM

Stakeholders



Mitigation Assessment Program Data

Preliminary Individual and Comparative Mitigation Strategy Assessment

Information Security

# Strategies	17
Risk Mitigation Partners	<ul style="list-style-type: none"> • Campus Chief Information Security Officers • UITS

Individual Mitigation Effectiveness Scale



Rank	Mitigation Title	Implementation Status
1	Incident Detection and Response	Fully
2	Attack Resistance	Fully
3	Communications Protection	Fully
	Identity and Access Management	Fully
	Vulnerability Management	Fully
4	Business Continuity/Disaster Recovery	Fully
	Data Management	Fully
	Data Theft Resistance	Fully
5	Data Loss Prevention	Fully
	Network Protection	Fully
	Third-Party Assessment	Fully
6	Administrative System Access	Fully
	Managed Cloud Environments (IaaS)	Fully
	Third Party Penetration Testing	Fully
	Training/Awareness	Fully
7	Cyber Security Insurance	Fully
	Optimization	Fully

Preliminary Individual and Comparative Mitigation Strategy Assessment

Financial Sustainability

# Strategies	20
Risk Mitigation Partners	<ul style="list-style-type: none"> • UMPO A&F Team • Campus Budget Directors • Campus Controllers

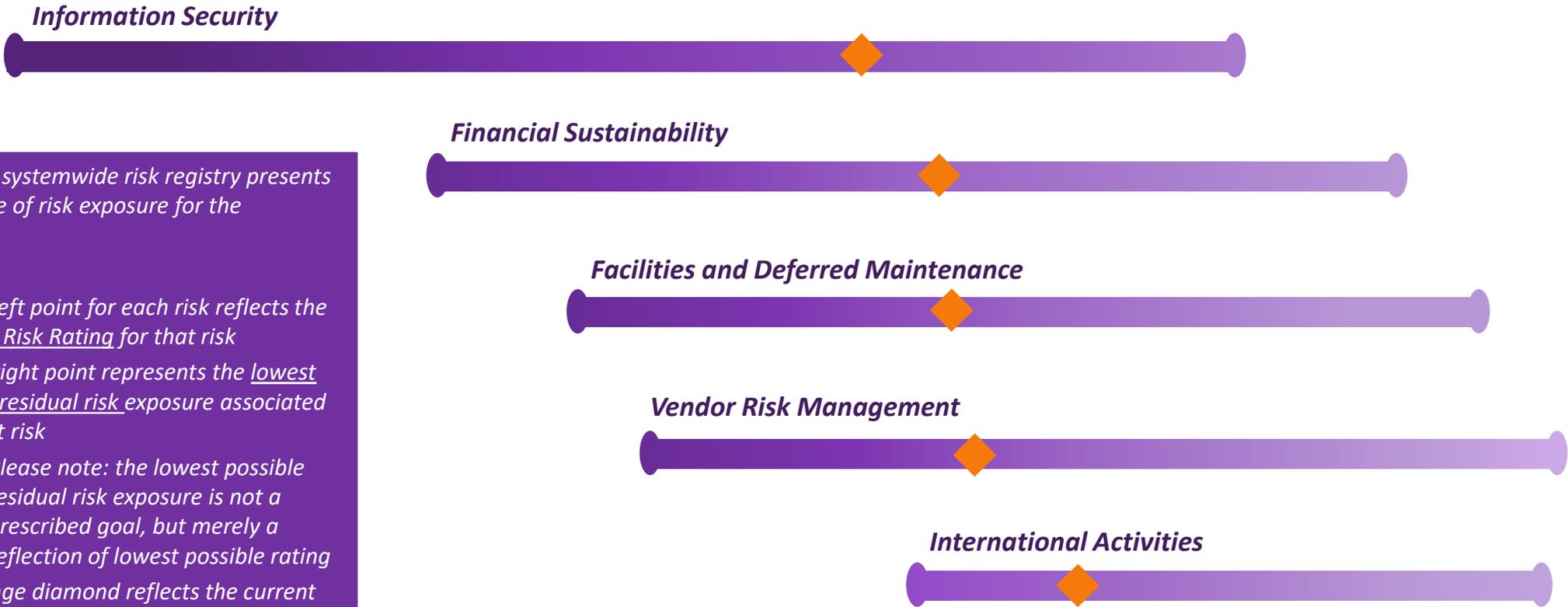
Individual Mitigation Effectiveness Scale



Rank	Mitigation Title	Implementation Status
1	State Financial Support	Fully
	State Funding of CBA Increases	Planned
2	Reporting: Q'ly Budget Projections & Annual Budget Reporting	Fully
	Reporting: Q'ly Capital Reporting & Biennial Capital Plan	Fully
3	Reaching/Maintaining 2% Operating Margin	Fully
	Cash Flow Modeling and Projections	Fully
	Reporting - Annual Five-Year Forecast Refresh	Fully
	Reserve Policy	Fully
	SPARC Dashboard	Fully
	UMass Global Financial Reporting	Fully
4	Maintaining Availability of Line of Credit	Fully
	Operating Cash Invested with Foundation	Fully
	Implementation of UMPlan for Annual Budgeting	Fully
	UMPlan - Financial Forecast Module	Fully
5	UMPlan - Tuition Planning Module	Fully
	Chart of Accounts Update	Partially
6	Compliance with Federal Grants	Fully
7	Monitoring Standard Metrics	Fully
	Adoption and Forecasting of Changes in GASB	Fully
	Appropriate Account Treatment for P3s	Fully



Movement in Reducing Risk Exposure



- Each risk on the systemwide risk registry presents a different range of risk exposure for the University.
- In this diagram:
 - The far-left point for each risk reflects the Inherent Risk Rating for that risk
 - The far-right point represents the lowest possible residual risk exposure associated with that risk
 - Please note: the lowest possible residual risk exposure is not a prescribed goal, but merely a reflection of lowest possible rating
 - The orange diamond reflects the current residual risk having accounted for existing mitigation strategies.

◆ Residual Risk



Conclusion and Take-Aways



Mitigation Assessment – What It Does and Does Not Tell Us

Mitigation Assessment provides leadership with information to inform discussion about whether to accept the residual risk or take additional actions to avoid, transfer or further reduce risk

Does

- Provides transparency on risk mitigation strategies
- Demonstrates progress on mitigating risk or depicts areas that may require additional attention
- Enables more robust discussions on risk and risk mitigation
- Demonstrates movement in addressing risk

Does Not

- Does not track key performance indicators
- Does not define risk tolerance
- Does not define specific follow-on actions needed
- Does not conclude satisfaction or dissatisfaction with status of addressing risk



Impacts to Enterprise Risk Management



Operationalization of Enterprise Risk Management

- Developing a risk informed culture
- ERM as a resource for the University



Higher Program visibility to and buy-in from stakeholders

- Internal and External Stakeholders
- A resource for other ERM Programs to take lessons from
- A resource for internal stakeholders to



Comprehending the value of ERM

A more in-depth view on not only the risks, but what is being done about them, and how effective the mitigation strategies are



Let's Review

- Aligning assessment of risk mitigation strategies to your risk assessment methodology allows for:
 - Streamlined assessment process
 - Clear visibility on progress in relationship to risk exposure
 - Transparency of risk mitigation strategies and their impact on risk exposure