

4-6 October, Nationals Park, Washington DC



## Owning Uncertainty – Embracing Risk and Change in Projects

 **Project Controls**  
**EXPO**  
Washington, DC - USA

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2022

# Cost and Schedule Overrun Stats



40% of projects fail to hit budget and schedule targets

– PMI.org

Organizations have reported that at least 40% of their projects were impacted significantly by the COVID-19 pandemic and that 20% of those projects will not deliver business outcomes as expected due to delays & cost overruns.

– PMI.org



60% of projects are delayed or canceled because of delays.

– The Associated General Contractors (AGC) of America



In a 3-year study, only 31% of projects came within 10% of budget

– Propeller Aero

# Change Management & Risk Impact

Risks & Changes are inevitable, so they must be accounted for in project cost & scheduling.

According to The Associated General Contractors of America



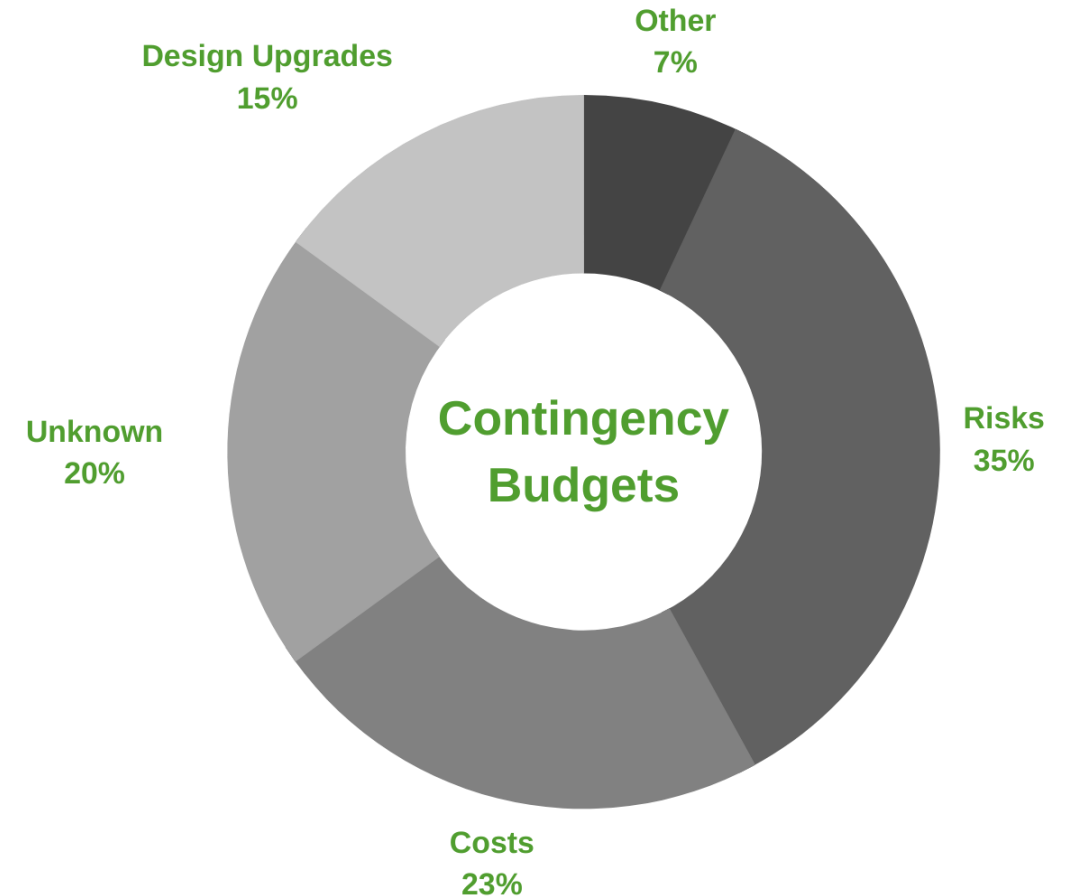
**60% of construction projects delayed or cancelled due to labor shortages**



**19.32% of those projects were more expensive**

**Impact on Project Costs: 5%-10% of total project budget determines contingency.**

According to Compton Construction



# Cost and Schedule Overrun: Warning Signs = Risk

## The Denver VA Hospital

The Goal: To provide a state-of-the-art facility where over 400,000 veterans and their families would receive medical care



**\$1 Billion  
Over Budget**



**20 Years to  
Complete**



# Cost and Schedule Overrun: Warning Signs = Risk

## Denver International Airport Baggage System

The Goal: the airport would house a fully-automated luggage system that would manage baggage travel and transfers



**\$560 Million  
Over Budget**



**16 Month  
Schedule Overrun**



# Cost and Schedule Overrun: Warning Signs = Risks

## The English Channel Tunnel



**\$2.6 Billion  
Over Budget**



**6 Years to  
Complete**



# Cost and Schedule Overrun:

## Control the Risks and Manage the Change

Each Project Suffered **Due to a Lack of:**



**Confidence in Project Professionals**



**Stakeholder Inclusion**



**Underestimating The Scope**



**The Problem - Disjointed Systems and Project Teams**

# Neglected Data at Our Fingertips

	Efficiency	Productivity	Cost Controls	Benefits	Predictability
Business	<ul style="list-style-type: none"> <li> Workflow response times</li> <li> # of Projects a PM can Manage</li> <li> Report Generation Time</li> <li> Standardized processes</li> </ul>	<ul style="list-style-type: none"> <li> Improved SPI &amp; CPI</li> <li> Earned Schedule</li> </ul>	<ul style="list-style-type: none"> <li> Reduced variation between planned and actual values</li> <li> Contingency Usage Reduction</li> </ul>	<ul style="list-style-type: none"> <li> Less cancelled projects</li> <li> More projects completing on time</li> </ul>	<ul style="list-style-type: none"> <li> Budget/Actuals Variation</li> <li> Reduction in late forecast changes</li> </ul>
Business Operations	<ul style="list-style-type: none"> <li> Average Project Team Member FTE</li> <li> Executive FTEs</li> </ul>	<ul style="list-style-type: none"> <li> Decrease time to value</li> <li> Workforce optimization</li> </ul>	<ul style="list-style-type: none"> <li> Improved alignment with strategic priorities</li> <li> Reduce contractor costs</li> </ul>	<ul style="list-style-type: none"> <li> Claims reductions</li> <li> Customer satisfaction</li> </ul>	<ul style="list-style-type: none"> <li> Portfolio performance</li> </ul>



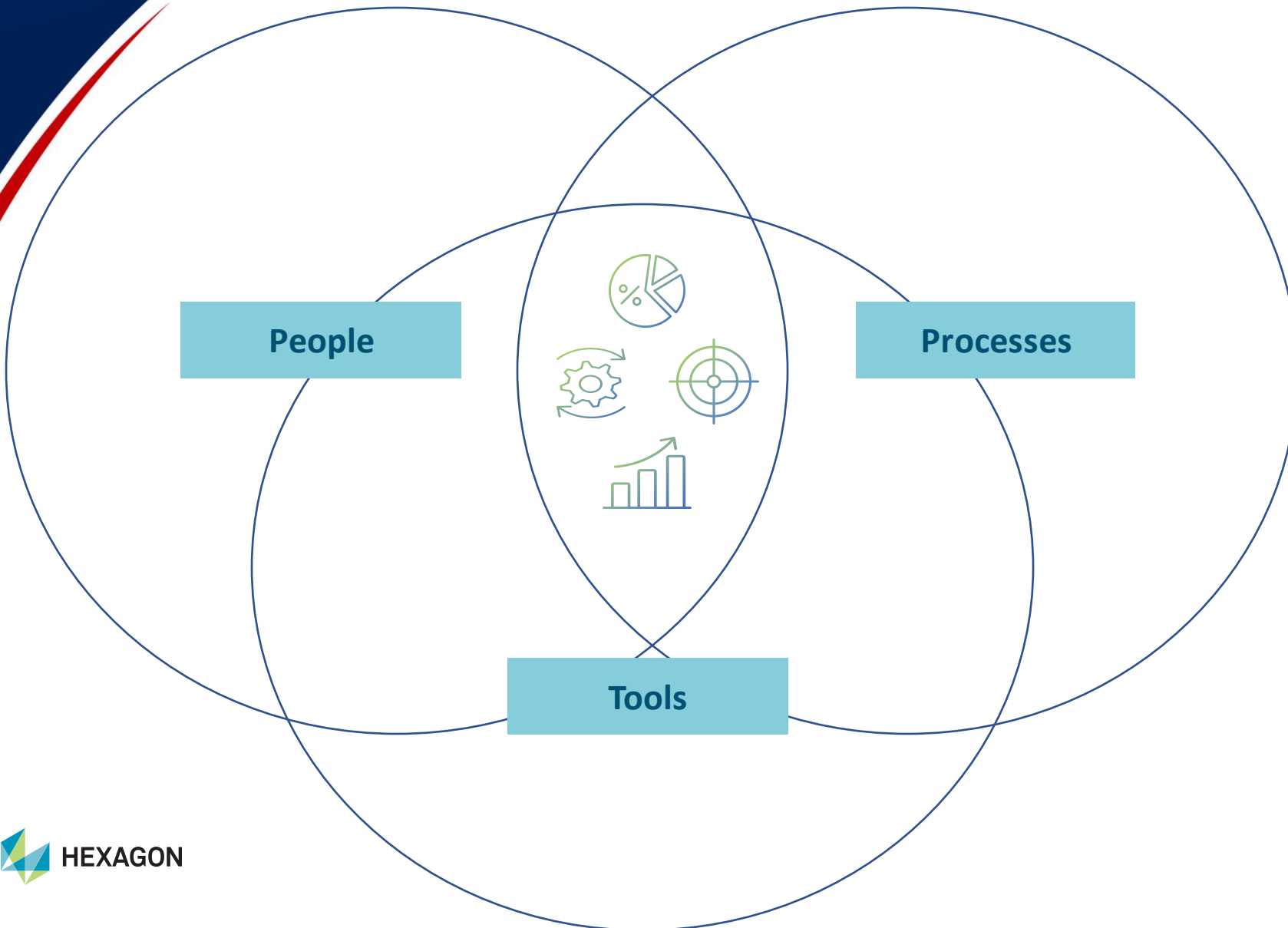
# The Need for an EPP Approach

Prior to turning toward an Enterprise Project Performance (EPP) mindset, the composite organization struggled with:



combats the negative effects of disjointed systems by consolidating the entire project portfolio ecosystem into one location/software.

# Using Data to Influence Project Management Behavior



- Non-repeatable Processes
- Minimal Analysis Time
- Lack of foresight



# Using Data to Influence Project Management Behavior



- More Time Allocated to Data Analysis
- Visibility into Risks and Issues
- Able to quickly pivot resources



# Risk and Change Management Starts Early:

## Key Success Factors of Risk-Management



Recognize  
Value of Risk  
Management

Stakeholders  
Accept  
Responsibilities

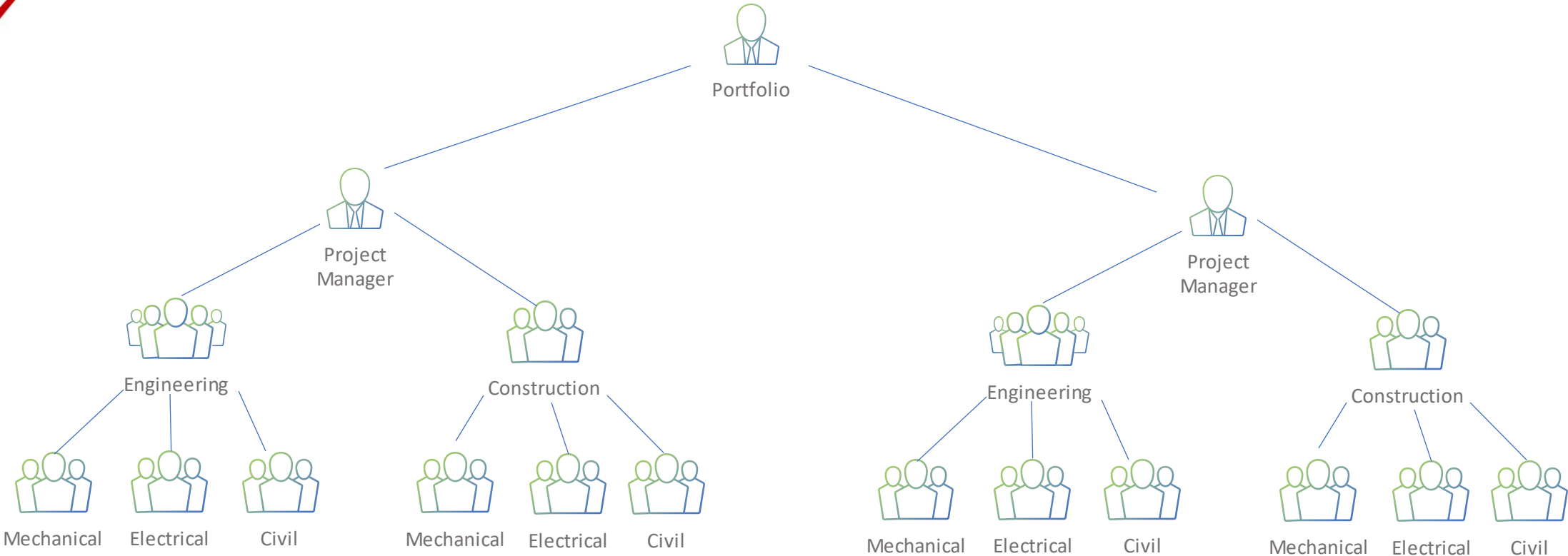
Promote open  
& honest  
communication

Quickly  
Respond to  
Risks

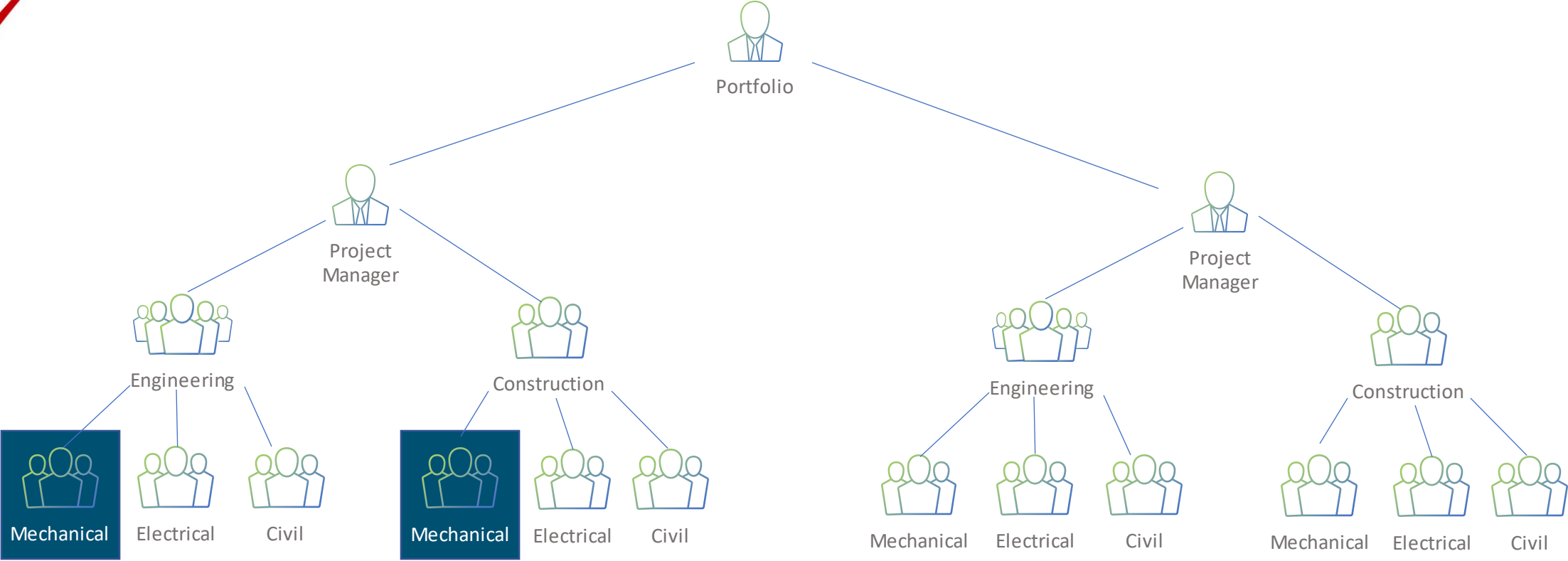
Tailor Risk  
Effort to Each  
Project

Integrate  
Management  
Processes

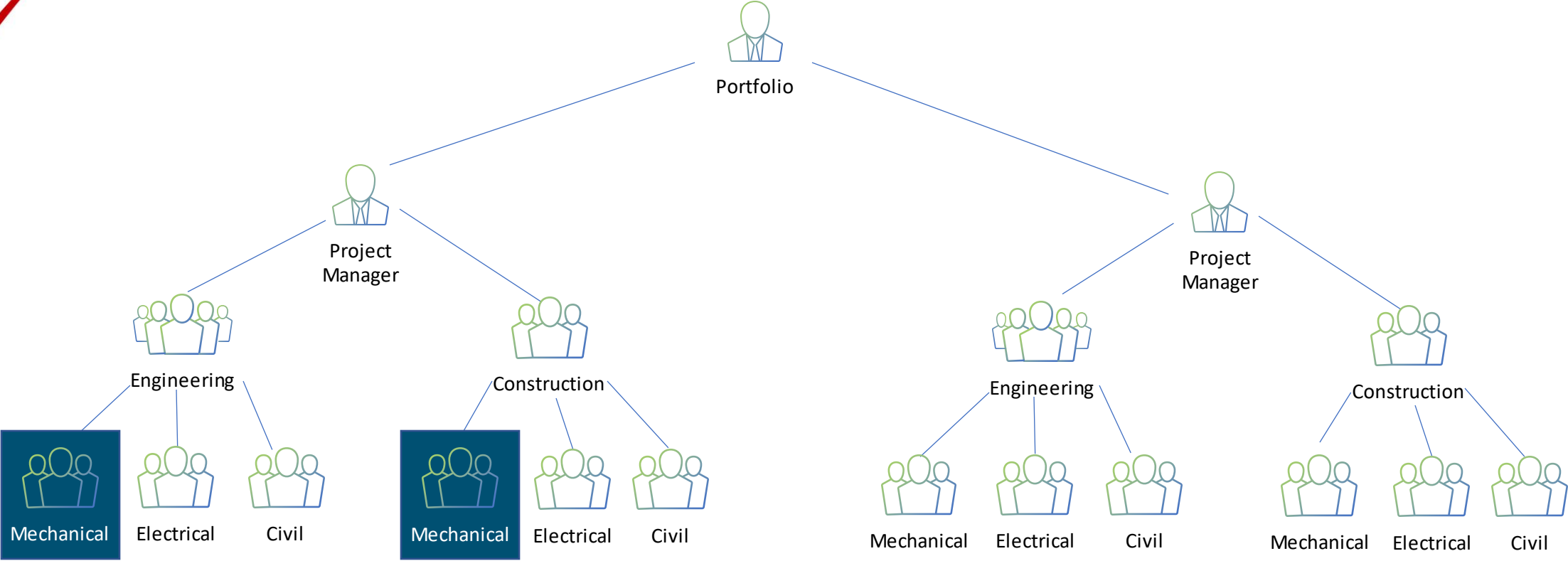
# Horizontal & Vertical



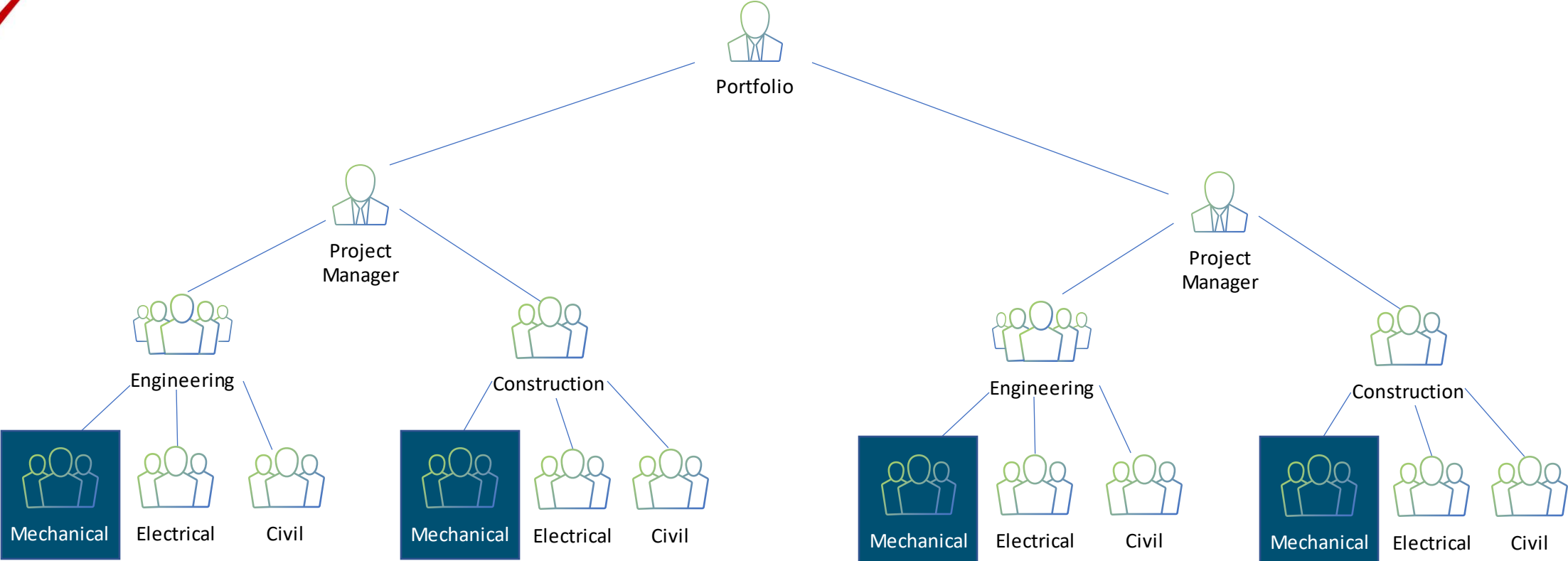
# Horizontal Risk & Change Management



# Horizontal Risk & Change Management

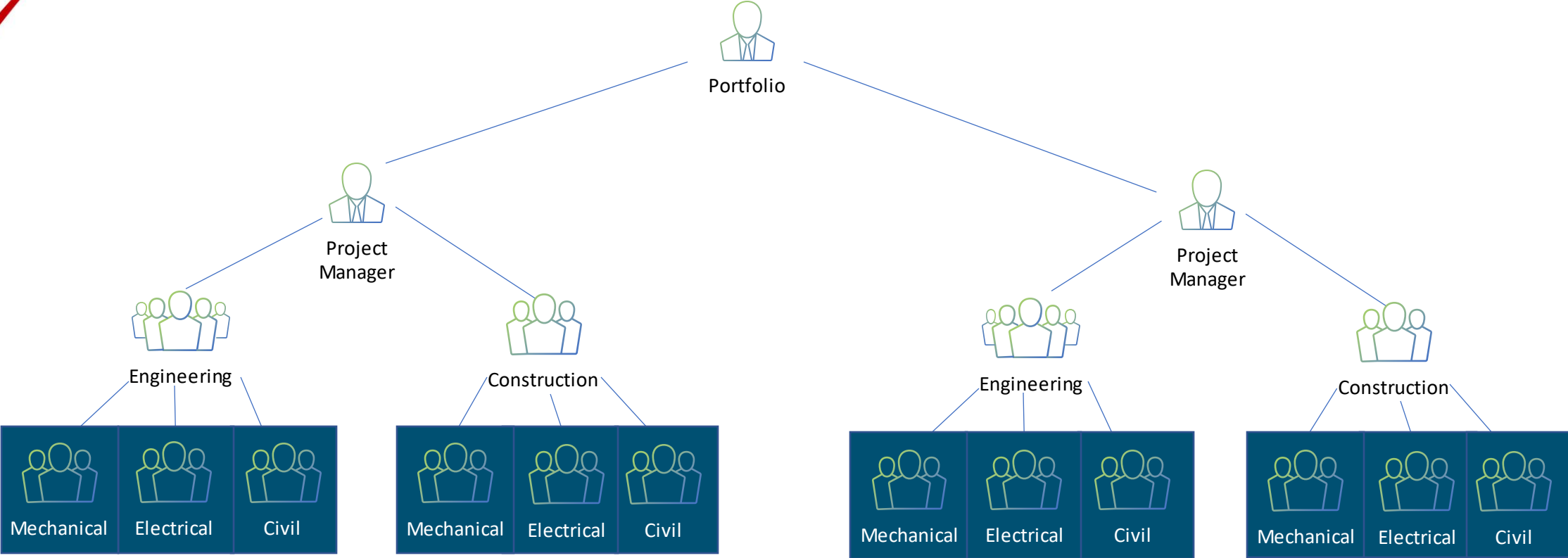


# Horizontal Communication

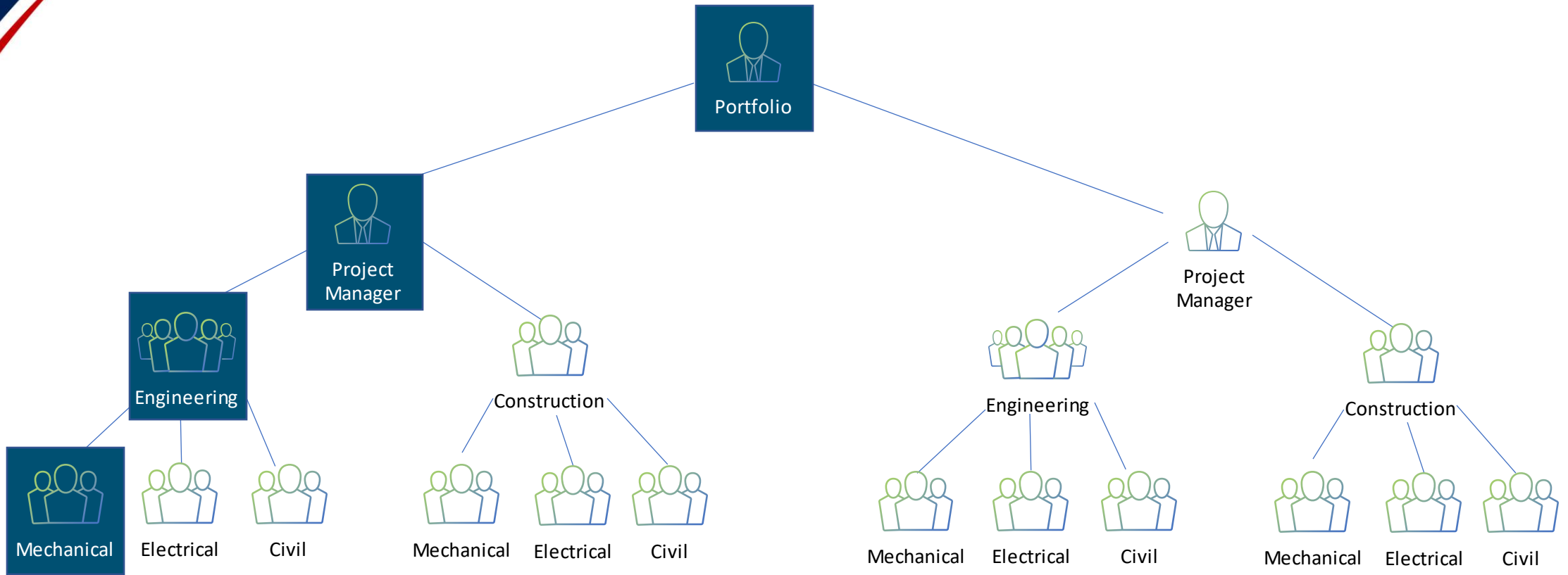




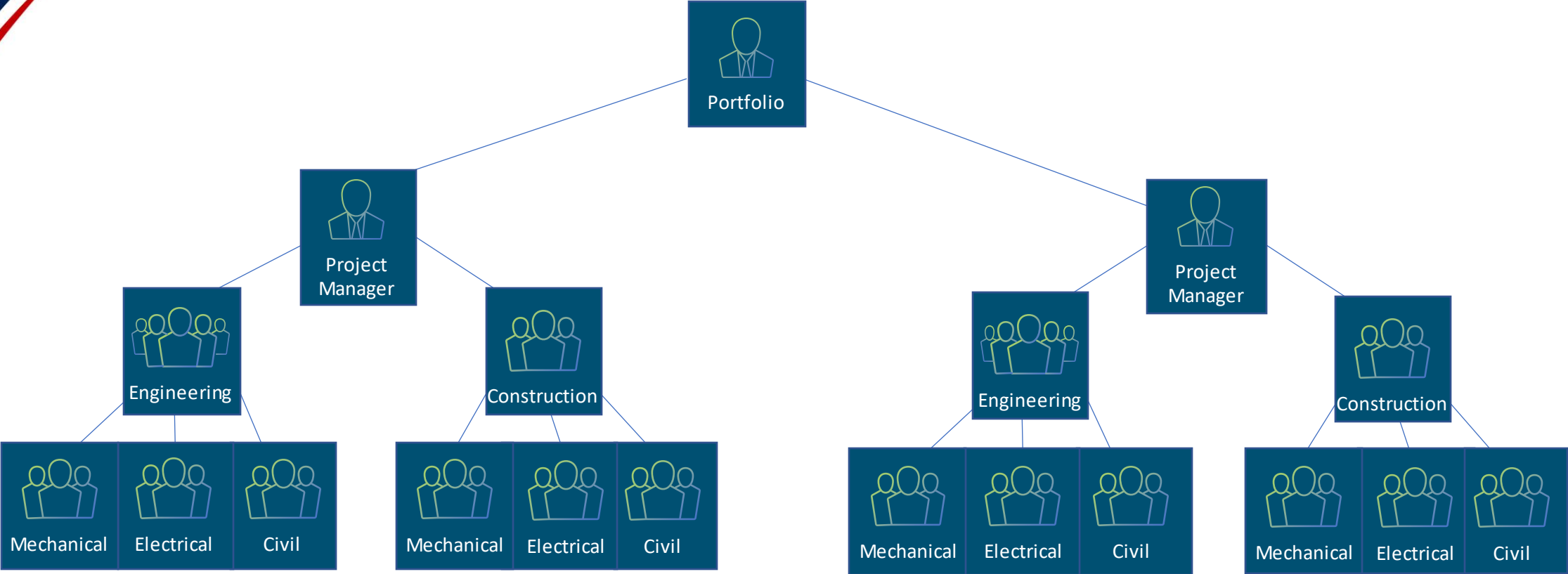
# Horizontal Communication



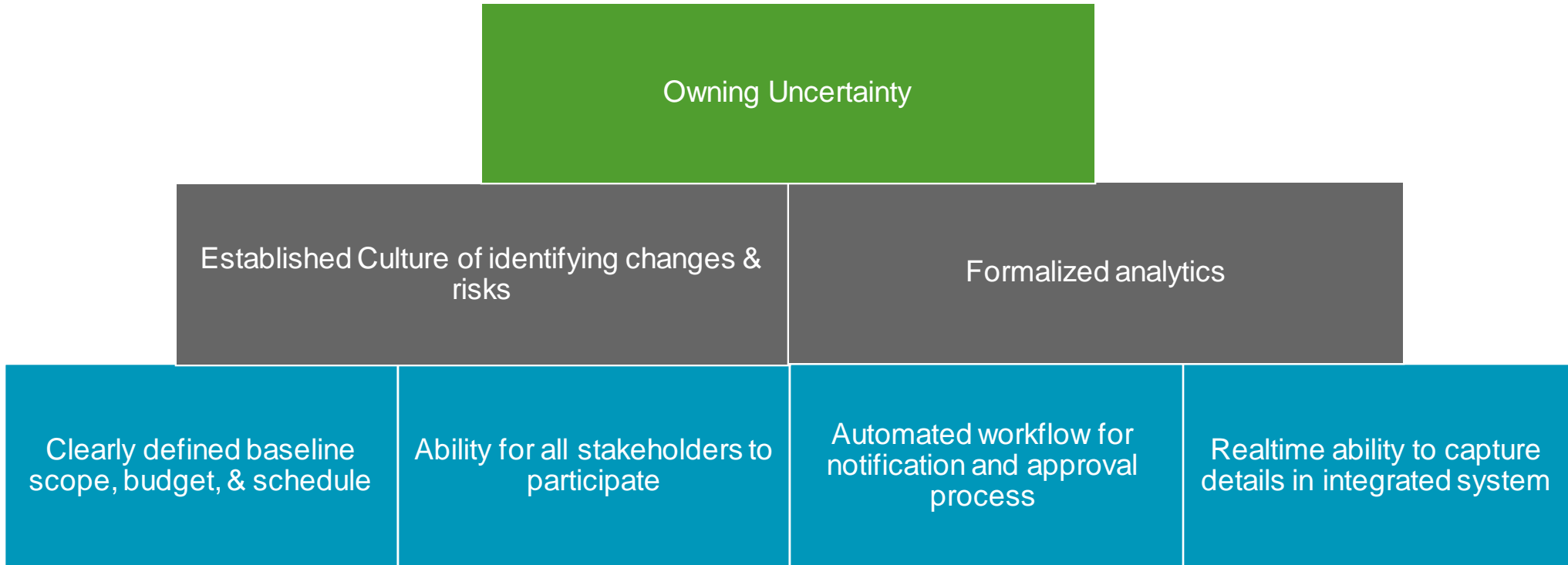
# Vertical Communication



# Full Horizontal and Vertical Risk & Change Management



# The Building Blocks to "Owning Uncertainty"





# Risk, Issue and Change Management

Minimize Impacts. Stay In Control.

## Questions

What are the risks to project success?

What is the potential risk impact and how am I minimizing it?

Do I need to review and approve any changes?

How many open items do I have?

What types of issues are being identified?

## Insights

## Outcomes



Efficiency



Productivity



Safety



Quality

## Audience



C-Suite



Portfolio Managers



Project Controls



Project Managers



Construction Managers



Field Construction



Sub Contractors



Engineering



Resource Managers



Finance



Procurement



HSE



# Risk, Issue and Change Management

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## Insights

Risk ID	Risk Description	Impact Summary	Owner	Type	Category	Status	Impact	Probability	Risk Score	Rate
100.0001	Wrong work issued by third party on the previous schedule	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Cost	Identified	Critical	Medium	18	3
100.0002	Planning issued by third party	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Schedule	Controlled	High	Medium	18	3
100.0003	Planning issued by third party	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Request	Controlled	High	Medium	18	3
100.0004	Extended and another wrong construction	Construction programme delay	Risk Owner	Threat	Schedule	Approved	High	Medium	18	3
100.0005	Dependence on other quality test results	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Request	Approved	High	Medium	18	3
100.0006	High or death. Distribution change to buildings and infrastructure	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Request	Approved	High	Medium	18	3
100.0007	Traffic recovery and working road lanes	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Request	Approved	High	Medium	18	3
100.0008	Working road infrastructure under to provide sufficient security	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Request	Approved	High	Medium	18	3
100.0009	Review of that associated under the construction activities	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Request	Approved	High	Medium	18	3
100.0010	Review of that associated under the construction activities	High or death. Distribution change to buildings and infrastructure	Risk Owner	Threat	Request	Approved	High	Medium	18	3

- Identify, analyze , prioritize and manage risks
- Assess risk probability and impacts
- Review risk mitigation plans
- Communicate risks to all stakeholders

## Outcomes



## Audience



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# Risk, Issue and Change Management

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## Insights

Risk ID	Risk Description	Impact Summary	Owner	Type	Category	Status	Impact	Probability	Risk Score	Risk
001001	Design changes to bridge girders will increase construction cost	Cost increase	John Doe	Task	Schedule	Open	High	Medium	15	15
001002	Planning issues by heavy rainfall	Delays to construction	John Doe	Task	Regulatory	Open	Medium	High	10	10
001003	Essential material supply constraints	Construction program delay	John Doe	Task	Schedule	Open	High	Medium	12	12
001004	Regulation of water quality (drinking water)	Regulation of water quality	John Doe	Task	Regulatory	Open	High	Medium	10	10
001005	Unstable slopes and structures due to soil instability	Soil instability	John Doe	Task	Schedule	Open	High	Medium	12	12
001006	Earth movement and settlement issues	Earth movement and settlement	John Doe	Task	Regulatory	Open	High	Medium	10	10
001007	Existing and proposed water resources (drinking water)	Water resources	John Doe	Task	Regulatory	Open	High	Medium	10	10
001008	Existing and proposed water resources (drinking water)	Water resources	John Doe	Task	Regulatory	Open	High	Medium	10	10
001009	Extension of road and parking areas for construction activities	Extension of road and parking areas	John Doe	Task	Regulatory	Open	High	Medium	10	10
001010	Extension of road and parking areas for construction activities	Extension of road and parking areas	John Doe	Task	Regulatory	Open	High	Medium	10	10

- Perform Risk Assessment
- Review Risk Mitigation Plans and Actions
- Calculate and Assess Mitigation Cost

## Outcomes



Efficiency



Productivity



Safety



Quality



# Risk, Issue and Change Management

Minimize Impacts. Stay In Control.

## Questions

What are the risks to project success?

What is the potential risk impact and how am I minimizing it?

Do I need to review and approve any changes?

How many open items do I have?

What types of issues are being identified?

## Audience



C-Suite



Portfolio Managers



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HSSE

## Insights



- Review Change Status
- Review Change Workflow Actions and Notifications
- Review, Approve or Reject Changes

## Outcomes



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# Risk, Issue and Change Management

Minimize Impacts. Stay In Control.

## Questions

What are the risks to project success?

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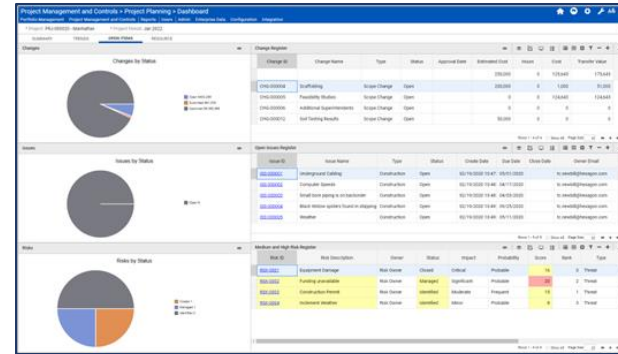


Procurement



HSE

## Insights



- Review “My” Open Items
- Review all Open Items
- Respond to Open Items
- Identify Process related bottlenecks or delays

## Outcomes



Efficiency



Productivity



Safety



Quality



# Risk, Issue and Change Management

Minimize Impacts. Stay In Control.

## Questions

What are the risks to project success?

What is the potential risk impact and how am I minimizing it?

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HSE

## Insights

Issue ID	Issue Name	Type	Status	Issue Date	Due Date	Owner Email
ISS-000001	Underground Cabling	Construction	Open	09/17/2020 12:42:34	09/17/2020	h.lee@projectcontrols.com
ISS-000002	Computer Upgrade	Construction	Open	09/17/2020 12:42:34	09/17/2020	h.lee@projectcontrols.com
ISS-000003	Local Area Network Upgrade	Construction	Open	09/17/2020 12:42:37	09/18/2020	h.lee@projectcontrols.com
ISS-000004	Block Storage System Test in Shipping/Receiving	Construction	Open	09/17/2020 12:42:33	09/18/2020	h.lee@projectcontrols.com
ISS-000005	Weather	Construction	Open	09/17/2020 12:42:36	09/17/2020	h.lee@projectcontrols.com

- Analyze Issue Types
- Update Risk Templates
- Identify Root Causes
- Identify Process Improvements

## Outcomes



Efficiency



Productivity



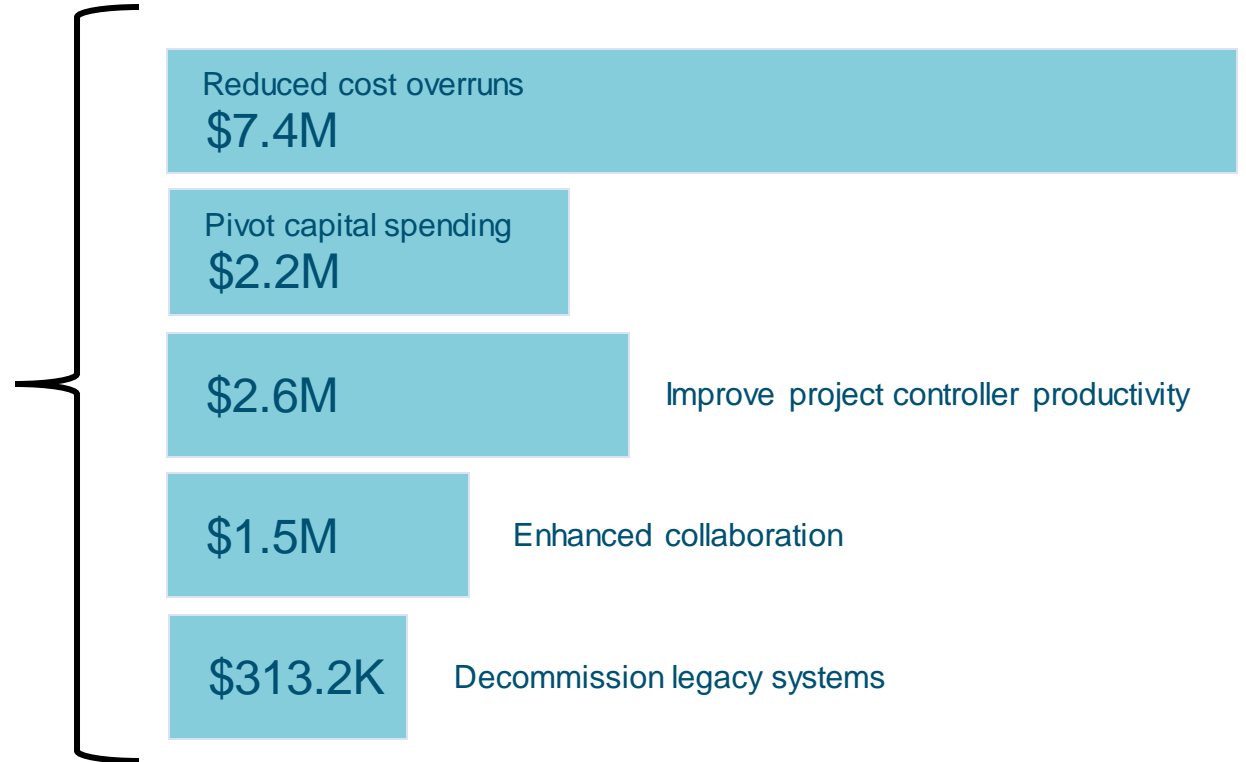
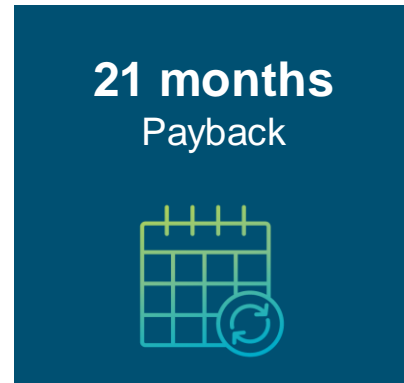
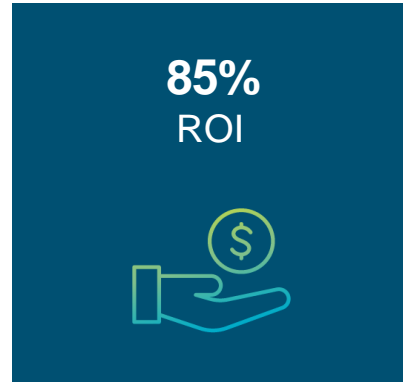
Safety



Quality

# The Total Economic Impact™ of EcoSys

Over 3-year span for composite organization



# Demonstration



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# Q&A



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# THANK YOU