24TH ANNUAL

24TH LCI CONGRESS
OCTOBER 18-21

Measuring Lean Implementation:
It's not a Yes or No Answer

Jennifer Lacy

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ROBINS & MORTON

OCTOBER 19, 2022

ROBINS & MORTON

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Lean Practice Leader

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Preconstruction Estimator

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"Not everything that can be counted counts, and not everything that counts can be counted."
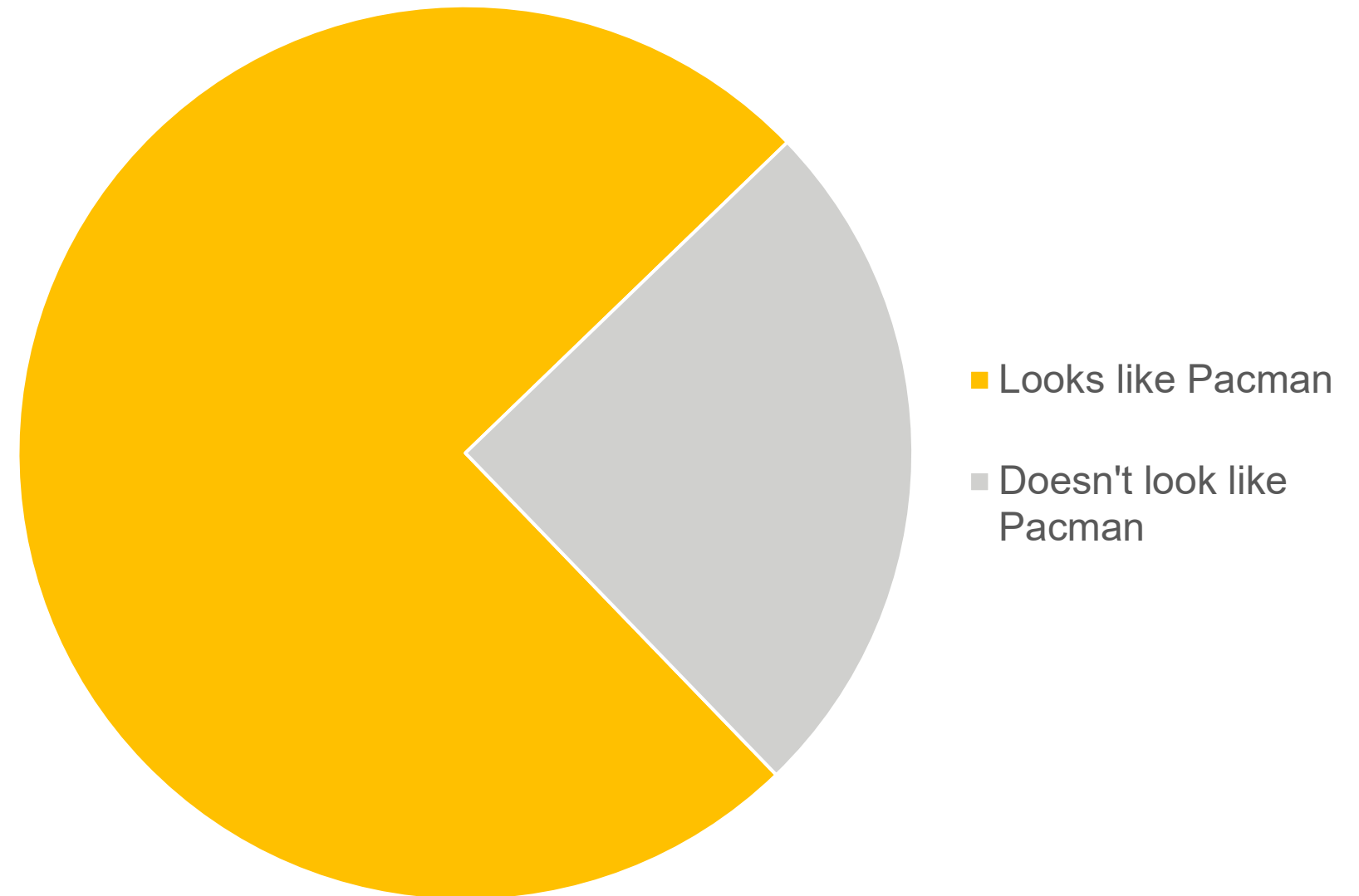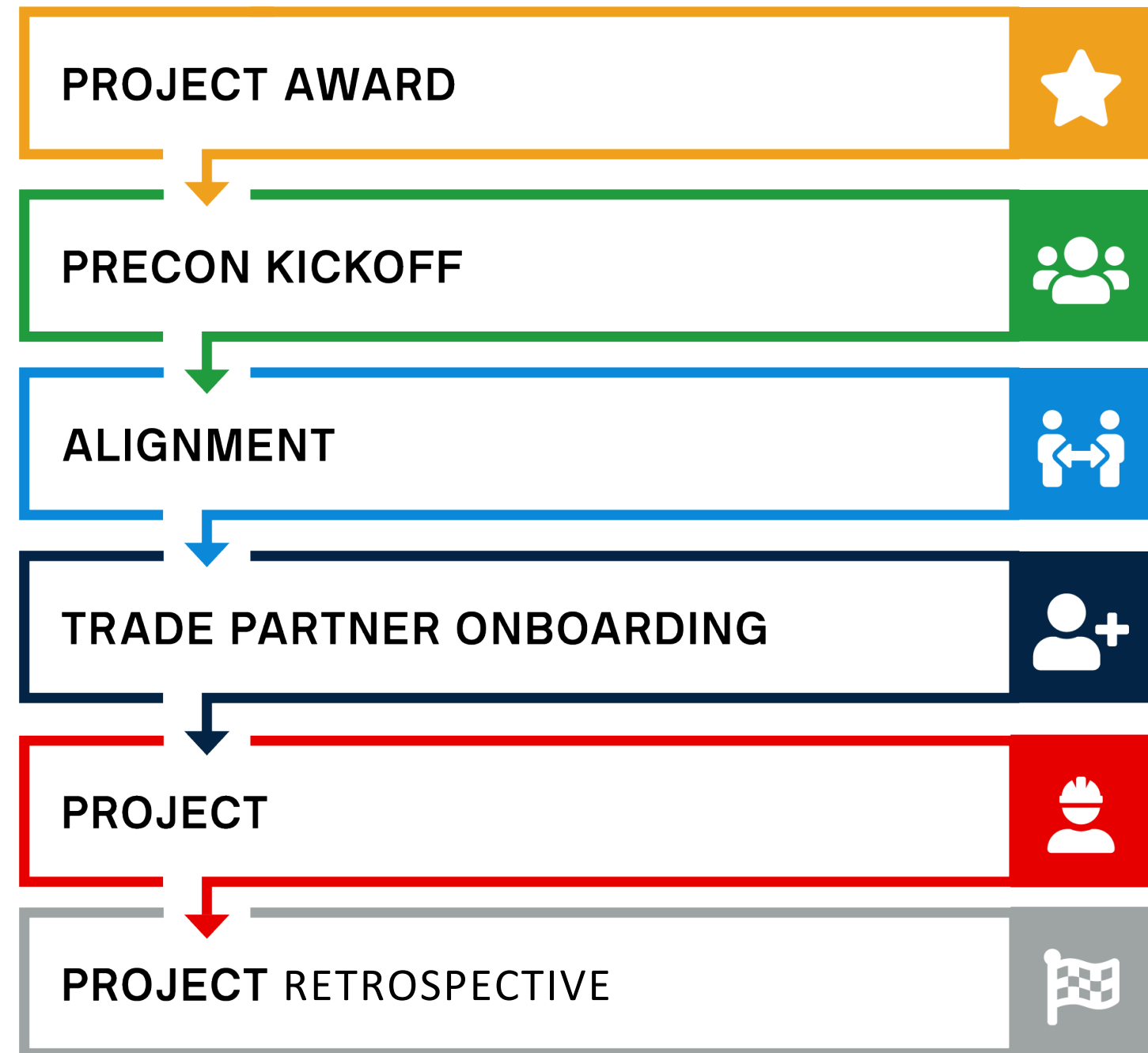
-Albert Einstein

Are you implementing Lean?

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Did this presentation add value?

Good information tells useful stories.

Useful stories lead to solutions and success.

- Looks like Pacman
- Doesn't look like Pacman

An implementation process for culture, tools & results

PROJECT AWARD

PRECON KICKOFF

ALIGNMENT

TRADE PARTNER ONBOARDING

PROJECT

PROJECT RETROSPECTIVE

We're implementing Lean… now what?

ANALYZE / ADJUST / INNOVATE

Data Collection:
The Evolution of our assessments

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3.18.2016	Plan for Subcontractor CoLo or Other Office Space/Area	JG	07/01/16	05/20/16	Develop plan for buyout of major subcontractors by July 1
3.18.2016	Collaboratively Develop a Field Operations Guide for Project Protocol	JG	06/01/16		J&J review 4/22 , Need status
3.18.2016	Confirm Moisture Consultant's Scope	JG	05/20/16		Develop scope list and establish consultant need to get our own .
3.18.2016	Collaboratively Confirm Site Logistics Plan	JB	05/21/16	05/20/16	Final coordinated site utilization plan in next month
5.19.2016	Internal Material Procurement Process	JG	06/15/16		Jacob develop process and engage Field Managers
5.19.2016	Gather data for OPS with A/D/C Worksheets	JB	05/27/16		Will send out with Bid Packages
5.19.2016	Create a Milestone Schedule	JB	05/27/16		Bench Mark is developing
5.19.2016	Constructability Review on Final Documents (Incl Specs)	TC	TBD		Worried about not enough time

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Lean Implementation Scorecard

Y	?	N		Collaboration	Possible Points:	45
Y			Prereq 1	OAC Colocation		3
Y			Prereq 2	Subcontractor Colocation		3
Y			Prereq 3	Conditions of Satisfaction		3
Y			Credit 1	OAC Onboarding		3
Y			Credit 2	Last Planner System - PM		3
Y			Credit 3	Last Planner System - Field		3
Y			Credit 4	Project Team Onboarding		3
Y			Credit 4	Effective Meeting Structure		2
Y			Credit 4.1	Daily Stand-Up Meetings		1
Y			Credit 4.2	Weekly Planning Meetings		1
Y			Credit 4.3	Monthly Reporting Meetings		1
Y			Credit 4.4	Quarterly Strategic Meetings		1
Y			Credit 5	Collaborative Scheduling		2
Y			Credit 6	Protocol Manual		2
Y			Credit 7	BIM Execution Plan		2
Y			Credit 8	Community Outreach		2
Y			Credit 9	Effective Pretask Meetings		2
	X		Credit 10	Owner Change Request (OCR) Process		1
Y			Credit 11	OAC Collaborative Punchlist		1
	X		Credit 12	Local Involvement Plan		1
		X	Credit 13	BIM Box		1
Y			Credit 14	Information Boards		1
	X		Credit 15	Collaborative Design Review		1
Y			Credit 16	Collaborative Site Utilization Plan		1
Y			Credit 17	Team Building Activities		1

Y	?	N		Continuous Improvement	Possible Points:	31
Y			Prereq 1	Develop Lean Implementation Plan		3
Y			Prereq 2	Develop Meeting Structure		3
Y			Prereq 3	Near Miss Reporting		3
Y			Credit 1	Measuring Quality		1
Y			Credit 2	Lunch and Learn		1
		X	Credit 3	Production Tracking		1
Y			Credit 4	Crew Leader Plus/Delta's		1
Y			Credit 5	Quarterly Offsite Meeting		1
Y			Credit 6	Single Source (Doc Control, Mat'l Mgmt, Cleanup, Layout)		1
Y			Credit 7	Jobsite WiFi		1
Y			Credit 8	Prefabrication		1
		X	Credit 9	Develop LEED Strategy		1
		X	Credit 10	Badging System		1
		X	Credit 11	Onsite BIM Manager		1
Y			Credit 12	Traditional Owner's Scope by GC (Low Voltage, OFE)		1
Y			Credit 13	Operational Learning Teams		1
Y			Credit 14	Quarterly Goals		1
Y			Credit 15	Use of Dashboards		1
Y			Credit 16	Best Practices		1
Y			Credit 17	Shark Walks (Safety, QC)		1
Y			Credit 18	ERS Market Study		1
Y			Credit 19	As-built/As-Design		1
Y			Credit 20	Innovation Meeting		1
Y			Credit 21	Pre-Installed Hanger System		1
Y			Credit 22	Man-Hour Tracking on Weekly Work Plan		1
		X	Credit 23	BIM Box		1

Y	?	N		Building a Learning Culture	Possible Points:	15
Y			Prereq 1	Subcontractor Onboarding		3
Y			Credit 1	Study Action Team		2
Y			Credit 2	BMW Factory Tour		2
Y			Credit 3	Sharing Stories		1
	X		Credit 4	Craft Training		1
Y			Credit 5	Bi-Weekly Staff Training		1

Y	?	N		Leadership Development	Possible Points:	12
Y			Prereq 1	Performance Standards		3
Y			Prereq 2	Hourly Staff Reviews (30, 90, 180 Day)		3
Y			Prereq 3	Quality at the Source		3
Y			Credit 1	Organizational Chart		1
Y			Credit 2	Train and Audit Pre-Task		1
	X		Credit 3	Craft Training		1
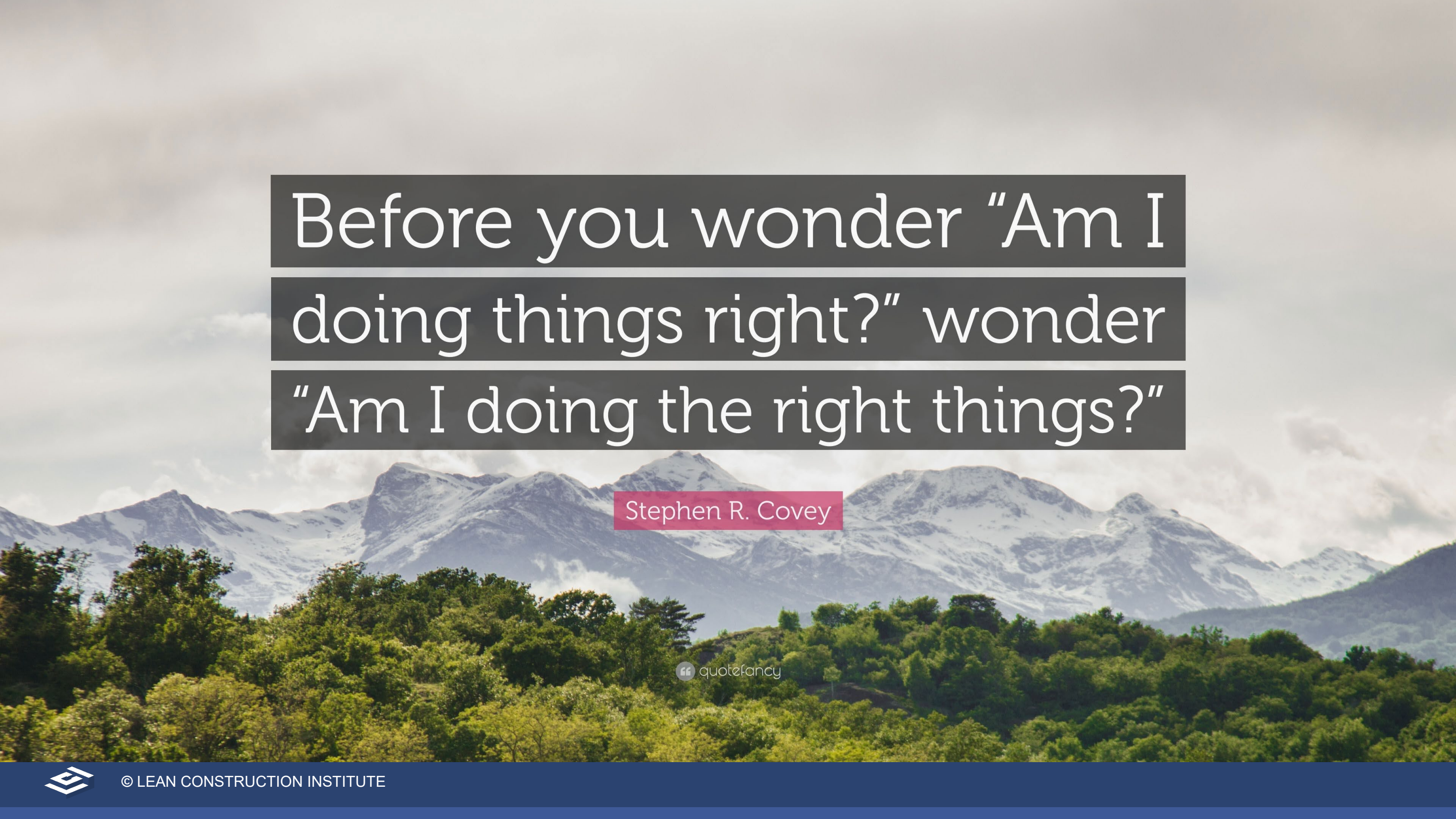
BUILDING A LEARNING CULTURE

BUILDING A LEARNING CULTURE		MAY	JUNE	AUGUST	SEPT		OCT	JAN	MARCH
Innovation Process(Documented)	Christena | Mark Lerma	2	1	2	2	Tuesday meeting		3	3
Learning Initiatives(Documented)	Fernando	2	2	3	3			3	3
Study Action Team	Clint S	2	1	2	3	how full is your bucket		2	2
Factory or Project Tours (Toyota or Other Lean Tours)	Julio | James	1	1	1	1			1	1
Manufacturer Tours (Construction)		1	1					1	1
Sharing Craft Worker Stories	Jeremiah | Dick	2	1	1	1			1	1
Understanding and Sharing Owner's Operational Goals	Edna | Mike J	5	3	3	3			3	3
Manager Hand-On Training in Field	Mark Terry | Bert	2	1	1	1			3	3
BIM & Procore for Field Training	Mando | Charlie	4	4	4	3	can do more		3	3

Evaluating your process

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Before you wonder "Am I doing things right?" wonder "Am I doing the right things?"
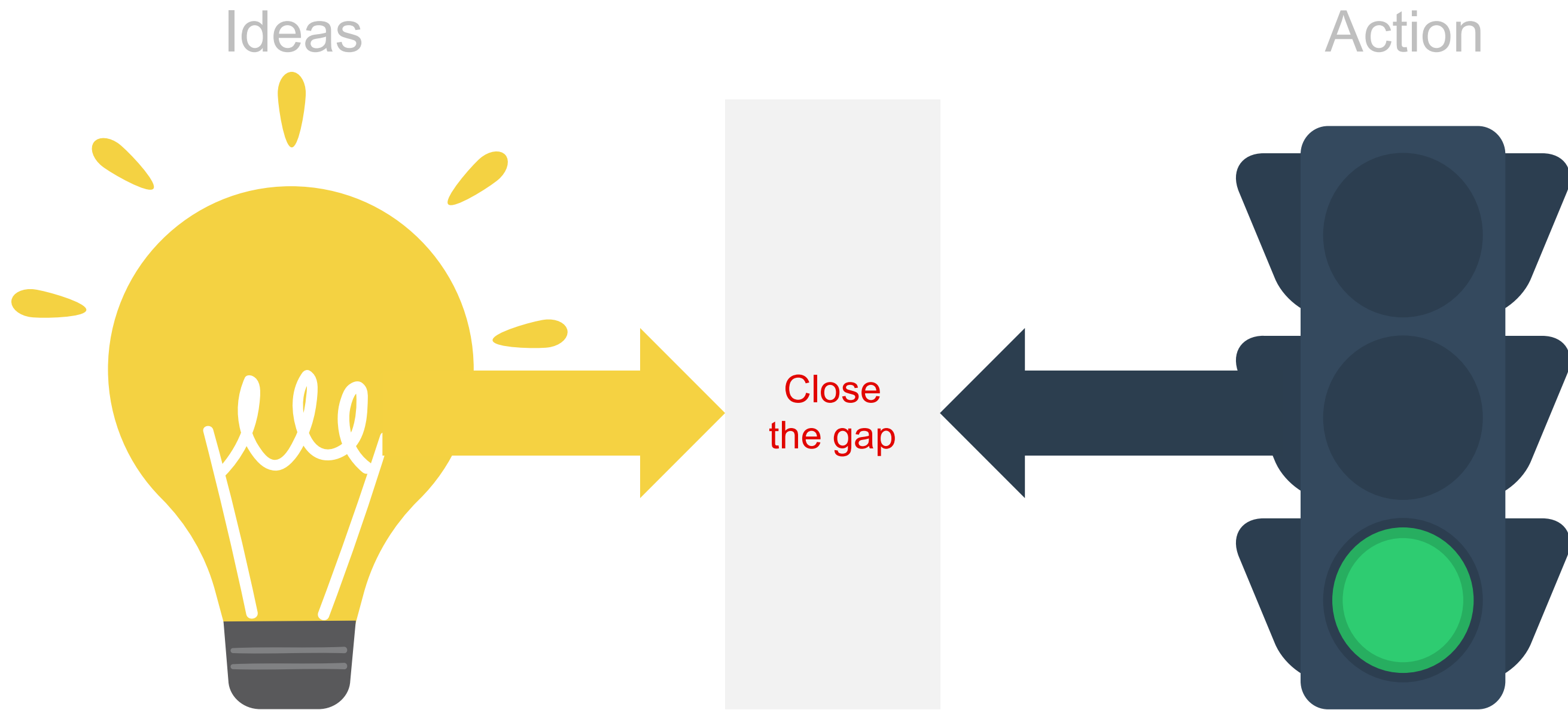
Stephen R. Covey

DATA OVERLOAD

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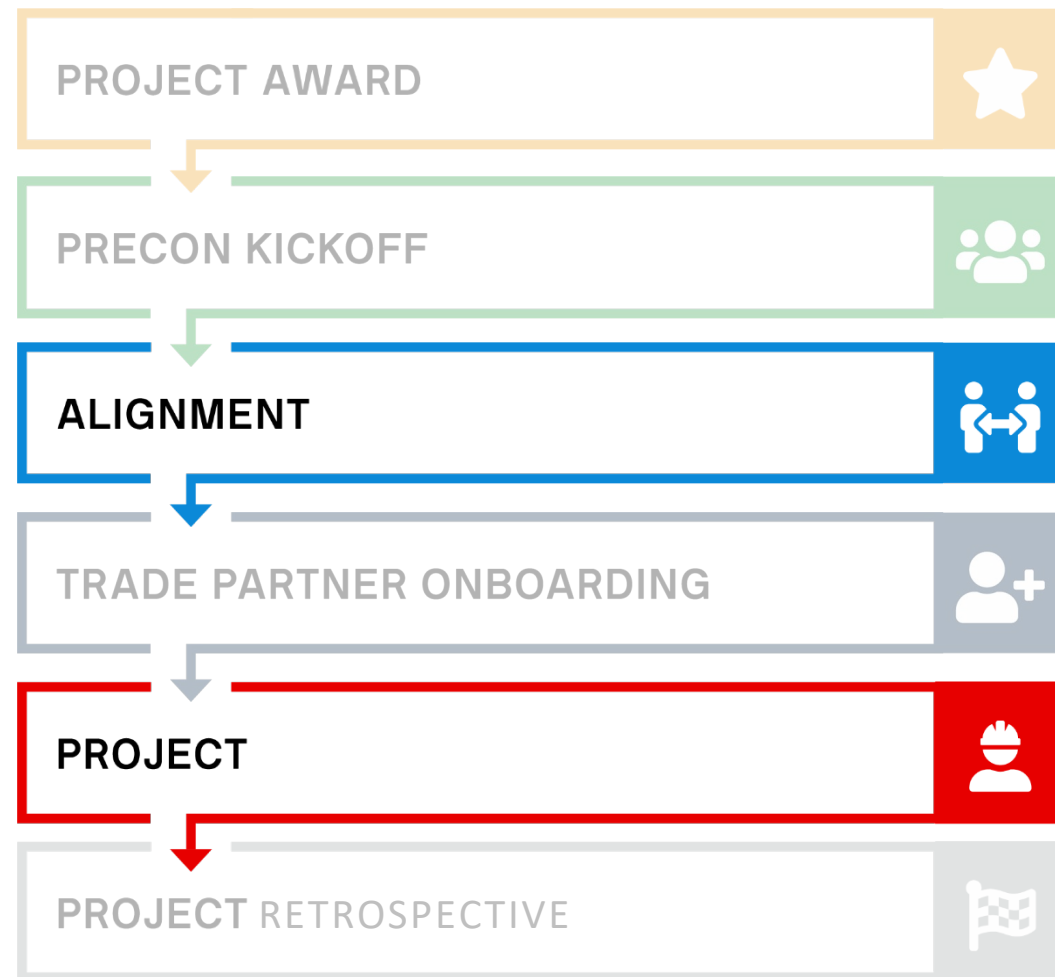
You'll know you're on the right track if you are able to mine **stories** that motivate, educate, and inspire your teams to continuously improve.

Ideas

Action

Close
the gap

PROJECT AWARD

PRECON KICKOFF

ALIGNMENT

Teams make commitments

TRADE PARTNER ONBOARDING

PROJECT

Teams complete monthly assessments

PROJECT RETROSPECTIVE

Advocates

BUILDING FORWARD TRACKING: PROJECT TRACKING LOG OF TOOLS/TEAM CULTURE

BUILDING FORWARD®

PROJECT NUMBER - PROJECT NAME	DATE	ANTICIPATED DATE OF NEXT REVIEW

Project

	PLANNING	IMPLEMENTATION	
	PRECON KICK OFF / ALIGNMENT	ASSESSMENT / ASSESSMENT / ASSESSMENT / ASSESSMENT / ASSESSMENT / FINAL	NOTES

Team Culture

Collaboration
- Colocation(OAC and Trade Partners)
- Planning at the Source/LPS® (Field)
- Planning at the Source/LPS®(OAC)
- Project Technology Strategy
- Project Marketing & Communications Plan
- Conditions of Satisfaction
- Big Room Collaborative Meeting Space
- Integrated Preconstruction
- Alignment - OAC
- Onboarding - Trade Partners
- Onboarding - Craft Worker

Learning Culture
- Study Action Teams
- Site Walks

Continuous Improvement
- Building Forward Self Assessment
- Quality at the Source
- A3 Thinking/Use of Dashboards

Leadership Development
- Team SuccessFactors
- Team Career Plans

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| Page 1 | Page 2 | | | | | | Send Page 1 | Send Page 2 |

	Category		Yes	Yes	Yes	Yes	Yes	Yes		
	Transparency	Yes	Yes - 3	Yes - 4	Yes - 4	Yes - 3	Yes - 4		
	Team Building Events	Yes	Yes - 3	Yes - 3	Yes - 3	Yes - 3	Yes - 3		
	Planning at the Source/LPS®(OAC)	N/A							
	Project Technology Strategy	Yes	Yes - 4	Yes - 5	Yes - 4	Yes - 3	Yes - 4		
	Project Marketing & Communications Plan	Yes	Yes - 3	Yes - 4	Yes - 3	Yes - 3	Yes - 4		
	Conditions of Satisfaction	Yes	Yes - 3	Yes - 3	Yes - 4	Yes - 3	Yes - 4		
	Big Room Collaborative Meeting Space	Yes	Yes - 4	Yes - 3	Yes - 4	Yes - 4	Yes - 5		
	Colocation	Yes	Yes - 3	Yes - 3	Yes - 4	Yes - 3	Yes - 4		
	Planning at the source - Field	Yes	Yes - 5	Yes - 5	Yes - 5	Yes - 5	Yes - 5		
	Onboarding - Trade Partners	Yes	Yes - 3	Yes - 3	Yes - 3	Yes - 3	Yes - 3		
	Coloborative scheduling with Trade Partners	Yes	Yes - 4	Yes - 4	Yes - 4	Yes - 3	Yes - 4		
	Interactive Mock ups	Yes	Yes - 3	Yes - 4	Yes - 4	Yes - 4	Yes - 4		
	Community Outreach/involvement	Yes	Yes - 4	Yes - 3	Yes - 3	Yes - 3	Yes - 4		
	Pretask Meetings - Daily	Yes	Yes - 3	Yes - 4	Yes - 4	Yes - 4	Yes - 4		
	Owner Change process	Yes	Yes - 3	Yes - 3	Yes - 4	Yes - 3	Yes - 4		
	OAC Collaborative punch list	Yes	Yes - 3	Yes - 3	No	Yes - 4	Yes - 3		
	Study Action Teams	Yes	Yes - 3	Yes - 3	No	Yes - 3	Yes - 3		
	Site Walks	Yes	Yes - 3	Yes - 3	Yes - 4	Yes - 3	Yes - 3		
	Building Forward Self Assessment	Yes	Yes - 3	Yes - 4	Yes - 3	Yes - 3	Yes - 3		
	Quality at the Source	Yes	Yes - 4	Yes - 4	Yes - 5	Yes - 3	Yes - 3		
	A3 Thinking	Yes	Yes - 3	Yes - 3	Yes - 4	Yes - 3	Yes - 3		
	Team Success Factors	Yes	Yes - 3	Yes - 3	Yes - 3	Yes - 3	Yes - 3		

1 - Aware   2 - Learning   3 - Competent   4 - Teaching/Innovative   5 - Industry Leading

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1	**Aware**	Does your team understand the expectations?
2	**Learning**	Have you established measurable learning goals?
3	**Competent**	Implementation by minimum standards/intent. How do you demonstrate the understanding?
4	**Teaching/Innovative**	Sustained implementation of minimum standards/intent. Requested an external evaluation. Can your team communicate the value being created? Shared examples of learning/innovation.
5	**Industry Leading**	Are we changing the way we work? How is it better? Shared examples of continuous improvement.

The effect of measuring implementation

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Other - Reasons	Count
Other	**31**
N/A	8
	3
Tracked Under a Different Tool	2
We Will review prior to next quarterly review	2
Buy-in	1
In process	1
N/A at this time	1
No buy-in	1
No new Craft Workers in July.	1
No O/A buy-in	1
No owner buy-in	1
Only site contractor on-site	1
Owner and design team never bought in	1
Schedule Availability	1
Scheduling onboarding currently	1
These typically are updated in March and September.	1
These typically occur in March and September.	1
Tracked Under Different Tool	1
Training	1
We are out of Pre-Con and nearing project completion	1
Time	**16**
Needs Support	**13**
Capacity	**5**
Overcommitment	**2**
Total	**67**

Pie chart — No Reason

- 31 (46.27%)
- 16 (23.88%)
- 13 (19.4%)
- 5 (7.46%)
- 2 (2.99%)

No Reason
- Other
- Time
- Needs Support
- Capacity
- Overcommitment
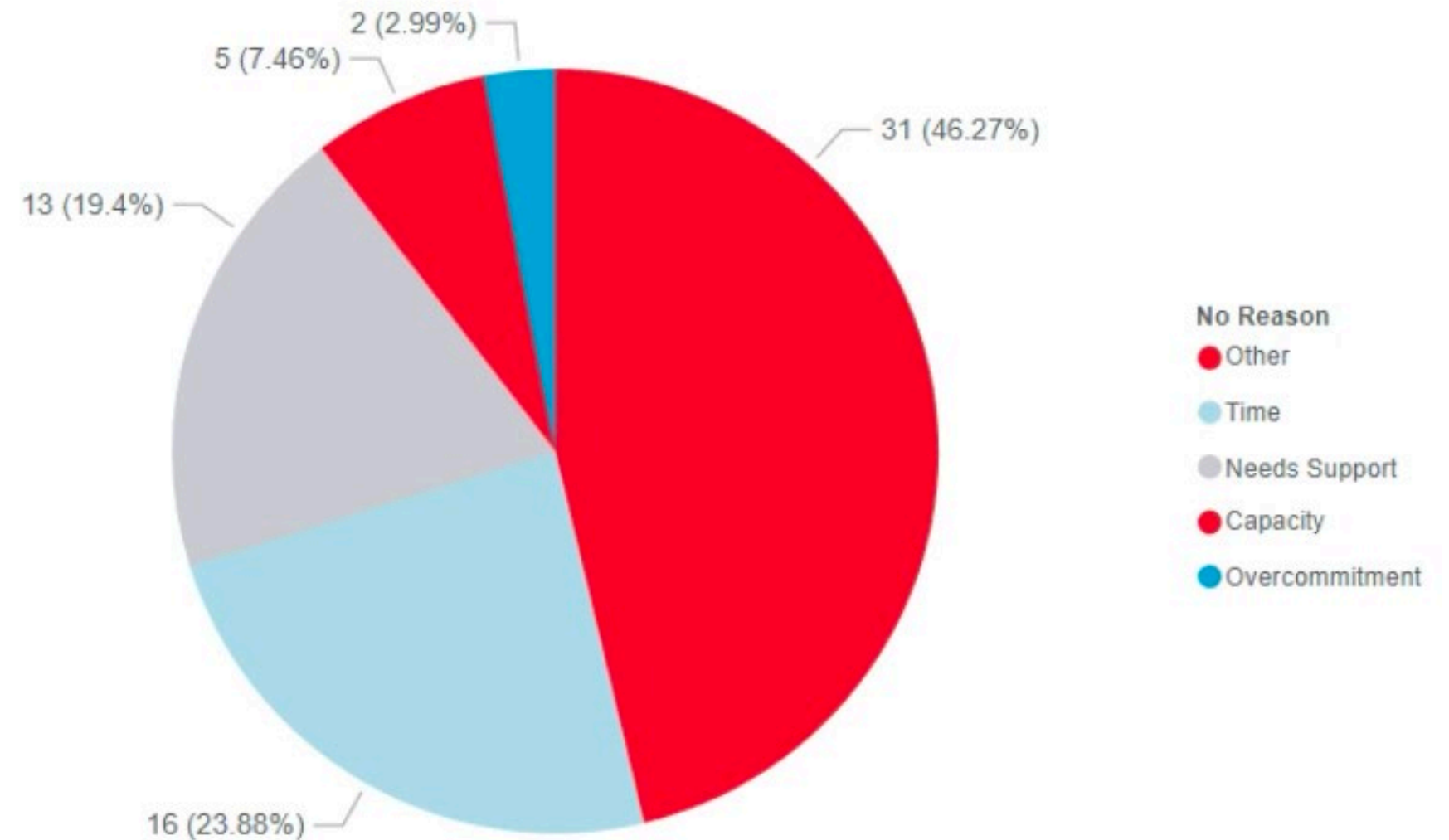
Other - Reasons	Count
⊞ **Time**	**14**
⊞ **Unable to Implement**	**11**
⊞ **Capacity**	**10**
⊟ **Other**	**9**
N/A	6
	1
N/A at this time	1
No new craft workers onboarded this month.	1
⊞ **Needs Support**	**5**
⊞ **Overcommitment**	**3**
Total	**52**
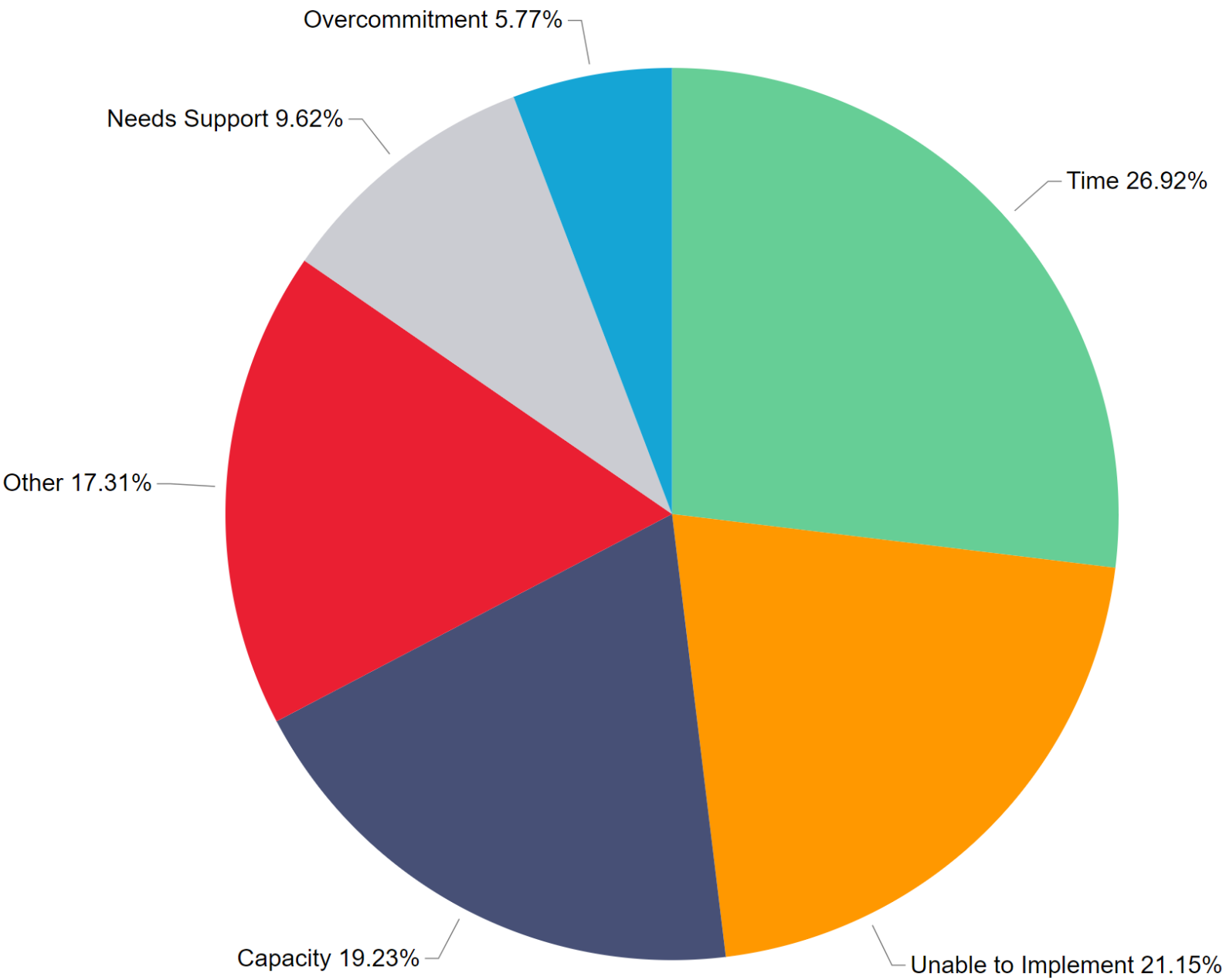
Overcommitment 5.77%

Needs Support 9.62%

Time 26.92%

Other 17.31%

Capacity 19.23%

Unable to Implement 21.15%

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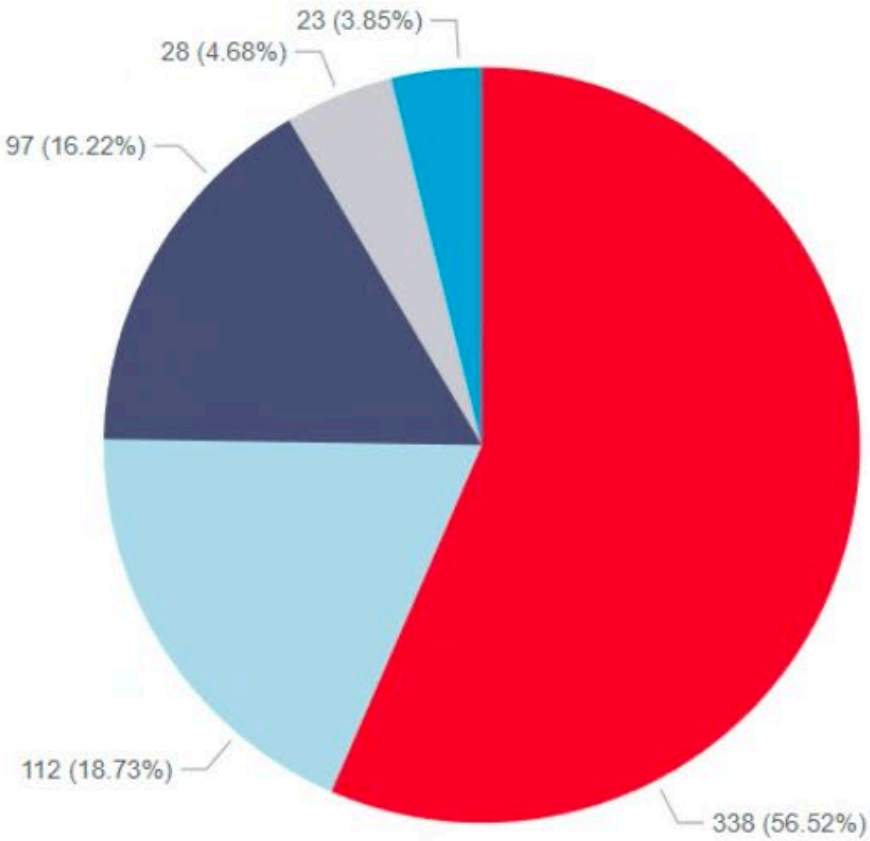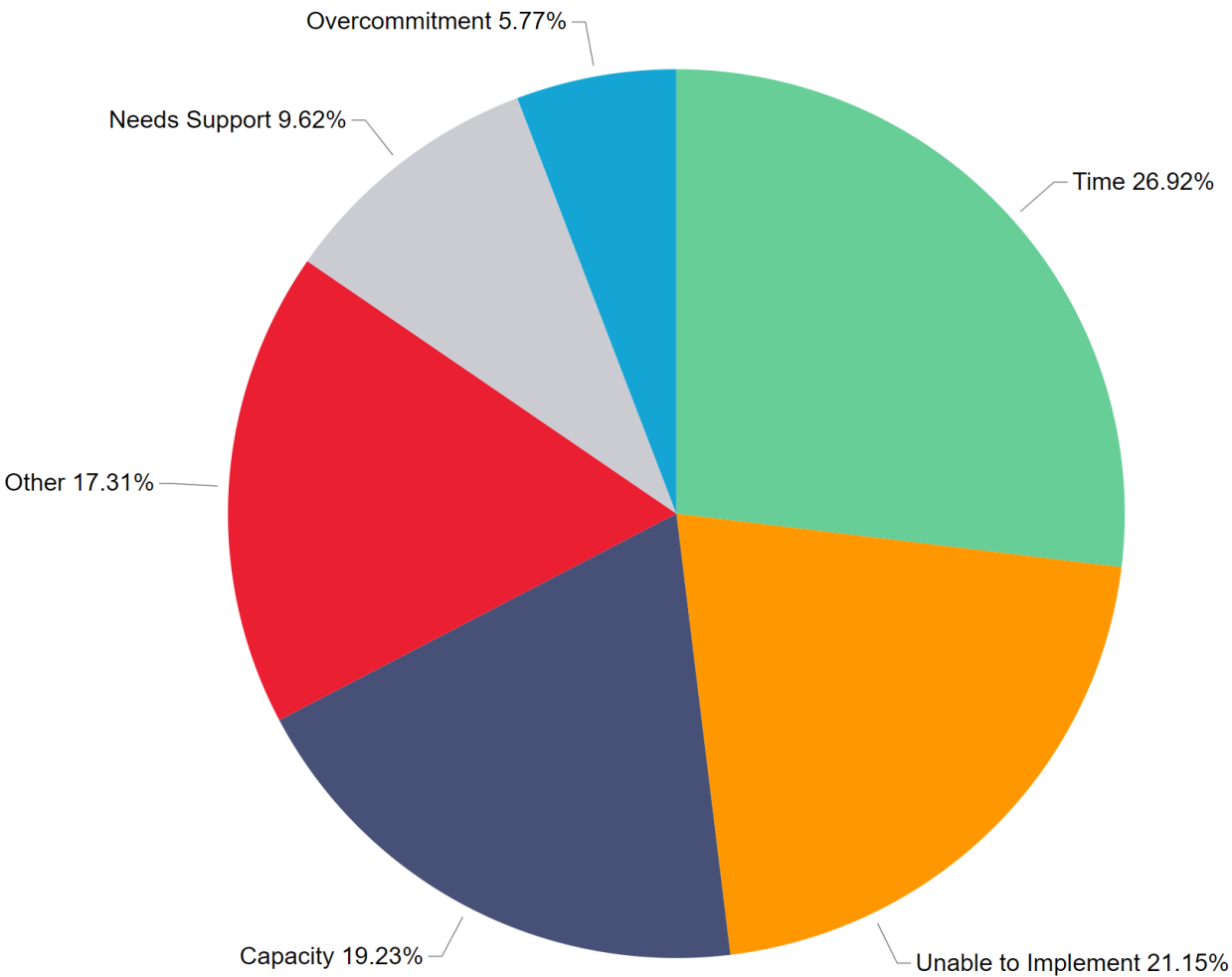
Project Assessments

◆ - Aware ◆ - Learning ◆ - Competent ◆ - Teaching/Innovative ◆ - Industry Leading

UniversalOpManager	ding - orker	Onboarding - Trade Partners	Planning at the Source/LPS® (Field)	Planning at the Source/LPS®(OAC)	Project Marketing & Communications Plan	Project Technology Strategy	Quality at the Source	Site Walks	Study Action Teams	Team Culture
Alignment		Yes	Yes	N/A	N/A	Yes	Yes	Yes	Yes	Yes
November Assessment 2021		No	Yes			Yes	No	Yes	Yes	Yes
December Assessment 2021		No	Yes			Yes	Yes	Yes	Yes	Yes
January Assessment 2022		No	Yes			Yes	Yes	Yes	No	Yes
February Assessment 2022		No	Yes			Yes	Yes	Yes	Yes	Yes
June Assessment 2022		No	Yes			Yes	No	No	No	Yes
Alignment		N/A	Yes	N/A	N/A	Yes	Yes	Yes	Yes	Yes
January Assessment 2022			No			Yes	Yes	No	No	Yes
February Assessment 2022			Yes			Yes	Yes	Yes	No	Yes
March Assessment 2022			Yes			Yes	Yes	Yes	Yes	Yes
April Assessment 2022			Yes			Yes	Yes	Yes	Yes	Yes
May Assessment 2022			Yes			Yes	Yes	Yes	Yes	Yes
June Assessment 2022			Yes			Yes	Yes	Yes	No	Yes
July Assessment 2022			Yes			Yes	Yes	Yes	No	Yes
Alignment		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
November Assessment 2021		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
June Assessment 2022		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
July Assessment 2022		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
August Assessment 2022		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

How you use the data you collect

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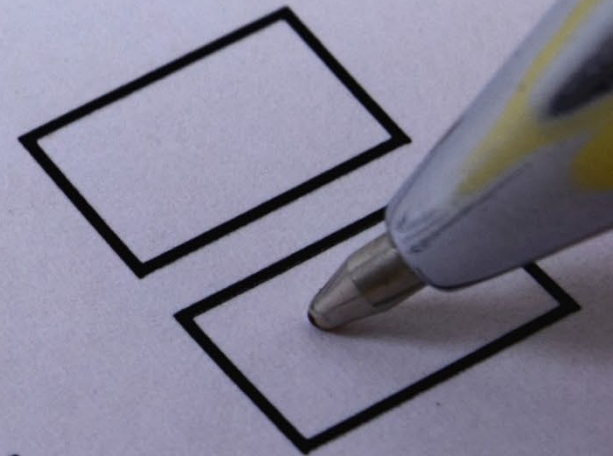
Beware the data graveyard.

Beware the data silo.

MARKETING

SALES

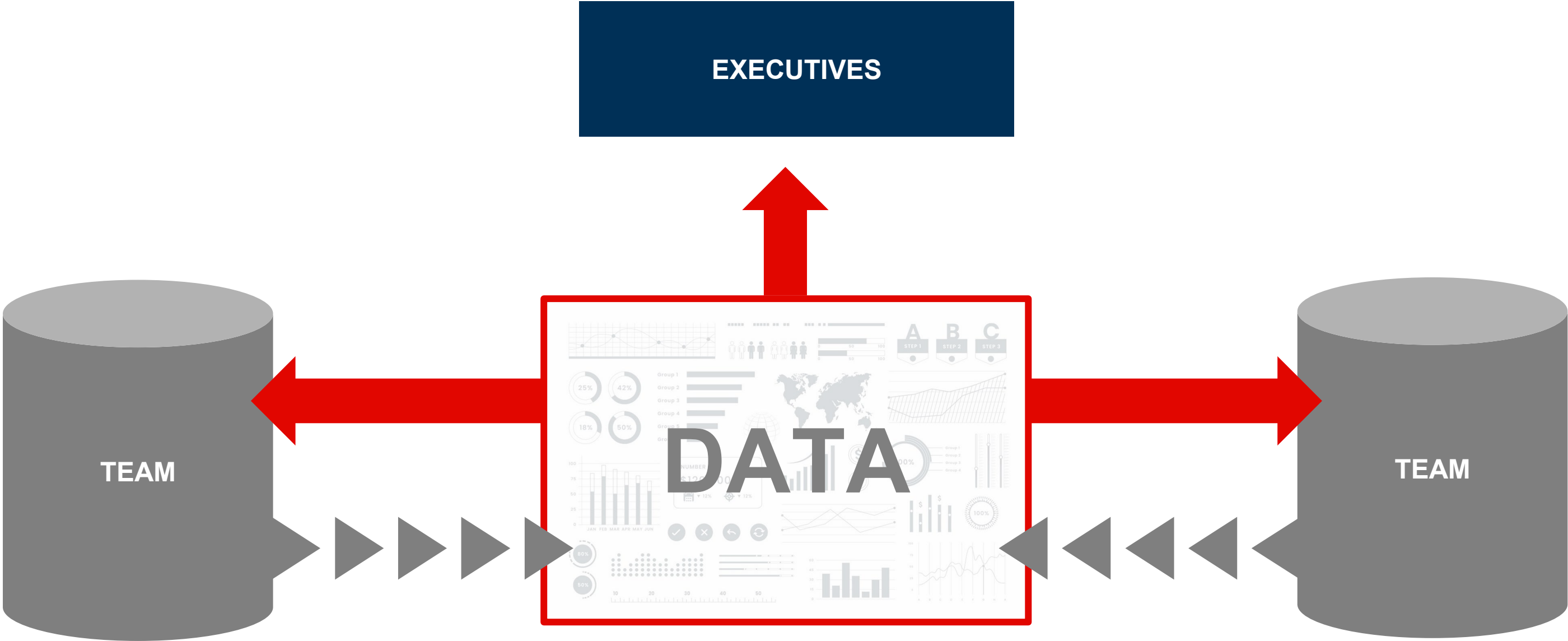OPERATIONS

Recap: What's next?

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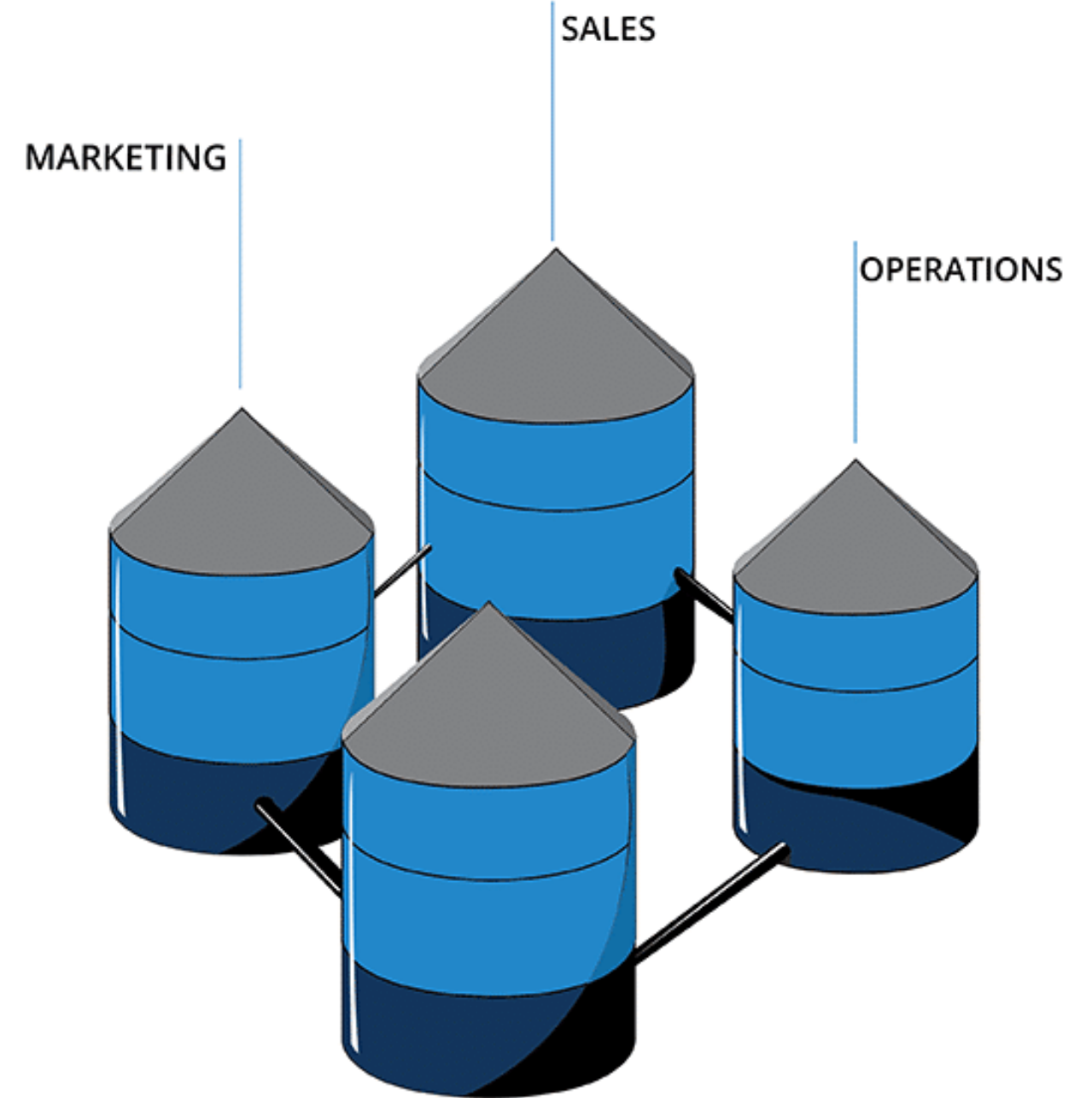
If you **aren't** measuring: What is your first step?

If you **are** measuring: how is your data serving you? Do you have a data graveyard or data silo?

Can you think of a pain point that you'd like to improve?

Can you think of a success story you'd like to replicate?

What metrics provide value to your customers?

"Not everything that can be counted counts, and not everything that counts can be counted."

-Albert Einstein

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1. Find the session under "schedule"

2. Click on it then scroll down

3. Click "core program evaluation"

4. Complete the 5-question evaluation

This information will determine the top 5 presentation teams and the top Live Lab
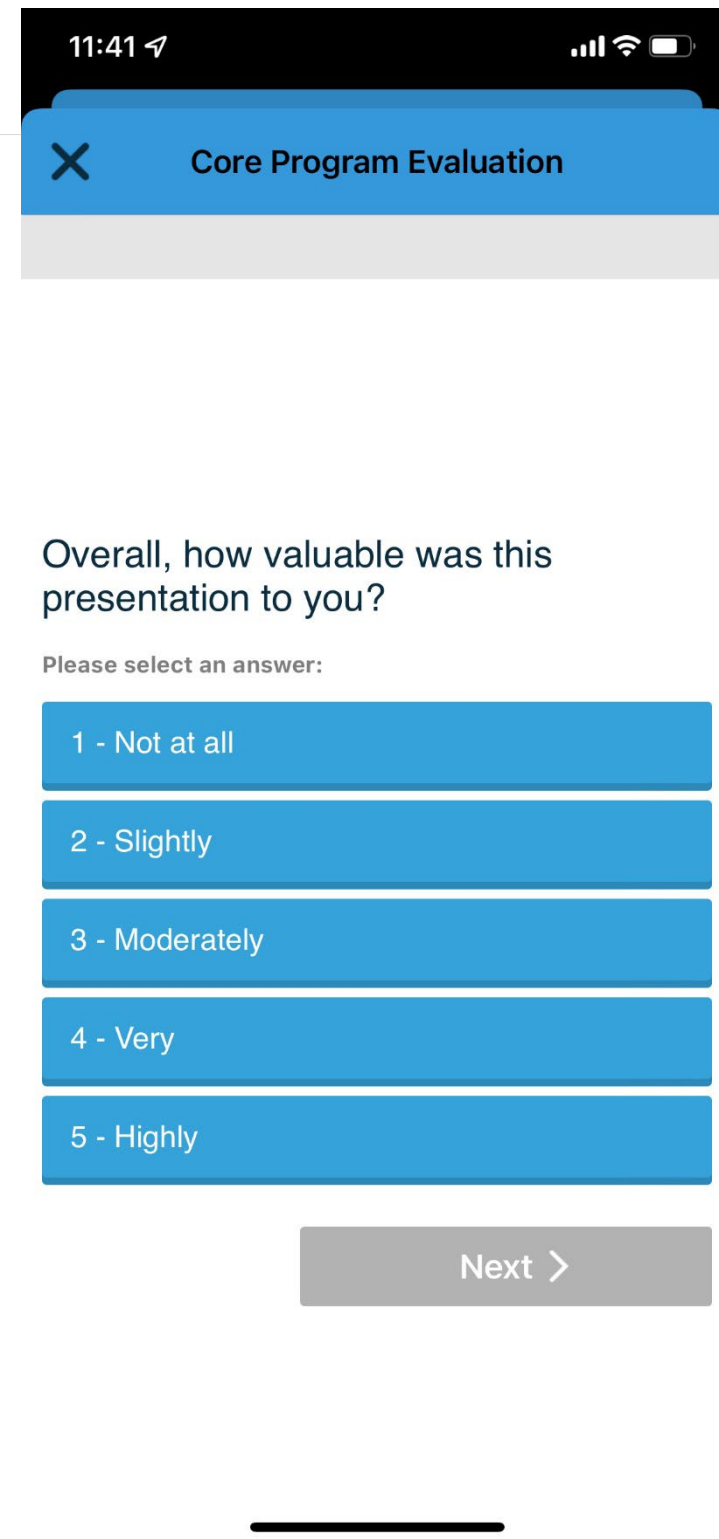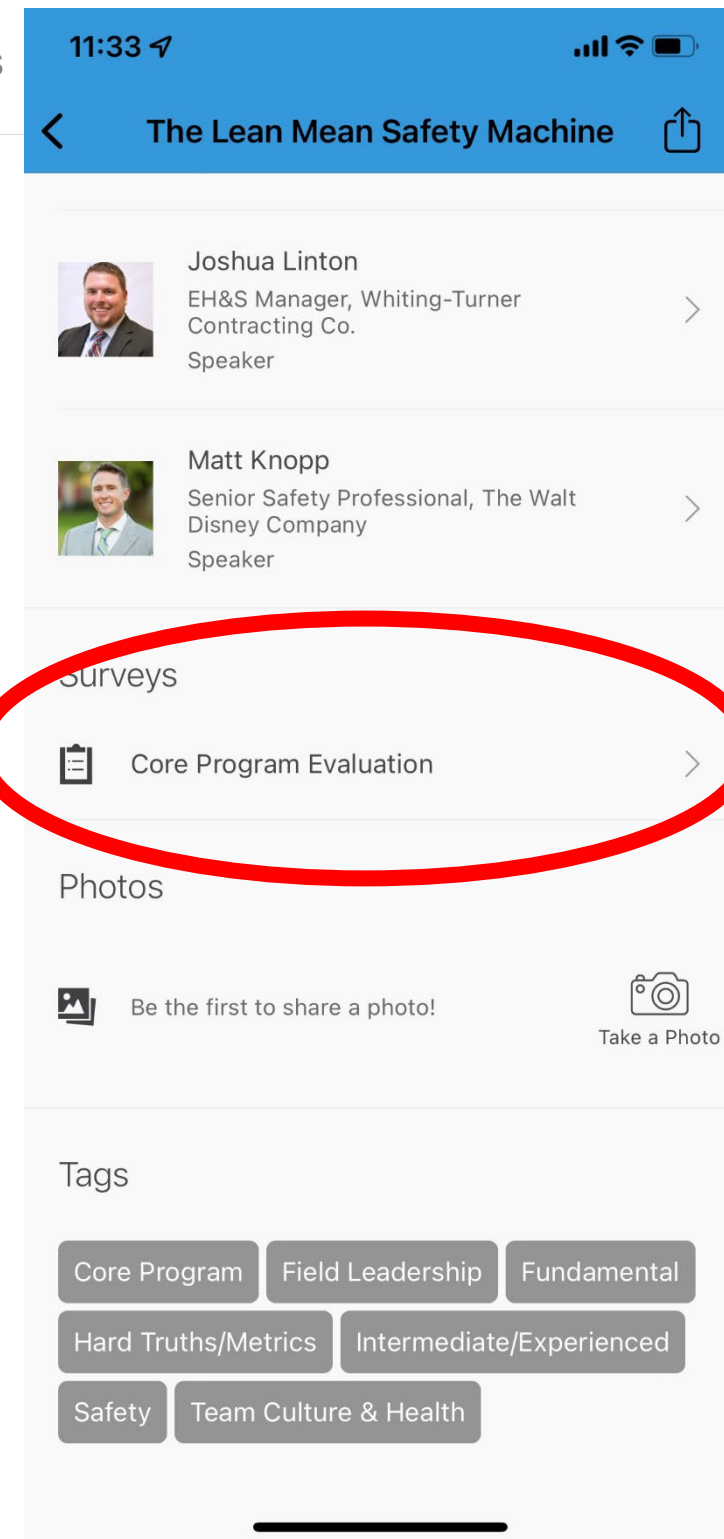
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Contact Us

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Thank you for attending this presentation. Enjoy the rest of the 24rd Annual LCI Congress!