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CCPS

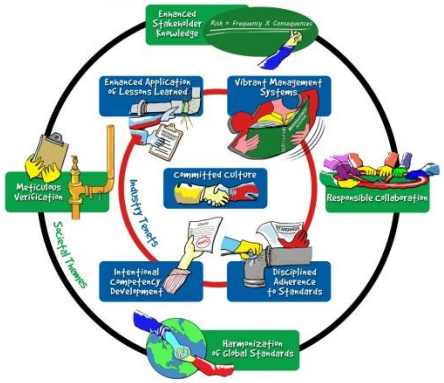
Center for Chemical Process Safety

VISION 20/20

Cheryl Grounds, BP

Jack McCavit, AIChE CCPS

Samantha Scruggs, BP



Session Overview

- Why Vision 20/20?
- Resources
- Assessment Tool
- Benchmarking Results
- Panel Discussion

Our call to action…

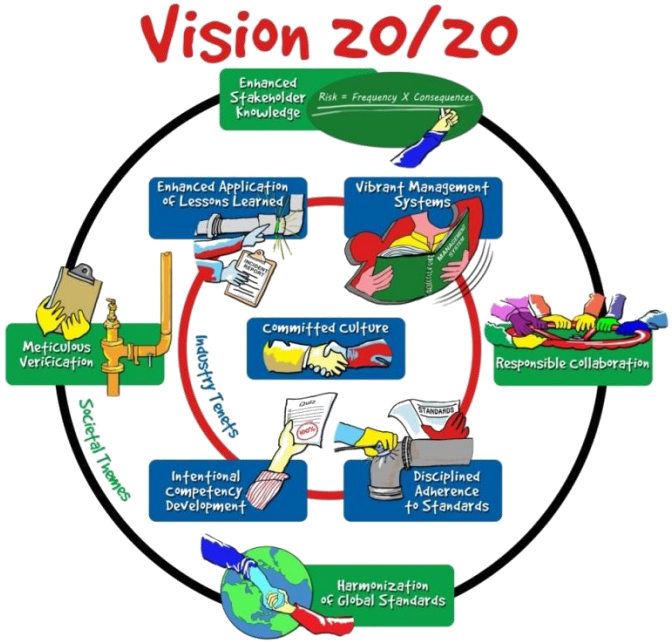
Vision 20/20 looks into the not-too-distant future to describe how great process safety is delivered when it is collectively and fervently supported by industry, regulators, academia, and the community worldwide.

Why Vision 20/20?

- Our common goal - Reduce incidents
  - We want to reach the goal faster
  - Leverage our collective strength
  - Help CCPS and other organizations identify projects/initiatives to help us reach the goal
  - Make a step change in management of process safety

It's time to leverage our resources, knowledge and skills to all strive for a common goal of great process safety performance. CCPS's Vision 20/20 describes that vision.

Vision 20/20 Focus



Industry Tenets

- Committed Culture
- Vibrant Management Systems
- Disciplined Adherence to Standards
- Intentional Competency Development
- Enhanced Application & Sharing of Lessons Learned

Societal Themes

- Enhanced Stakeholder Knowledge
- Responsible Collaboration
- Harmonization of Standards
- Meticulous Verification

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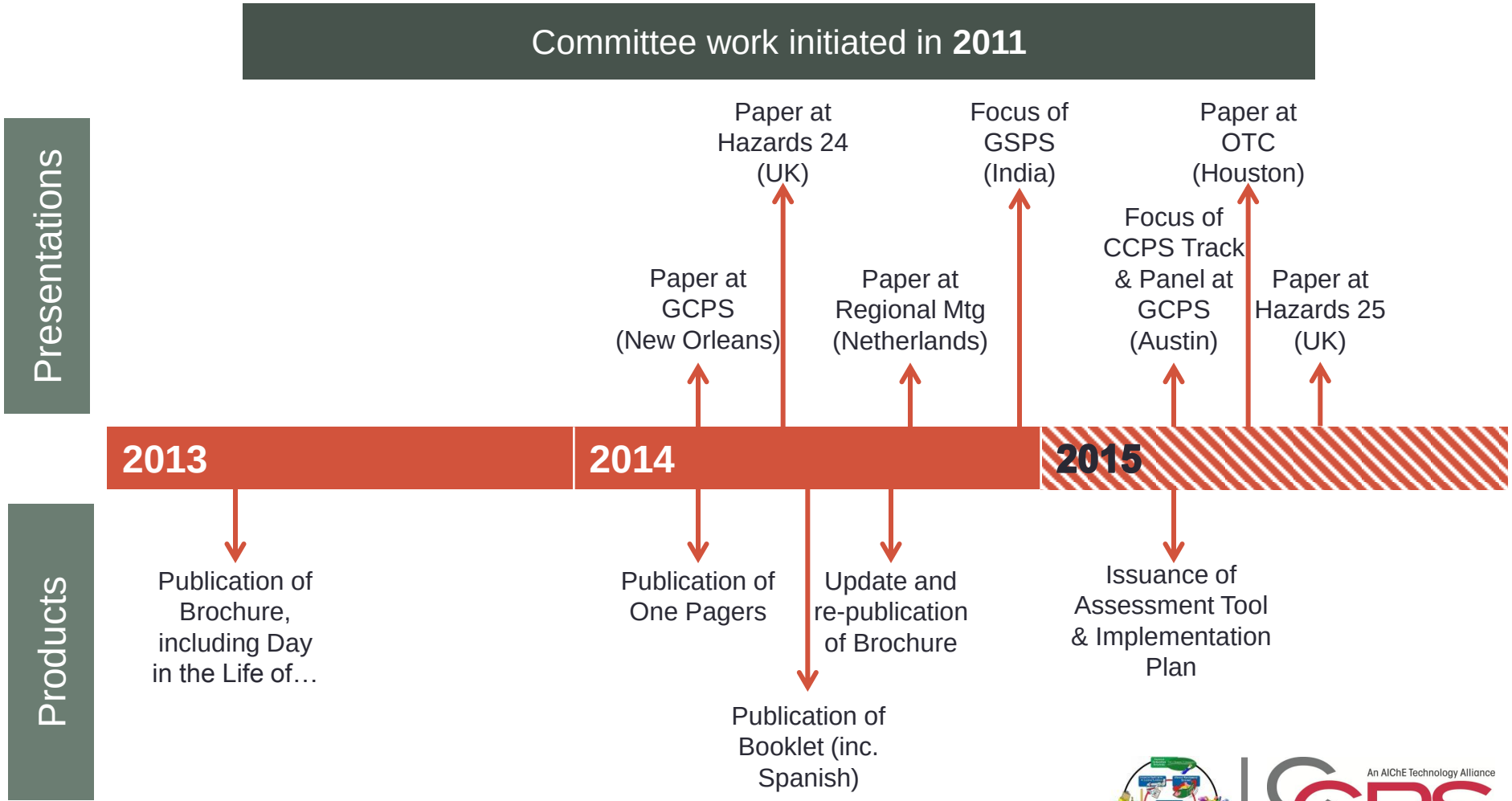
Vision 20/20 Sub-committee

- **Cheryl Grounds**, BP (Chair)
- **Jack McCavit** (CCPS Consultant)
- Dave Jones, Chevron
- **Jeff Fox**, Dow Corning
- Joe Allaben, Flint Hill Resources
- Karen Tancredi, Chevron
- Louisa Nara, CCPS
- Mike Broadribb, BakerRisk
- Pete Lodal, Eastman Chemical Co
- **Samantha Scruggs**, BP
- Scott Berger, CCPS
- Steve Arendt, ABS Consulting
- **Todd Aukerman**, LanXess
- Walt Frank, CCPS Emeritus

Vision 20/20 Evolution



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Available Resources

- Brochure, with Business Case and “A day in the life of…”
- One Page Documents/Posters
- Booklets (in English and Spanish)
- Presentations
  - 2014 Global Congress on Process Safety, New Orleans, LA, US
  - 2014 IChemE Hazards 24 Conference, Edinburgh, UK
  - 2014 Global Summit on Process Safety, Mumbai, India
  - 2015 Global Congress on Process Safety, Austin, TX, US
  - 2015 Offshore Technology Conference, Houston, TX, US *(upcoming)*
  - 2015 IChemE Hazards 25 Conference, Edinburgh, UK *(upcoming)*

All resources are available at
http://www.aiche.org/ccps/resources/vision-2020

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Planned Resources

- CCPS-led projects and texts
- World-wide industry resources listing
  - Used to address identified gaps

New for GCPS

Implementation Plan

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Implementing Vision 20/20…an Overview

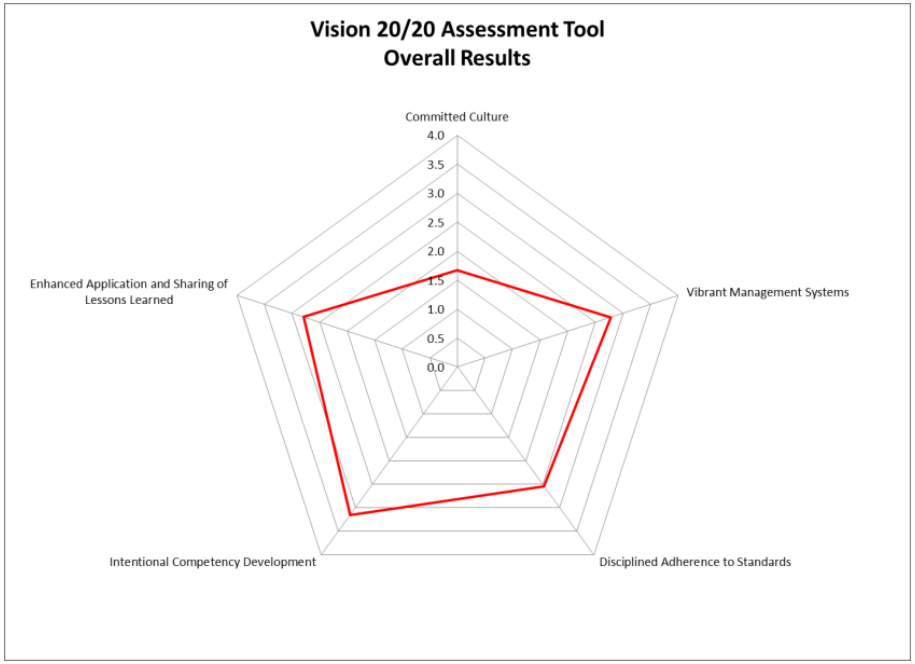
Prepare	Assess	Plan	Perform	*Achieve*	Sustain
Present V20/20 to PSM Colleagues and Management	Complete the V20/20 Assessment Tool	Reinforce and Use Strong Elements as Building Blocks	Implement Action Plans	Complete Action Plans	Verify Management System Improvements
Make V20/20 a Regular Topic at PSM-Related Meetings	Identify Weak and Strong Sub-Elements (<2.5 or >3.5 Respectively)	Identify the Specific Improvements Needed	Monitor Status of Action Plan Implementation	Re-Assess V20/20 Implementation Status with the Assessment Tool	Develop Action Plans for Weak Sub-Elements and Individual Items
"Sprinkle" V20/20 into PSM Conversations	Report Results; Management Commits to Improve	Research Options to Improve (Reference Industry Documents)	Evaluate Effectiveness of Actions	Report & Celebrate Improvements	Implement Action Plans and Monitor Performance
Use V20/20 Logo on Internal Communications	Communicate Results Within Organization	Develop Specific Action Plans to Address Weak Areas	Capture & Communicate Learnings	Identify New Weak Sub-Elements and Weak Individual Items (<2)	Continual Improvement… Continue the Journey!

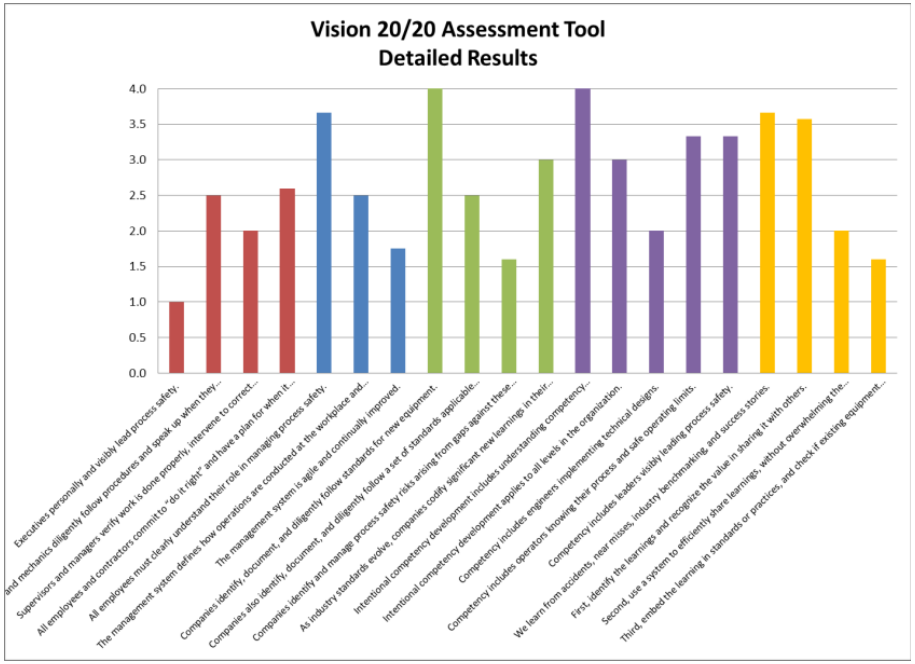
Today → *2020*

New for GCPS

Assessment Tool

- Self assessment by representative team
- Addresses each industry tenet
- Intended to be easy to use and differentiating





Assessment Tool Interface

Vibrant Management Systems				
All employees must clearly understand their role in managing process safety.	**Always**	**Most of Time**	**Some of Time**	**Infrequent or Never**
All employees can describe their site barriers (what they are, what they are for, how they work) that control major accident hazards and risks.	x			
All employees can describe their roles and responsibilities in maintaining barriers to prevent major accidents.	x			
The management system is documented, readily accessible by all employees, and easily used to access process safety content.	x			
Management system includes all 20 elements of CCPS's Guidelines for Risk Based Process Safety.	x			
Management system includes all process safety elements required by local regulations.		x		
Management system is not solely at the company level; rather, it cascades from a corporate system to regional requirements to site activities.		x		
Average score	**3.67**			
The management system defines how operations are conducted at the workplace and promotes safety in design, operations, and maintenance.	**Always**	**Most of Time**	**Some of Time**	**Infrequent or Never**
The management system defines the process safety-related activities that are conducted (e.g. hazard identification, MOCs, incident investigation, and action item tracking).	x			
The management system refers to specific tools used to perform process safety related activities (e.g. hazard identification, MOCs, incident investigation, and action item tracking).		x		
Managers have a structured management review process (see CCPS's Guidelines for Risk Based Process Safety) for process safety elements and generate actions to address identified issues.			x	
The management system ensures employees are assigned to roles based on their competency to perform the tasks expected of that role.				x
Average score	**2.50**			

Assessment Tool Summary Page

Summary Page

Industry Tenet	Total Avg Score	Evidence	Total Score
Committed Culture	1.67	Executives personally and visibly lead process safety.	1.00
		Operators and mechanics diligently follow procedures and speak up when they suspect a problem or see an opportunity for improvement.	2.50
		Supervisors and managers verify work is done properly, intervene to correct situations, and openly communicate negative news to management.	2.00
		All employees and contractors commit to "do it right" and have a plan for when it goes wrong.	2.60
Vibrant Management Systems	2.79	All employees must clearly understand their role in managing process safety.	3.67
		The management system defines how operations are conducted at the workplace and promotes safety in design, operations, and maintenance.	2.50
		The management system is agile and continually improved.	1.75
Disciplined Adherence to Standards	2.54	Companies identify, document, and diligently follow standards for new equipment.	4.00
		Companies also identify, document, and diligently follow a set of standards applicable to existing equipment.	2.50
		Companies identify and manage process safety risks arising from gaps against these standards.	1.60
		As industry standards evolve, companies codify significant new learnings in their identified standards for existing (and new?) equipment.	3.00
Intentional Competency Development	3.15	Intentional competency development includes understanding competency expectations, providing educational resources, and allowing time for people to build competency.	4.00
		Intentional competency development applies to all levels in the organization.	3.00
		Competency includes engineers implementing technical designs.	2.00
		Competency includes operators knowing their process and safe operating limits.	3.33
		Competency includes leaders visibly leading process safety.	3.33
Enhanced Application and Sharing of Lessons Learned	2.79	We learn from accidents, near misses, industry benchmarking, and success stories.	3.67
		First, identify the learnings and recognize the value in sharing it with others.	3.57
		Second, use a system to efficiently share learnings, without overwhelming the organization.	2.00
		Third, embed the learning in standards or practices, and check if existing equipment or processes require modification	1.60

Benchmarking Results

Name (if you would like to be put in a drawing for a free CCPS book): _____

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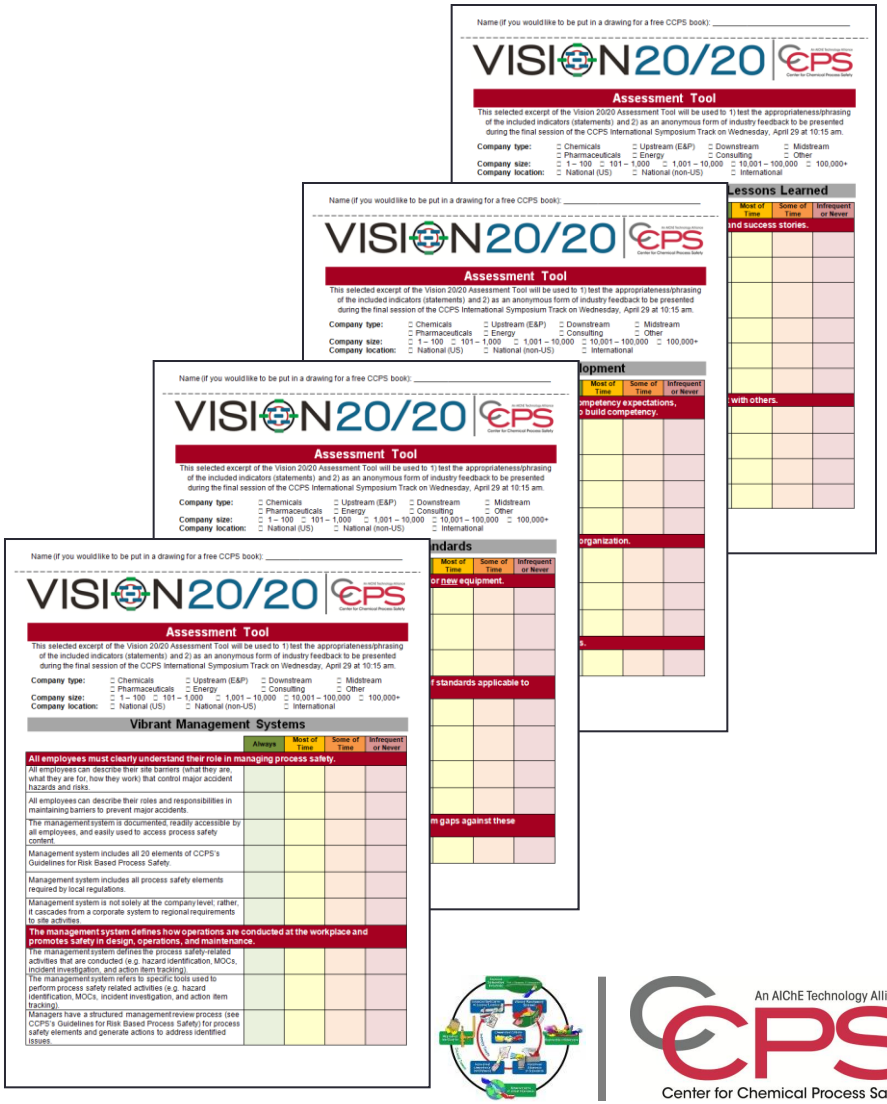
Assessment Tool

This selected excerpt of the Vision 20/20 Assessment Tool will be used to 1) test the appropriateness/phrasing of the included indicators (statements) and 2) as an anonymous form of industry feedback to be presented during the final session of the CCPS International Symposium Track on Wednesday, April 29 at 10:15 am.

Company type: ☐ Chemicals ☐ Upstream (E&P) ☐ Downstream ☐ Midstream ☐ Pharmaceuticals ☐ Energy ☐ Consulting ☐ Other
Company size: ☐ 1 – 100 ☐ 101 – 1,000 ☐ 1,001 – 10,000 ☐ 10,001 – 100,000 ☐ 100,000+
Company location: ☐ National (US) ☐ National (non-US) ☐ International

Committed Culture

	Always	Most of Time	Some of Time	Infrequent or Never
Executives personally and visibly lead process safety.				
Executives review industry and company incidents and review their own operations for similar hazards.				
Process Safety topics are regular agenda items at board/executive meetings.				
Executives have personal Process Safety performance goals and objectives (beyond stating metric goals).				
Process safety lagging metrics are tracked at the site and company level.				
Process safety leading metrics are tracked at the site and company level.				
Executives commit a meaningful amount of time personally involved in process safety activities (e.g. risk mitigation planning, discussing incident investigations, and actively monitoring action item tracking).				
Executives and senior managers respond to poor process safety performance with the intent to identify and address root causes.				
Executives and senior managers reward good process safety performance and identify learnings to leverage across the site/company.				
Executives and senior managers talk knowledgeably about the major hazards and risks at each site (as applicable) and the associated critical barriers.				
Process safety activities are included in annual operating plans and budgets.				
Process safety metrics directly impact executive compensation.				
The annual report discusses process safety activities and leading process safety metrics.				
Executive leadership routinely visits production units and have meaningful discussions regarding process safety related issues with operations and maintenance personnel.				
Executives personally follow-up with site operations and technical personnel regarding potentially significant process safety incidents.				
Executives and leadership positively recognize individuals for raising concerns regarding process safety.				
Operators and mechanics diligently follow procedures and speak up when they suspect a problem or see an opportunity for improvement.				



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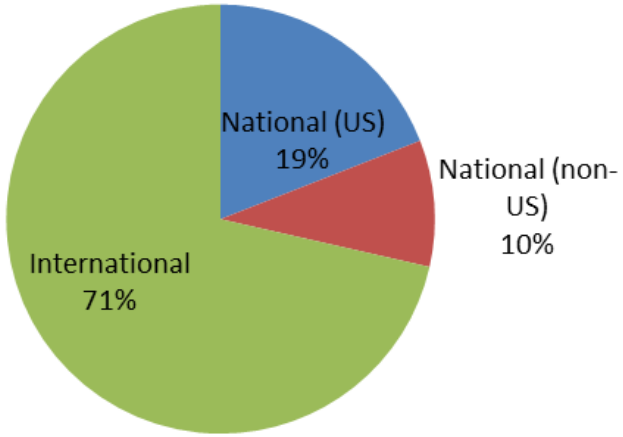
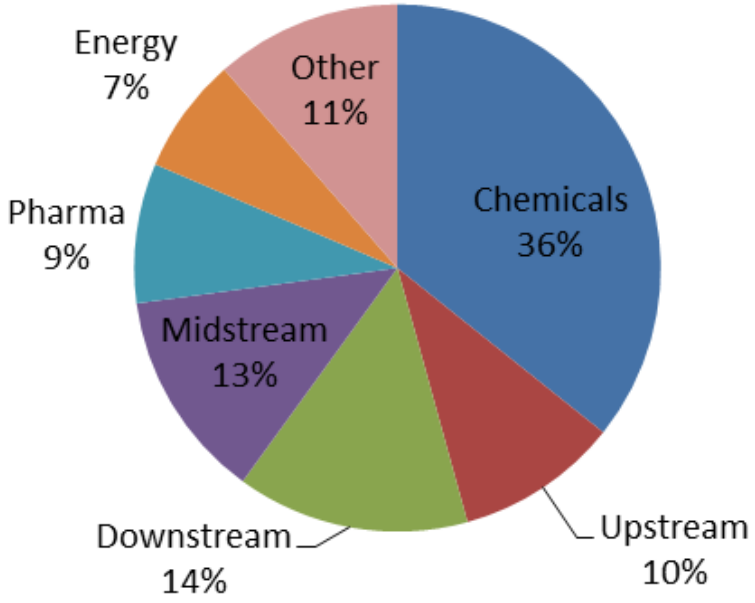
Metadata

Number of Surveys Completed: 68

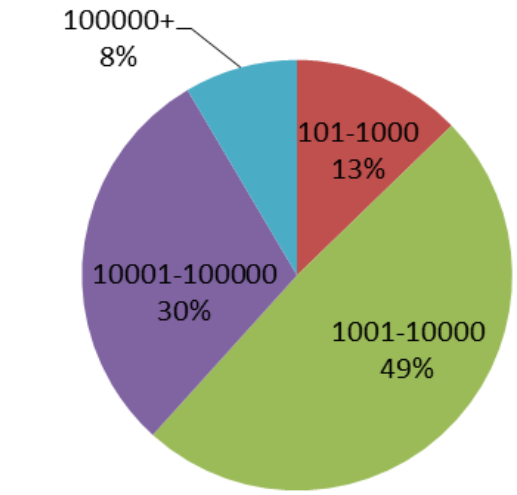
Responses: Company Location



Responses: Company Type



Responses: Company Size



VISION 20/20 Assessment Tool Overall Results

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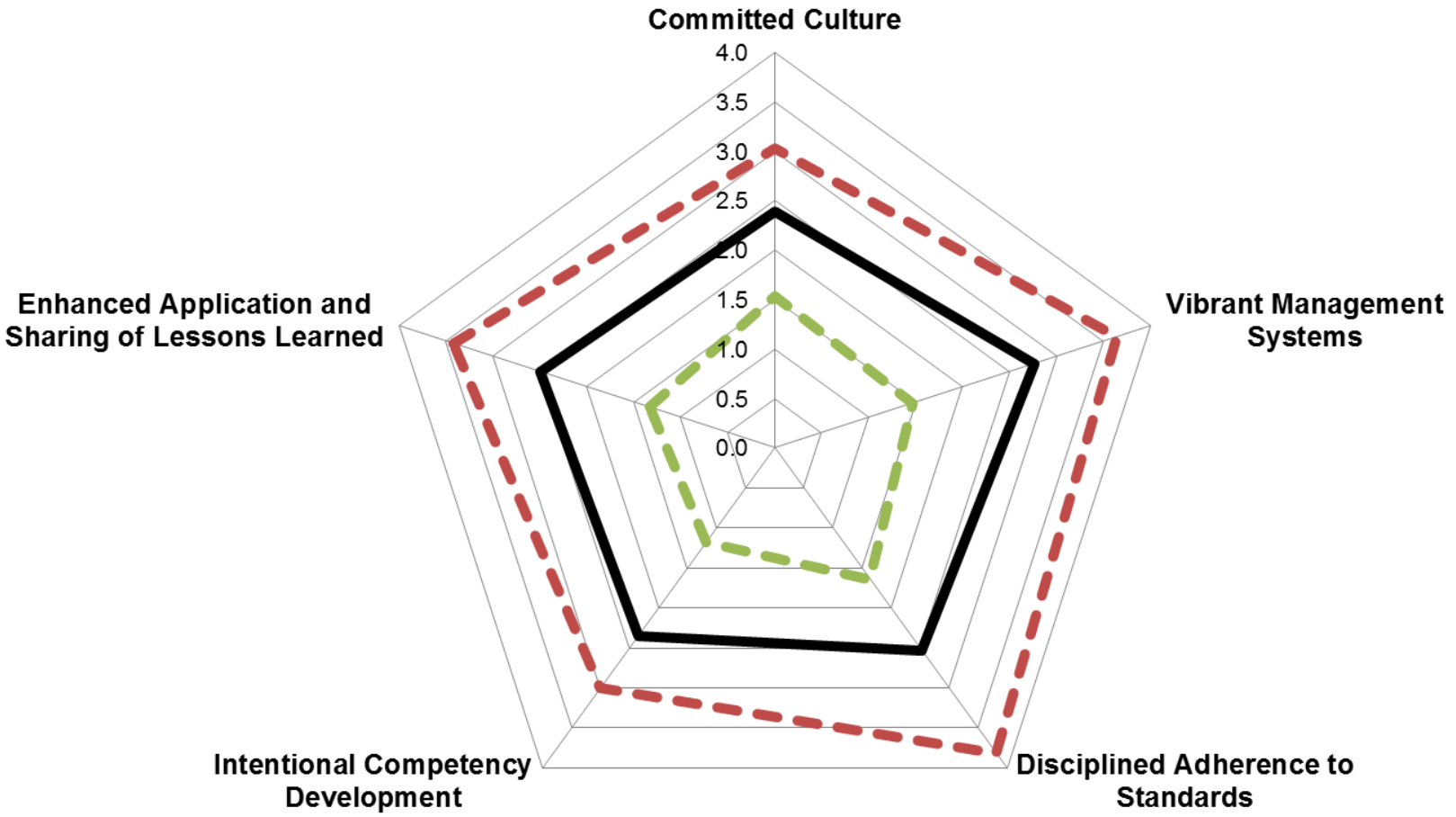

VISION 20/20 Assessment Tool Overall Results

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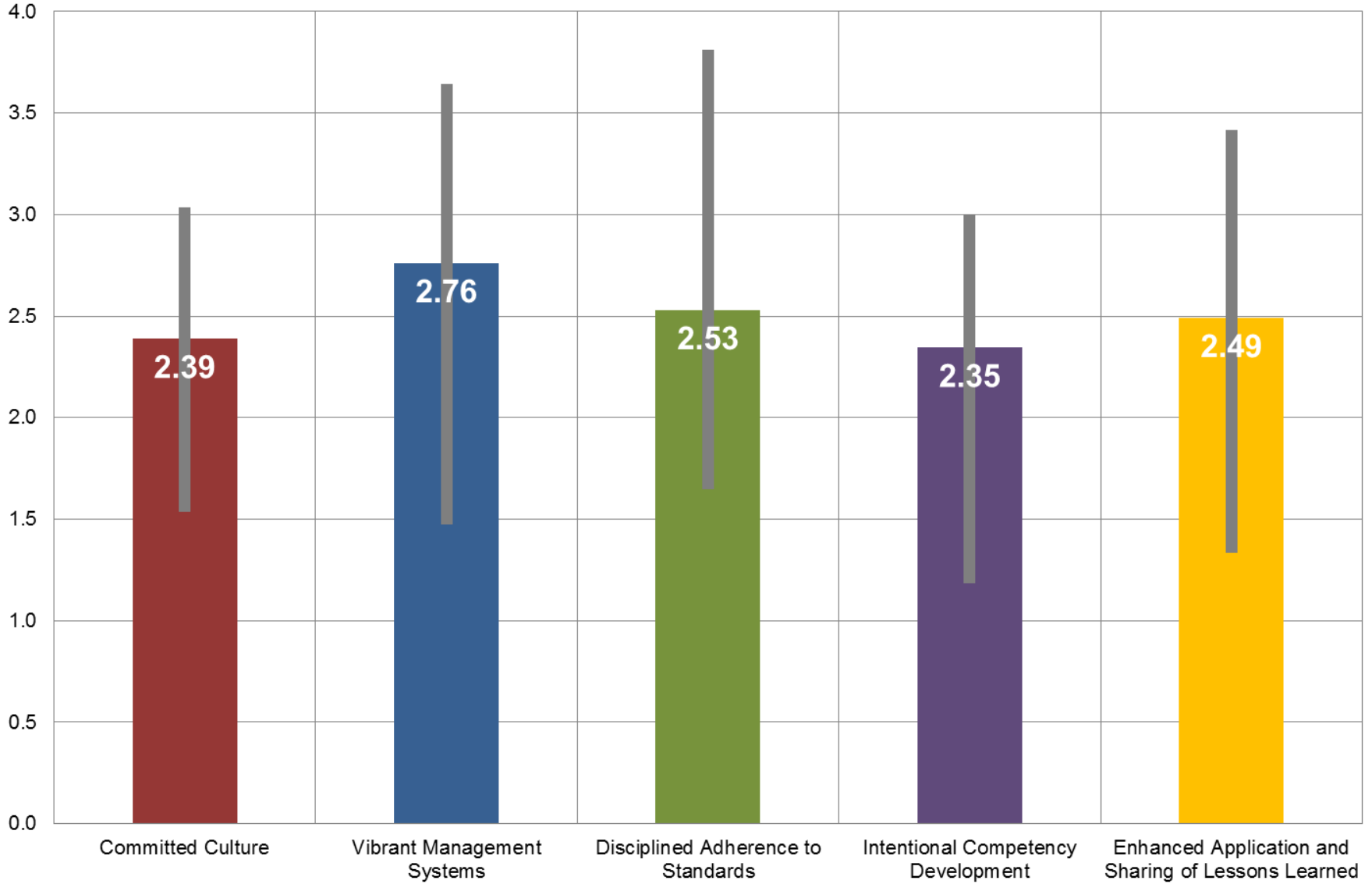

VISION 20/20 Assessment Tool Detailed Results

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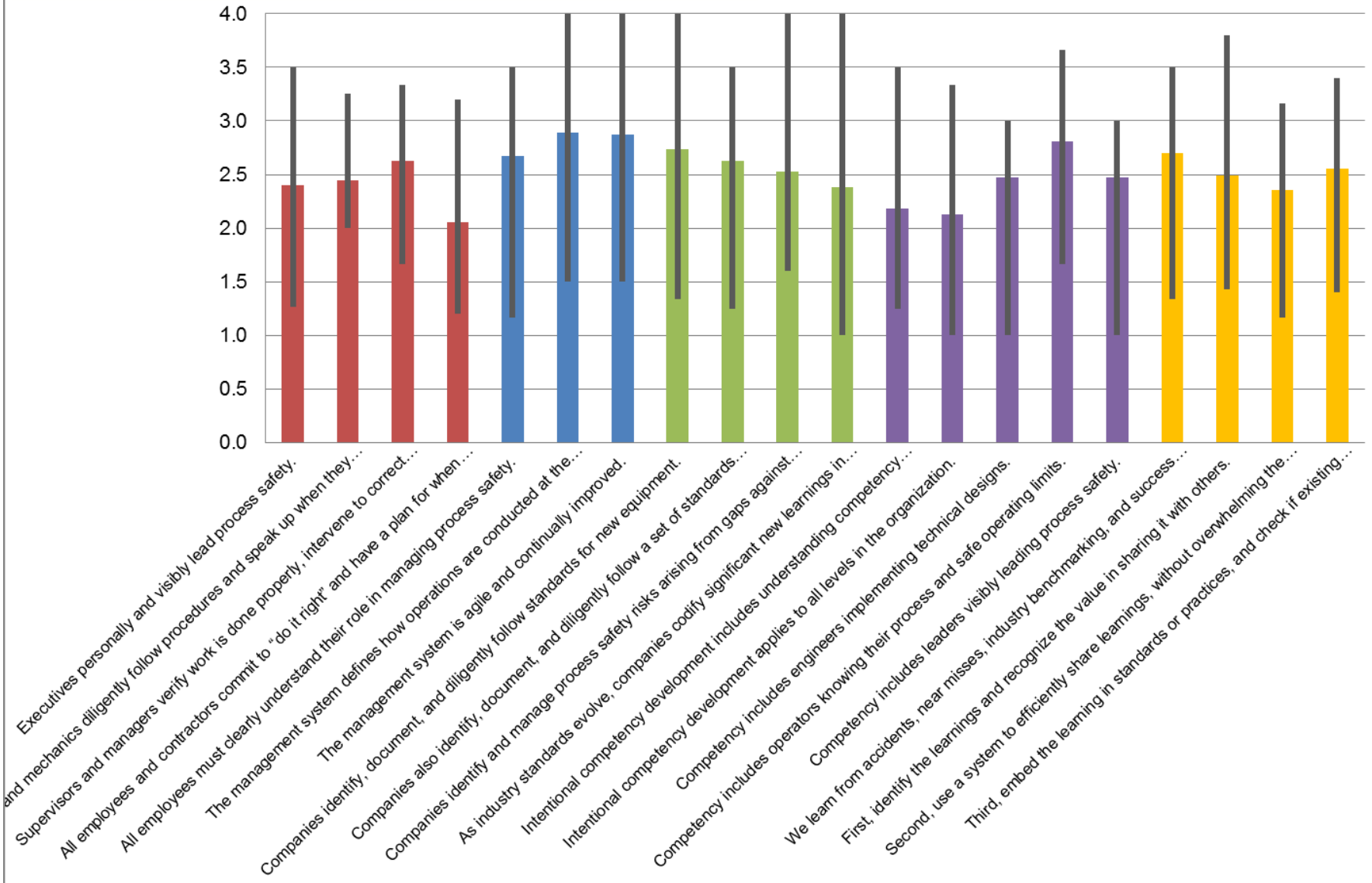

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Committed Culture

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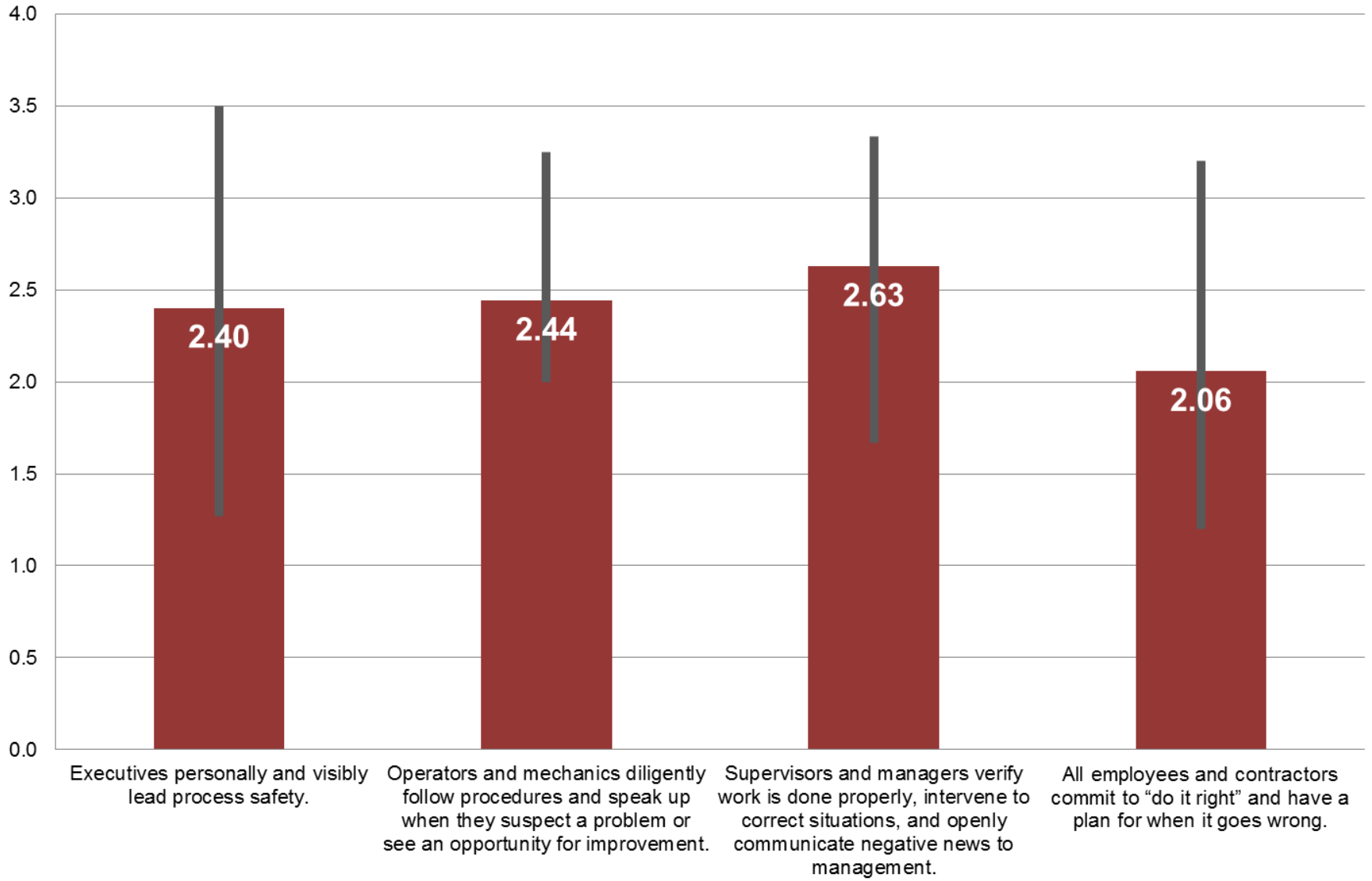

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Vibrant Management Systems

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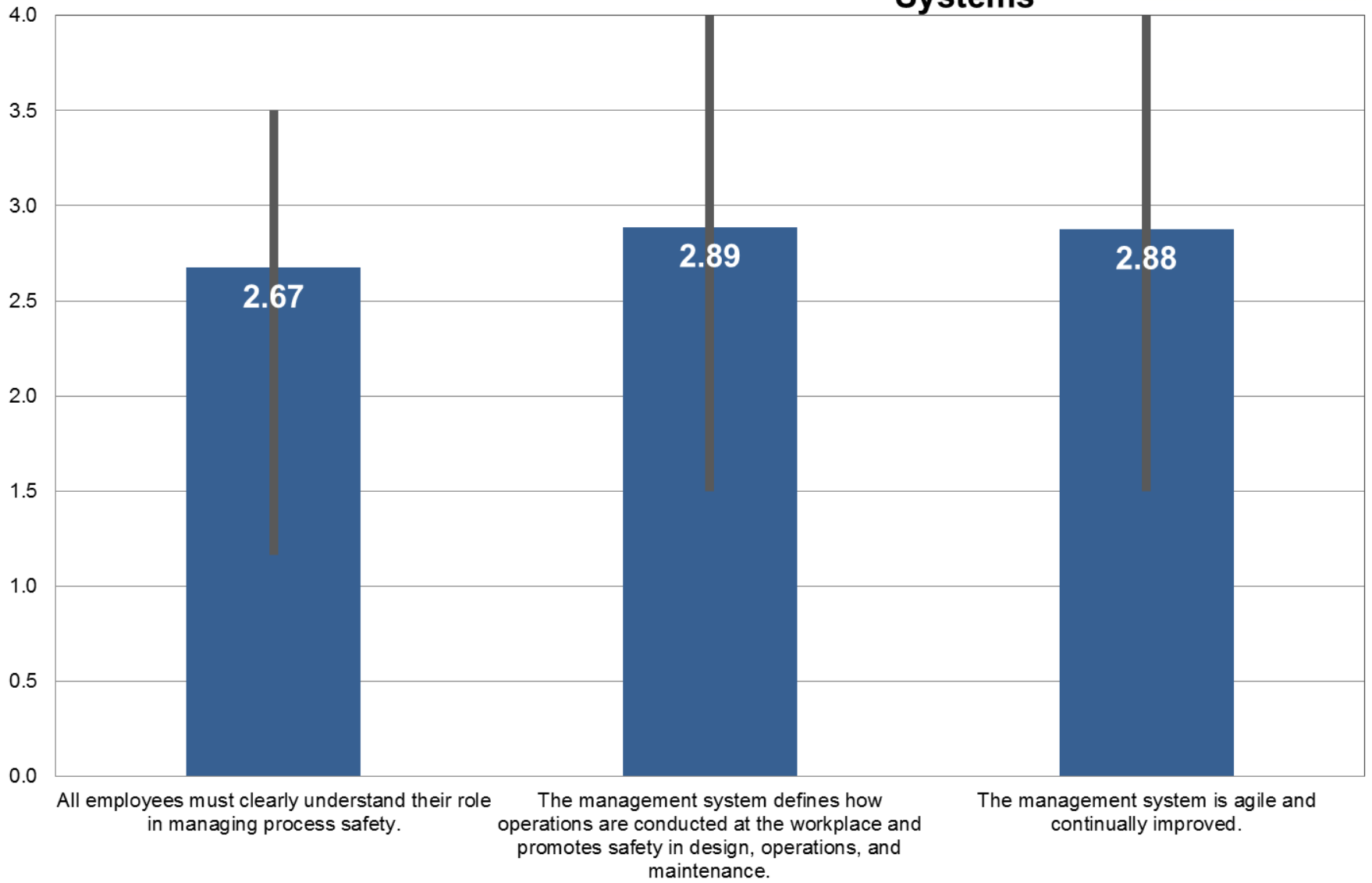

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Disciplined Adherence to Standards

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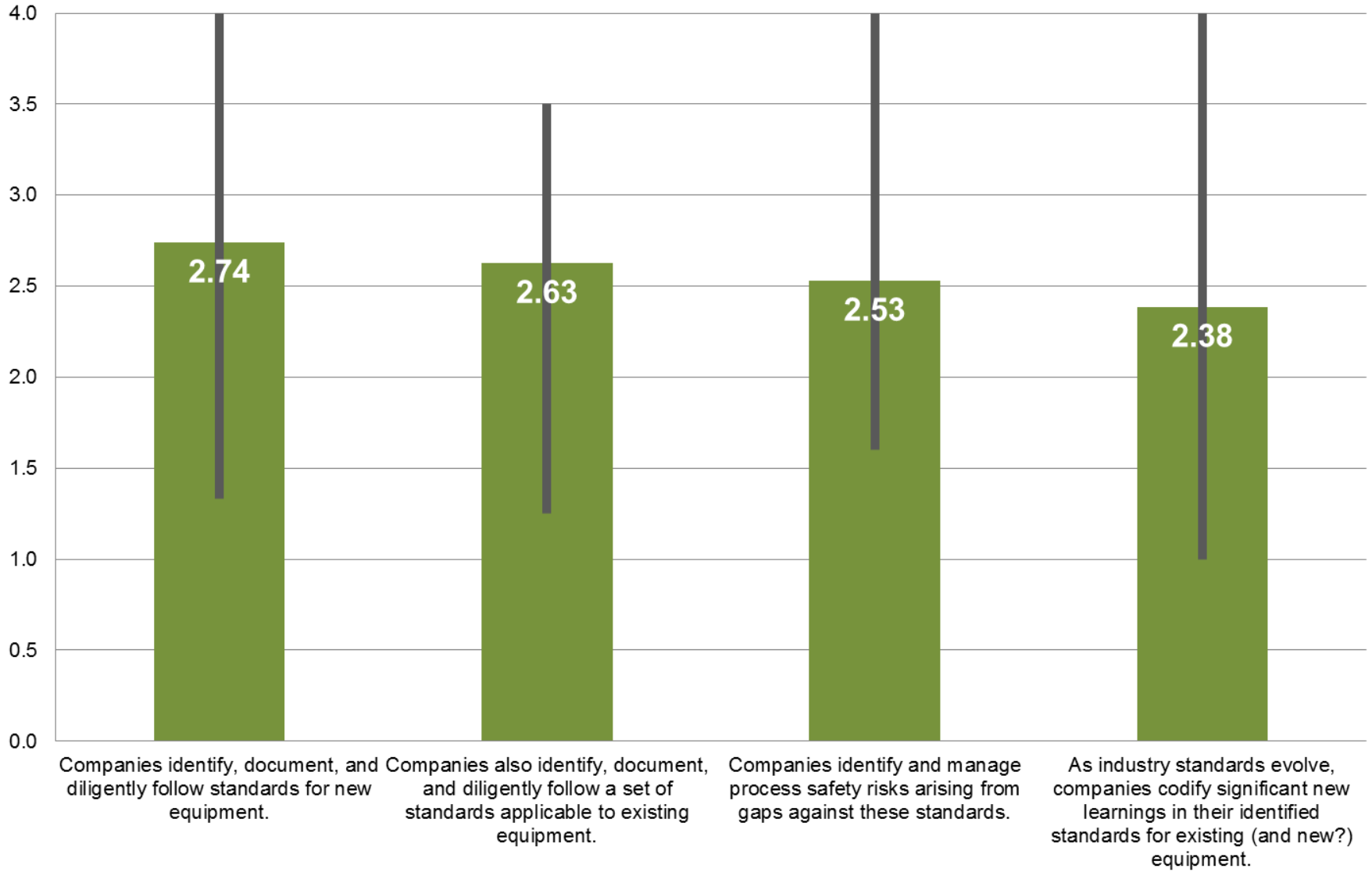

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Intentional Competency Development

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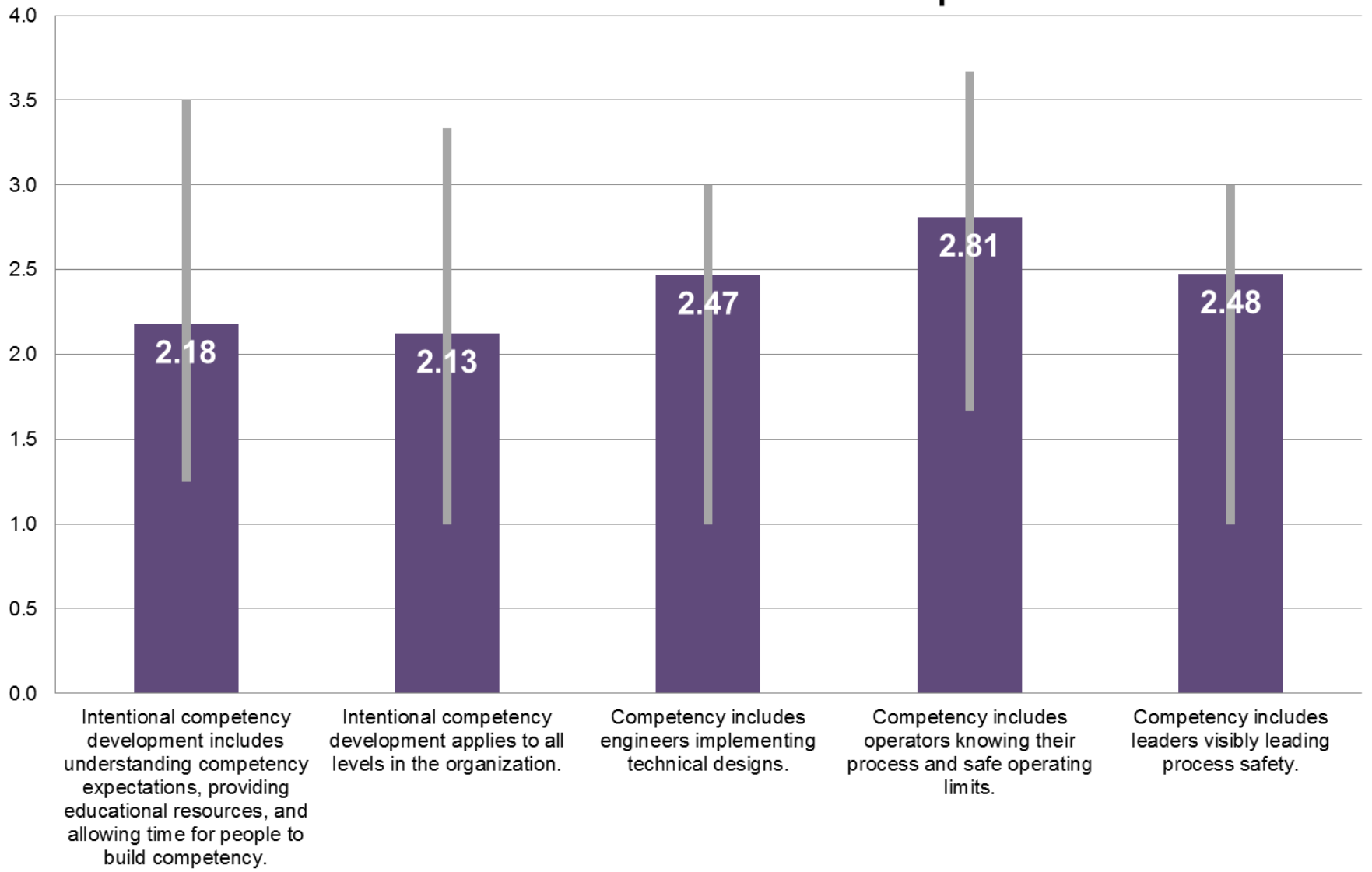

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Enhanced Application & Sharing of Lessons Learned

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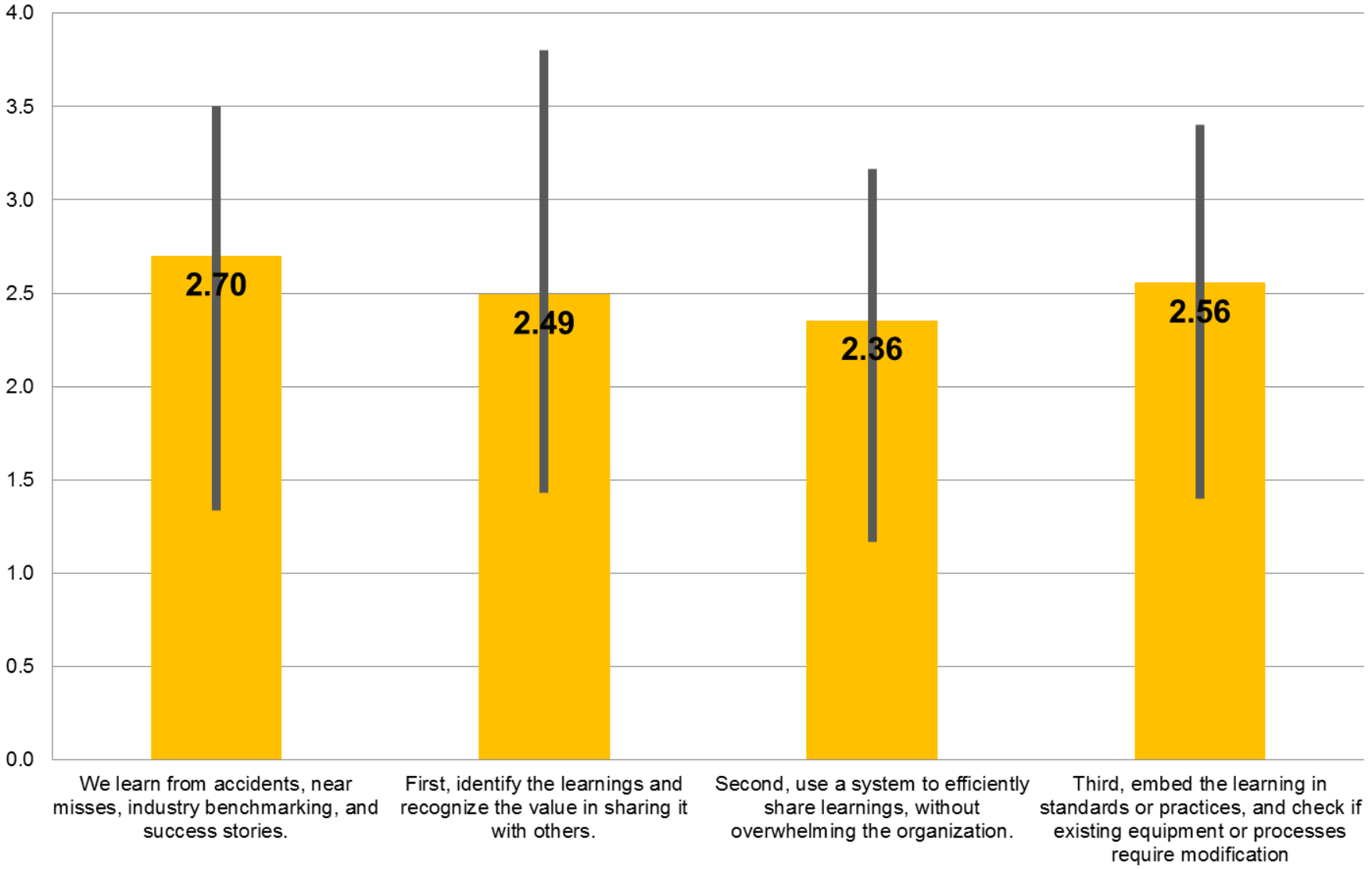

A call to action…

It's time to leverage our resources, knowledge and skills to all strive for a common goal of great process safety performance. CCPS's Vision 20/20 describes that vision.

- Understand and communicate the tenets and themes
- Evaluate your contribution
  - within your company, across your discipline industry colleagues, and with your regulatory, academic, and local communities.
- Evaluate performance, seek collaboration and take action

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Vision 20/20 Panel Discussion

Industry Representatives

Pete Lodal, representing ACC

Shakeel Kadri, representing CCPS

Academia

Ron Willey, Northeastern University

Gord Winkel, University of Alberta

Regulators

Lisa Long, OSHA

Mathy Stanislaus, EPA

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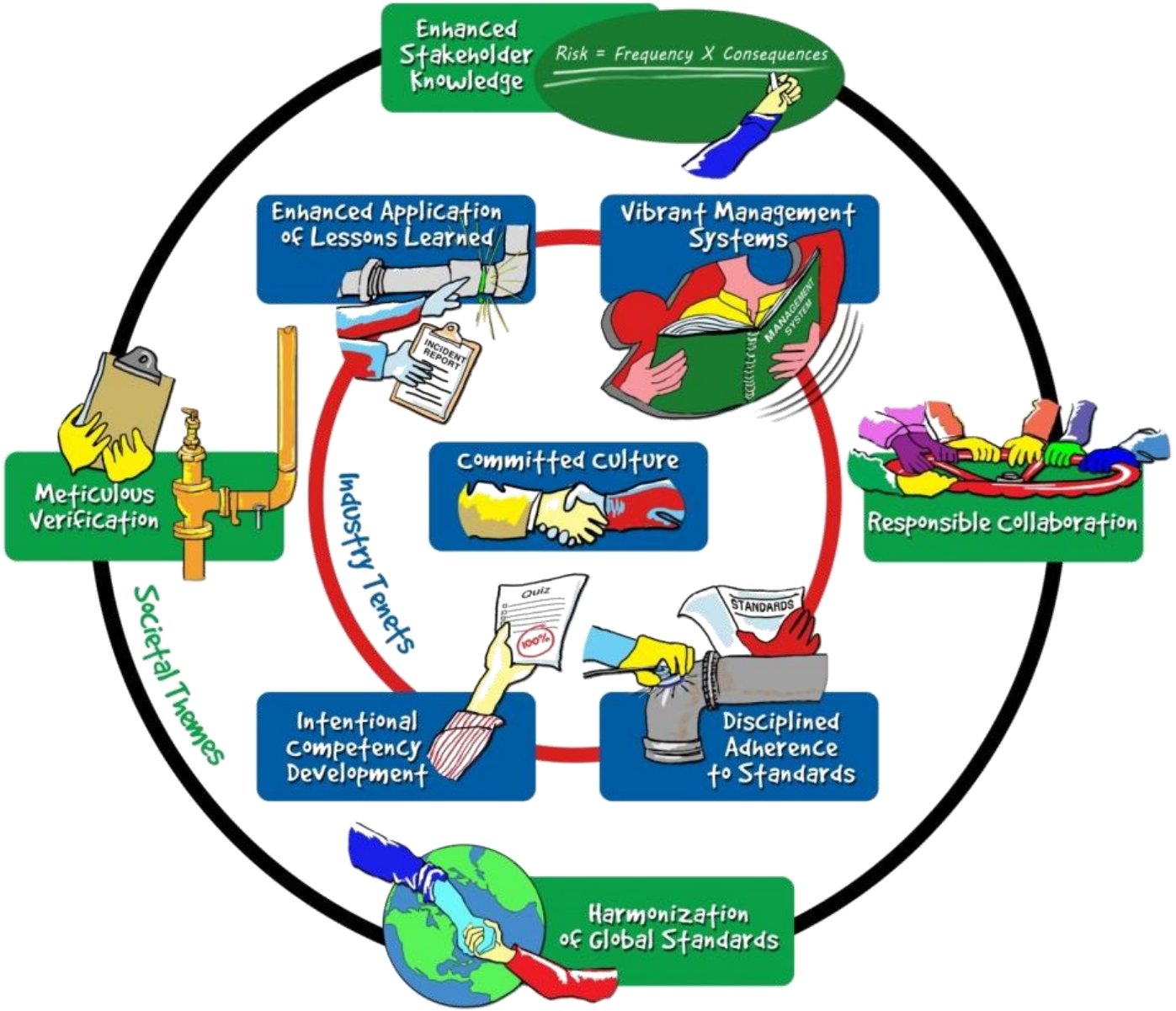
Enhanced Stakeholder Knowledge
Risk = Frequency X Consequences
Enhanced Application of Lessons Learned
INCIDENT REPORT
Vibrant Management Systems
MANAGEMENT SYSTEM
Meticulous Verification
Committed Culture
Responsible Collaboration
Industry Tenets
Societal Themes
Quiz
100%
STANDARDS
Intentional Competency Development
Disciplined Adherence to Standards
Harmonization of Global Standards