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***Velocity*EHS<sup>®</sup>**

**Escaping the IH Black Box:  
Actions to Elevate Your Program  
& Demonstrate Its Value**

**Dave Risi, CIH, CSP | VelocityEHS**

# Meet the Presenter

**Dave Risi, CIH, CSP**

Solutions Executive

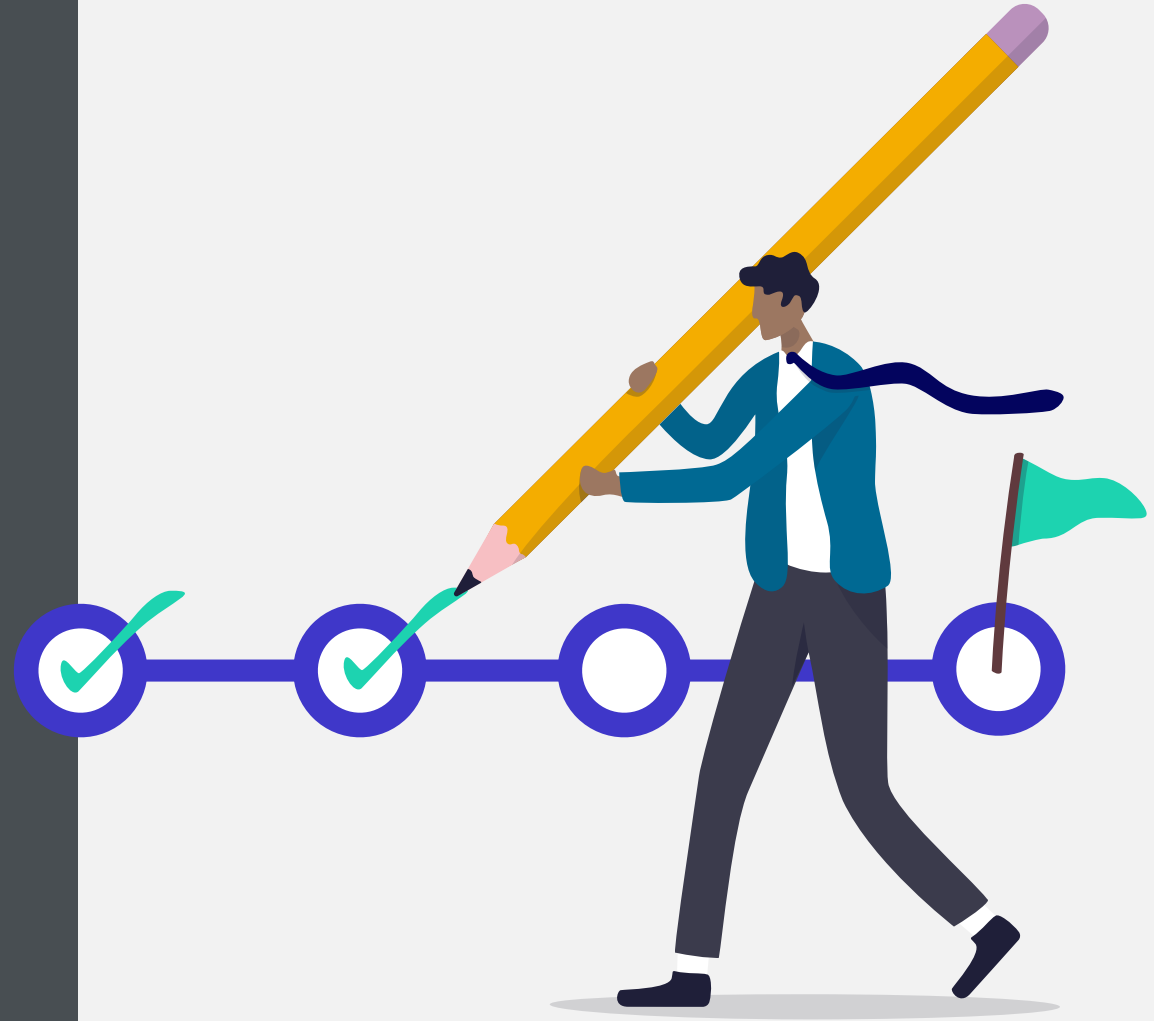
VelocityEHS

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# Agenda

- Current state & trends
- Status of your IH program
- Key stakeholders & building the business case
- Impact of technology



# Current State and Trends

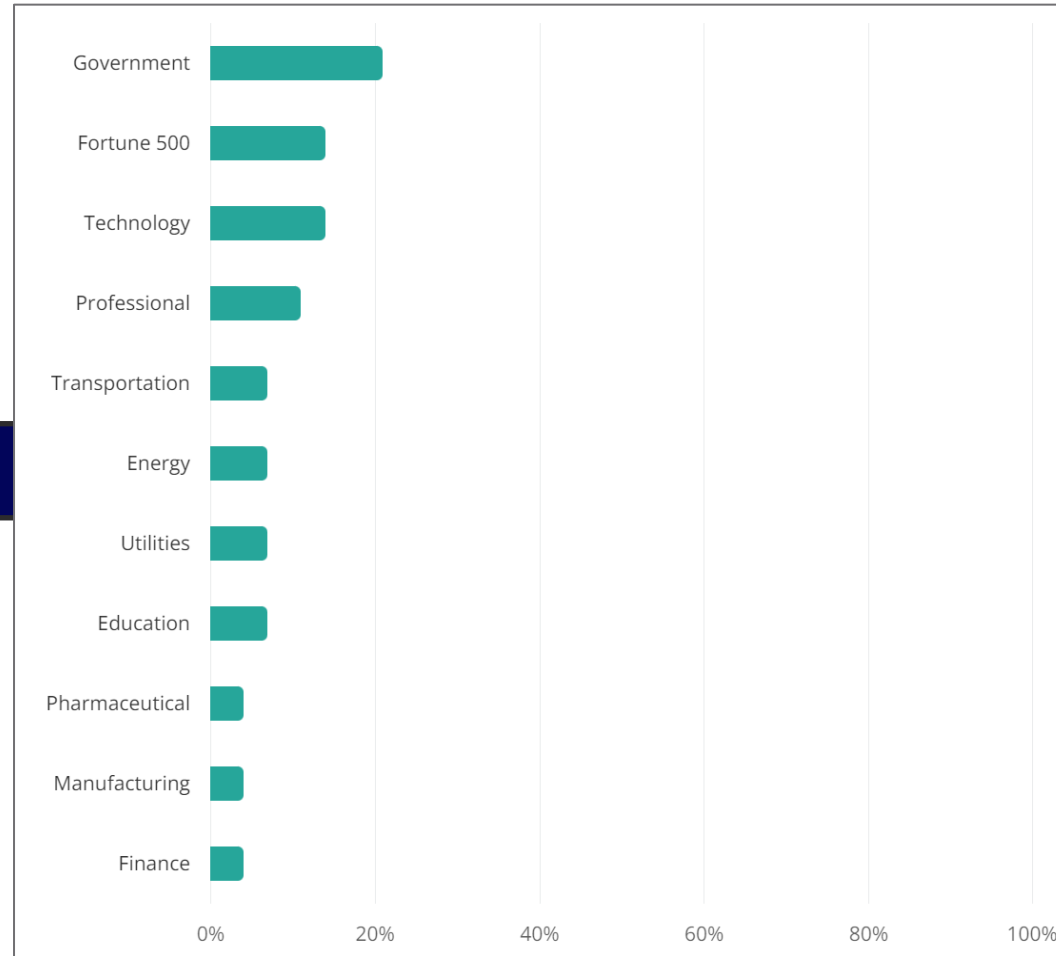


# Common Trends

- Number of universities with IH programs decreasing
- Less IH Professionals in industry
- Increase in utilizing consultants, EHS Generalists
- Shifting workforce demographic
  - 65% over the age of 42



# CIH Jobs by Industry



Source: <https://www.zippia.com/certified-industrial-hygienist-jobs/demographics/>

Updated June 29, 2023

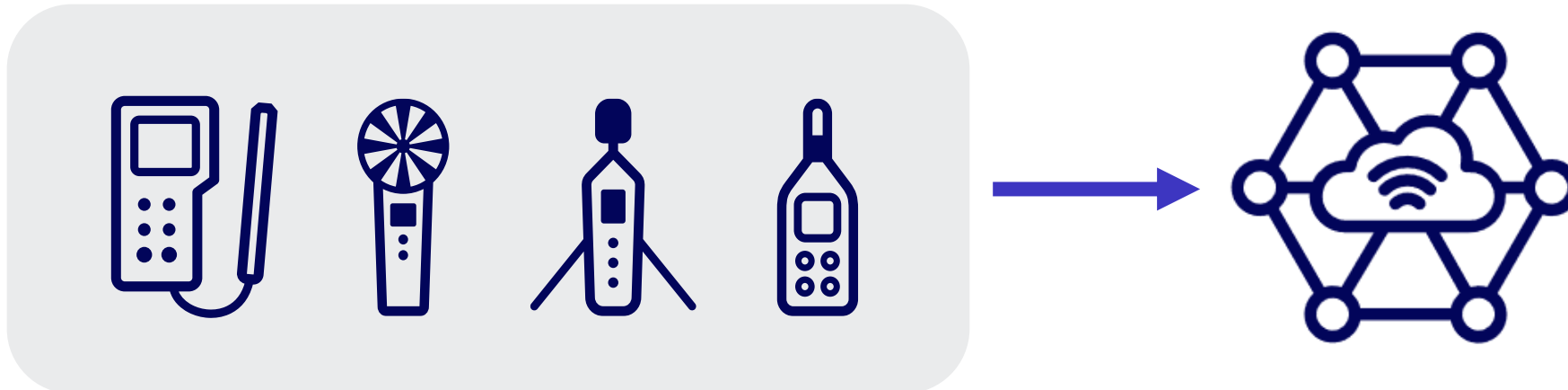


**Poll Question:**  
**Who conducts the**  
**majority of your IH field**  
**services?**



# More Changes On The Horizon

- Industrial Revolution / IH4.0
- Predictive analytics
- Spreadsheets to real-time database analysis





# What's the Status of Your IH Program?



# What Is a Plan Self-Assessment?

- A plan self-assessment is distinct from an audit
  - Independence of auditor
  - Importance of evidence
  - Lack of comparative standard
- Evaluation level
  - Plan contents
  - Process
  - System
- Gap Analysis



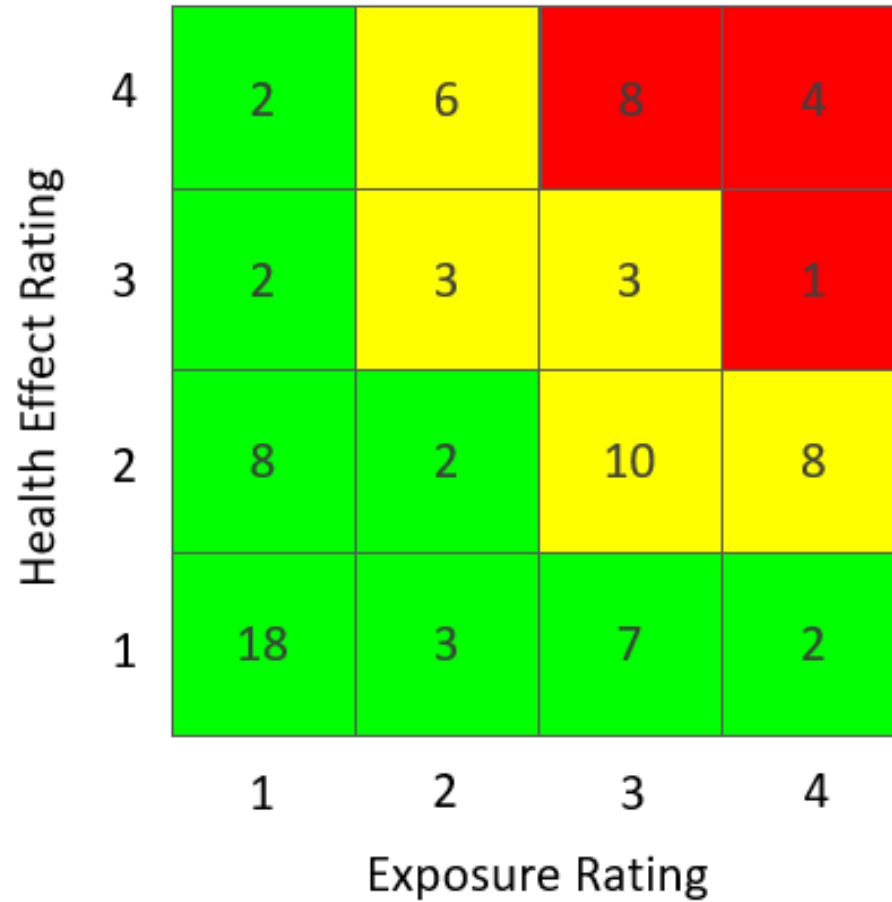
# Balanced Scorecard

Houston Refinery: IH Balanced Scorecard							
Objective	Measure	Owner	Target	Actual	Trend	On Target	Notes
<b>SEGs</b>							
Completeness	% SEGs identified	Dave R.	100	100	→	●	Added SEGs for new Coker unit
Precision	% SEGs up to date for initial site characterizations	Dave R.	90	80	↓	●	Need to assess new catalysts and SDSs
<b>Qual Assessments</b>							
Completeness	% of QEAs performed on time	Dave R.	100	50	↓	●	Behind due to delays in turnaround activity
Precision	Average Uncertainty Rating	Kristi H.	0.4	0.7	→	●	Waiting to collect more data after turnaround
Exposure Rating	# of Exposure Ratings of 3 or 4	Sami S.	4	10	→	●	
<b>Sampling Plan</b>							
Completeness	% of sampling plan performed on time	Dave R.	100	50	↓	●	Behind due to delays in turnaround activity
<b>Monitoring Data</b>							
Exposure Risk	% of samples exceeding 50% of OEL	Kristi H.	10	20	→	●	More samples in Summer
Completeness	% of employee notification reports sent < 14 days	Kristi H.	100	90	↑	●	
Completeness	% of final reports completed < 20 days	Dave R.	100	50	↓	●	will catch up after 2-week vacation
<b>Feedback</b>							
Perception	Average value rating from questionnaire	Sami S.	4	3.8	↑	●	Better response rate and improved from 3.6



# Risk Matrix

Qualitative Risk Ranking Matrix  
Without Controls



# Key Stakeholders & Building the Business Case



# Who Are Your Key Stakeholders?

- C-Suite
- Plant/line management
- Legal
- Risk management
- HR
- Workers
- Engineering



# Estimate Value

## Qualitative

- Estimate of the value of the IH contribution
  - Improved culture or level of professionalism
  - Improved company reputation

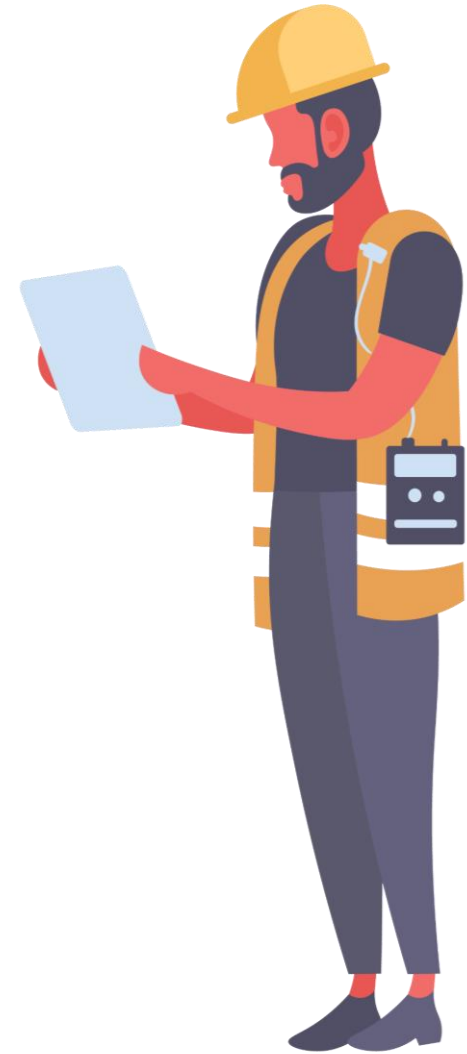
## Quantitative

- Calculate benefits using common business metrics
  - Increased productivity
  - Reduced absenteeism
  - Lower turnover
  - Lower healthcare costs



# Process for Building the Business Case

- Identify your key stakeholders
- Educate them on your “why” and goals
- Align value opportunities with business objectives
  - E.g., cost reduction, product quality, brand protection, etc.
- Documents metrics to measure status vs objectives





# Example Business Cases

- Management
  - Automation: reduce manual tasks & errors
  - Standardized process across the entire company
  - Real-time trending and reporting
  - Direct costs, ROI
- Legal & Risk Management
  - Time to respond to requests for information
  - Data integrity & consistency
  - Risk of data getting corrupted or lost
- Workers, operations, maintenance
  - Better risk management and communication
  - Improved worker health and well-being





**Poll Question:**  
**What's your primary  
method to demonstrate  
the value of your IH  
program to key  
stakeholders?**

# Impact of Technology



# Big Data is Coming

- Massive volumes of data too large and complex for traditional technologies (like spreadsheets!)
- Collected by digital technologies
  - Videos, audio over days/weeks/months
  - Wearable devices
  - IoT sensors
- Rapid creation & adoption





# Established IH Use Cases

- Thermal analysis of people and equipment
  - COVID, heat stress
  - Overheating of equipment, fires
- Wearables:
  - vital signs, signs of fatigue, stress, alert worker/supervisor
- Direct-reading with IoT platforms

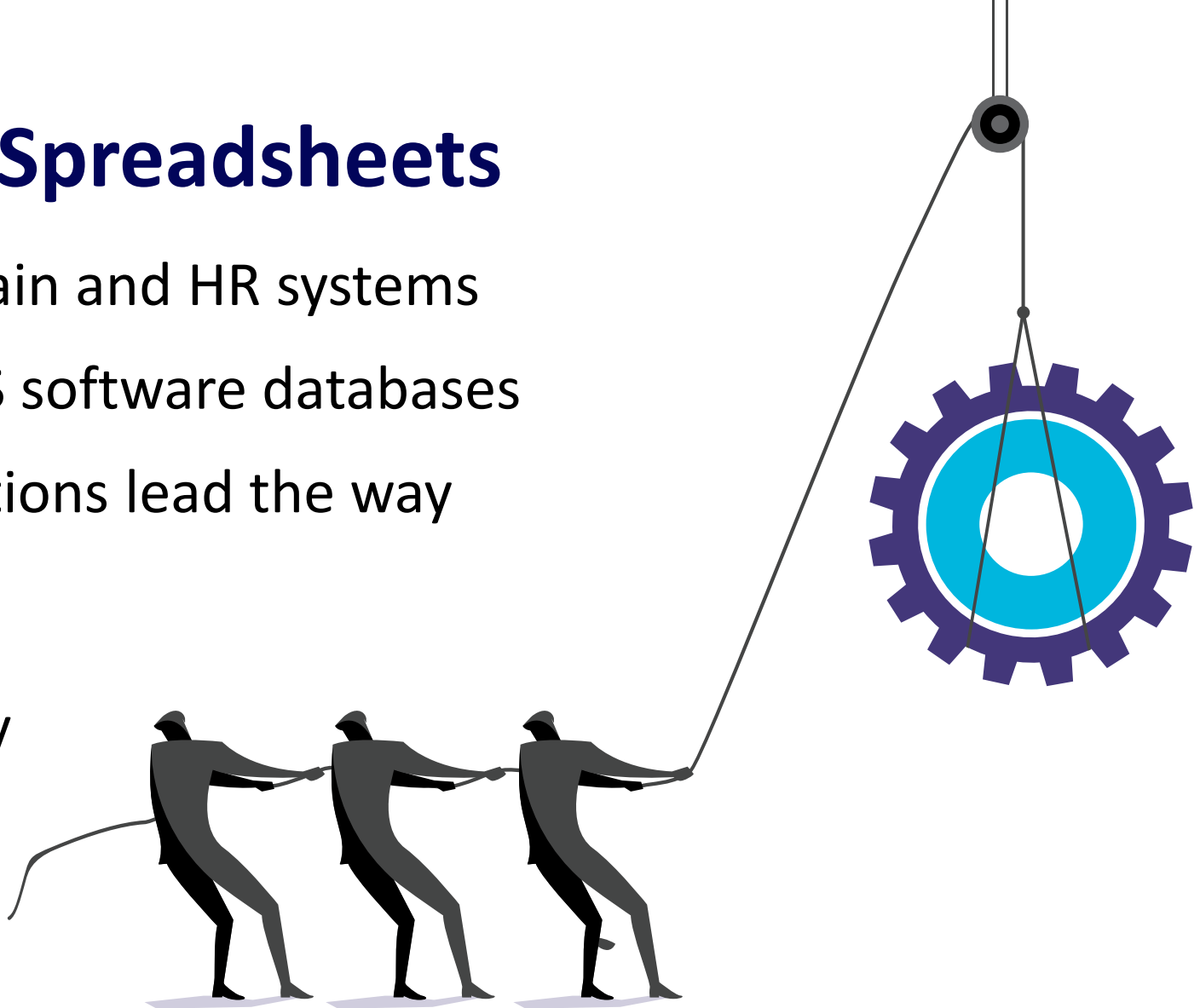
# Long-term Effect

- This technology will fundamentally alter the role of EHS professionals
- It will complement – not eliminate our EHS profession
- Simple, duplicative tasks will be automated
- Monitor multiple workers simultaneously
- Coordinating sensors, data analytics, & notifications



# Transition Away From Spreadsheets

- Early 1990's finance, supply chain and HR systems
- Mid 1990's early version of EHS software databases
- Environmental and safety functions lead the way
  - Better stakeholder awareness
  - Higher perceived value
- Even today: “We can just get by using spreadsheets”  
... and be left behind



# What Can I Do?

- Educate, educate, educate
- Work with consultants, DR equipment vendors, software partners to help identify prospective projects
- Network and learn together
- Establish an IH database, stop using spreadsheets





# Summary: Elevating Your IH Program



- Perform a self-assessment
- Identify key stakeholders & help them understand the value of IH
- Develop metrics to measure the performance
- Move from spreadsheets to a database system to enable upcoming technologies



# Questions?

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