When Data Doesn't Matter:
A Realistic Application of Analytics

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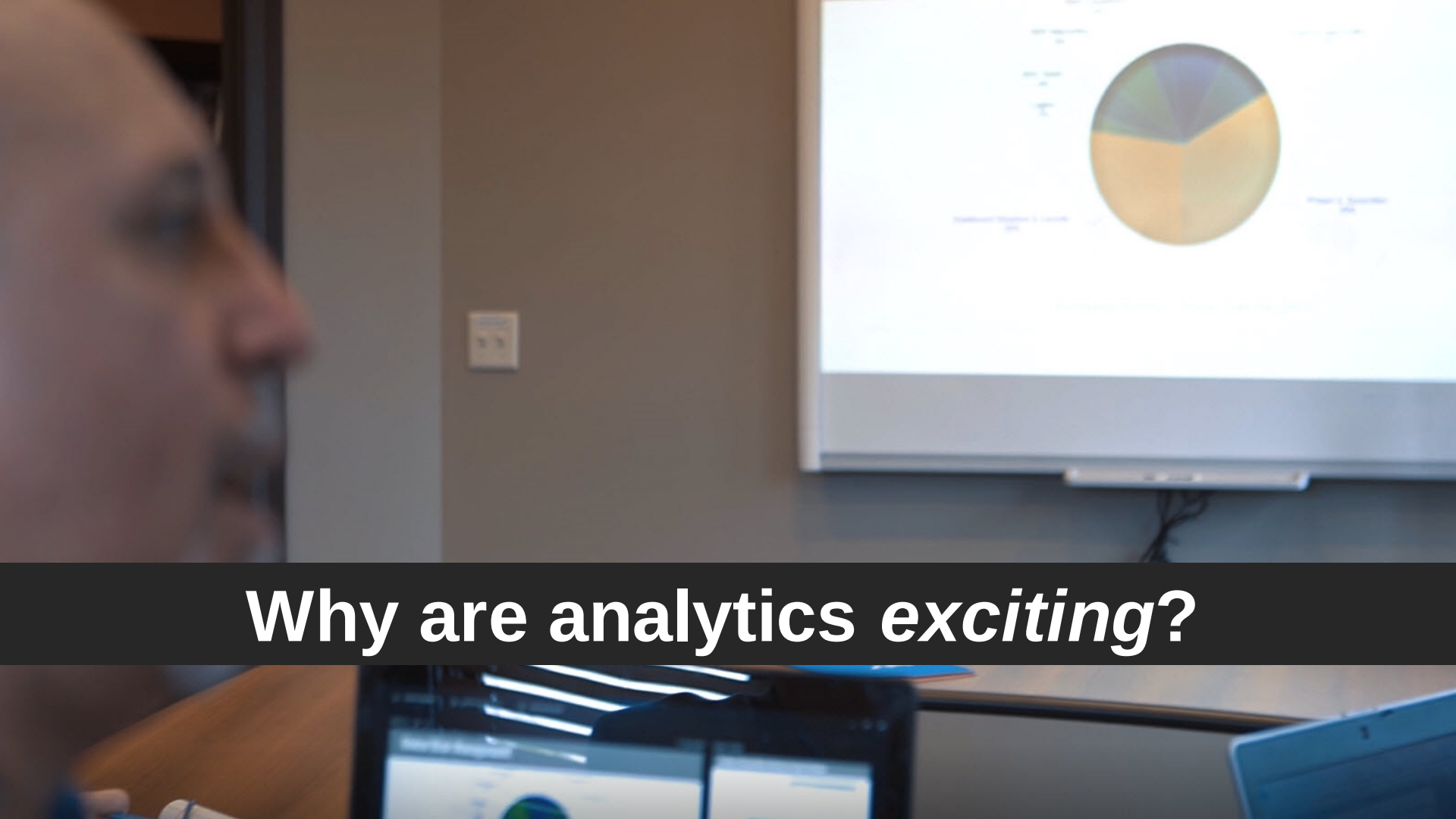
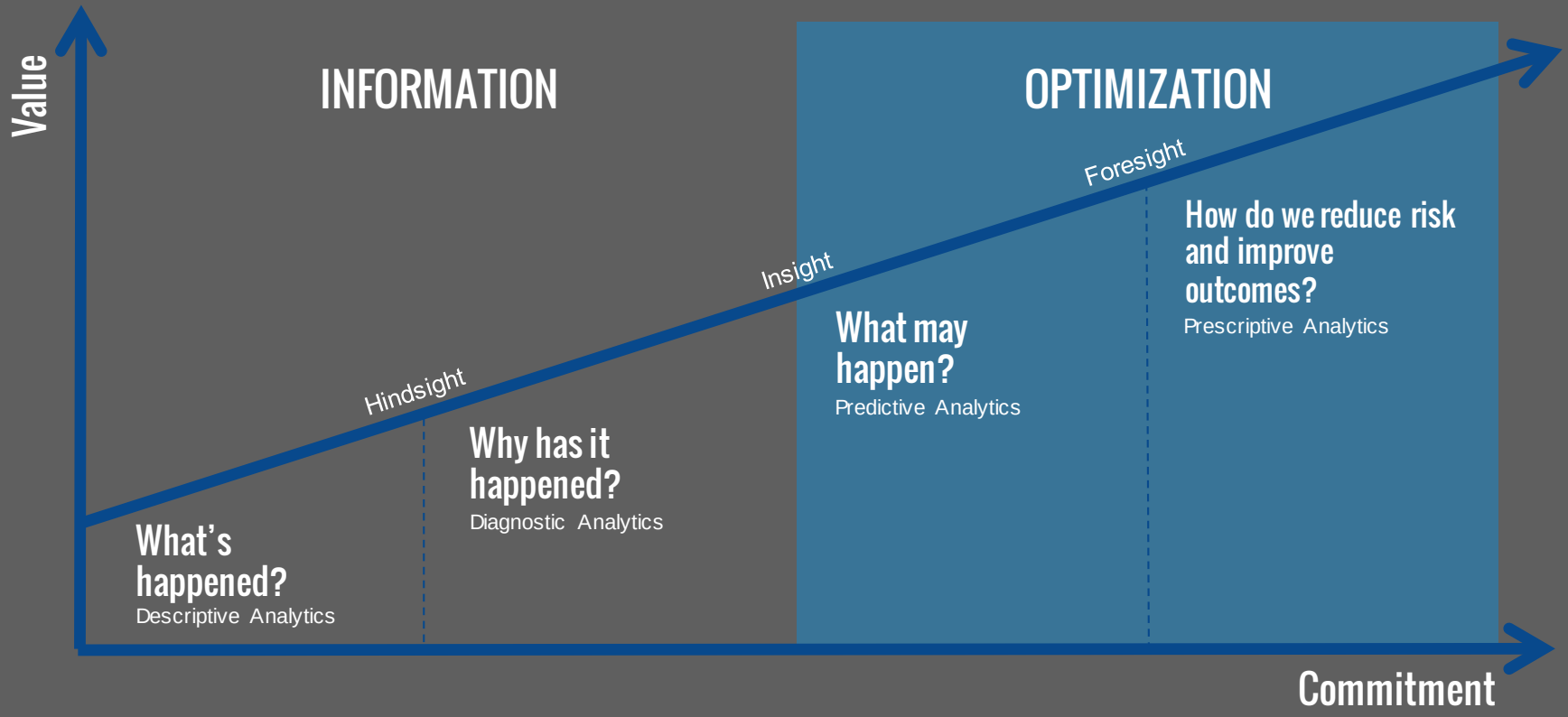
SiteHawk



Why are analytics *exciting*?

intuit
mint
Analyzes budget and financial planning data
waze
Delivers analytical model to predict ETA

The Four Types of Analytics | Maturity Model



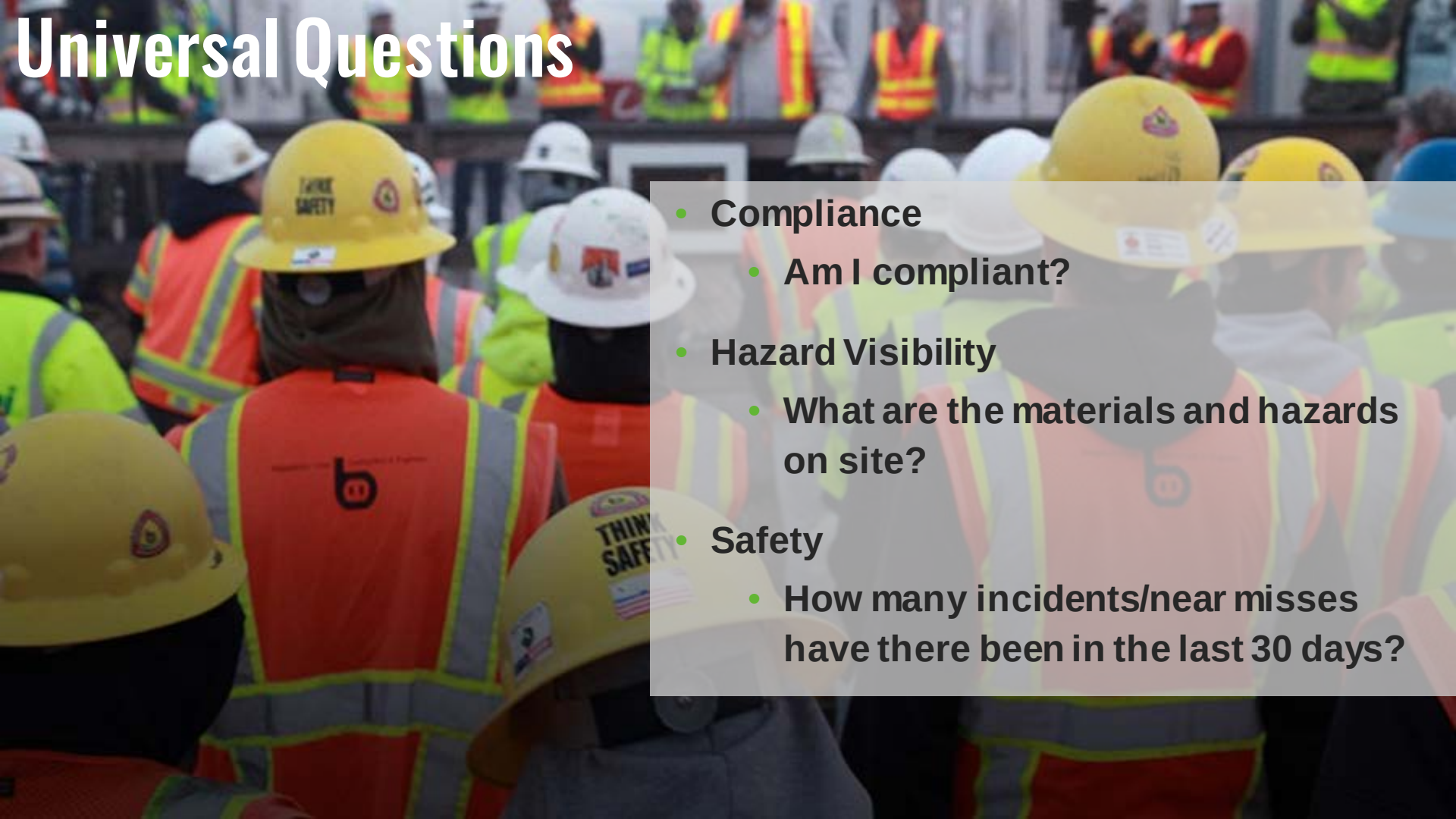
intuit
mint
Analyzes budget and financial planning data
Descriptive and Diagnostic Analytics
waze
Delivers analytical model to predict ETA
Predictive and Prescriptive Analytics

What does that mean for the EHS Manager?

Answering the questions.....

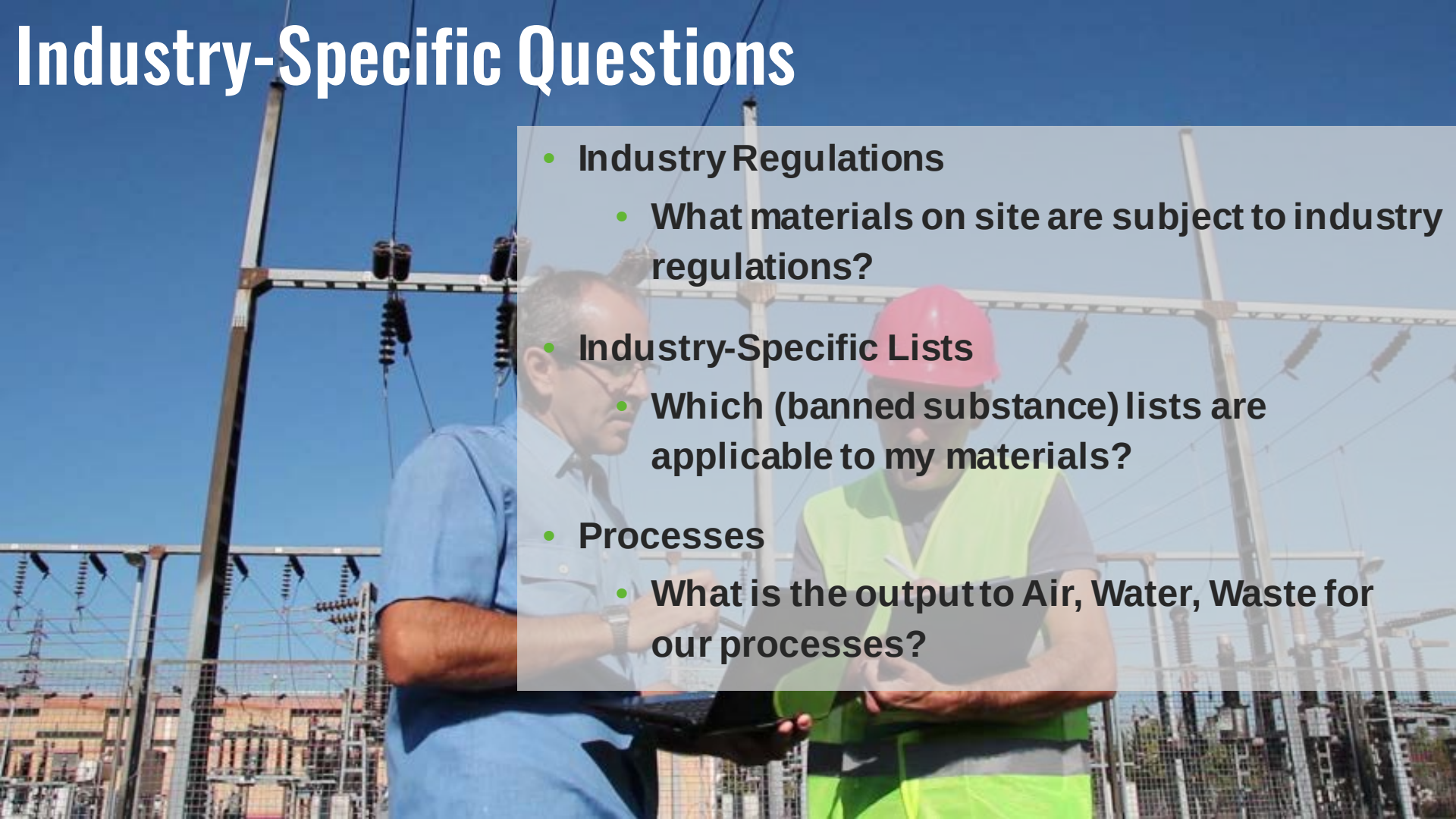
- Universal
- Industry-specific
- Business-specific
- Location-specific

Universal Questions



- Compliance
  - Am I compliant?
- Hazard Visibility
  - What are the materials and hazards on site?
- Safety
  - How many incidents/near misses have there been in the last 30 days?

Industry-Specific Questions



- Industry Regulations
  - What materials on site are subject to industry regulations?
- Industry-Specific Lists
  - Which (banned substance) lists are applicable to my materials?
- Processes
  - What is the output to Air, Water, Waste for our processes?

Business-Specific Questions

- **Business-Specific Lists**
  - What materials on site are subject to business-specific lists?
- **Product Development**
  - How are incoming materials implemented in approval processes?
- **Worker Protection**
  - What internal or corporate safety protocols are implemented in my organization?

Location-Specific Questions

- Geography/Industry
  - What agencies and regulations are my facilities subject to?
- Environmental Conditions
  - Does temperature/altitude affect my materials?
- Workforce Diversity
  - Should I provide hazard communication in multiple languages?

More data is not better.
We must collect the *right* data…

Chemicals

- What chemicals are at the facility?
  - What chemicals are restricted from the facility?
  - Are there any restricted chemicals on site?
  - What manufacturers produced the chemicals on site?
  - What are the emergency details for the chemical manufacturers?
  - When were the chemicals brought on site?
  - What chemicals have been used on site in the past?
  - Where were chemicals used on site in the past?
  - What are the identifiers for the chemicals?
  - What are the ingredients of the chemicals?
  - What are the identifiers for the chemicals?
  - What documentation is available for the chemicals on site?
  - Is documentation up to date?
  - Is the documentation compliant to current regulations?
  - Where are the chemicals in the facility?
  - How long have the chemicals been on site?
  - Who is the responsible party for chemicals?
  - What is the intended use for the chemicals?
  - What are the hazards of the chemicals?
  - What PPE is required to use these chemicals?
  - What is the inventory for chemicals onsite?
  - What are the emergency procedures for the chemicals?
  - What regulations are the chemicals subject to?
  - What volume thresholds require reporting?
  - What reporting must be done for these chemicals?
  - What has been reported for chemicals in the past?
  - What containers are the chemicals stored in?
  - What is the composition of the containers?
  - What are the labeling requirements for containers?
  - What must be done in case of accidental release?
  - What are the disposal requirements for the chemicals?
  - What chemicals have been involved in an incident?
  - What chemicals are used in a specific process?
  - Sludge (waste stream) is derivative of what chemicals?

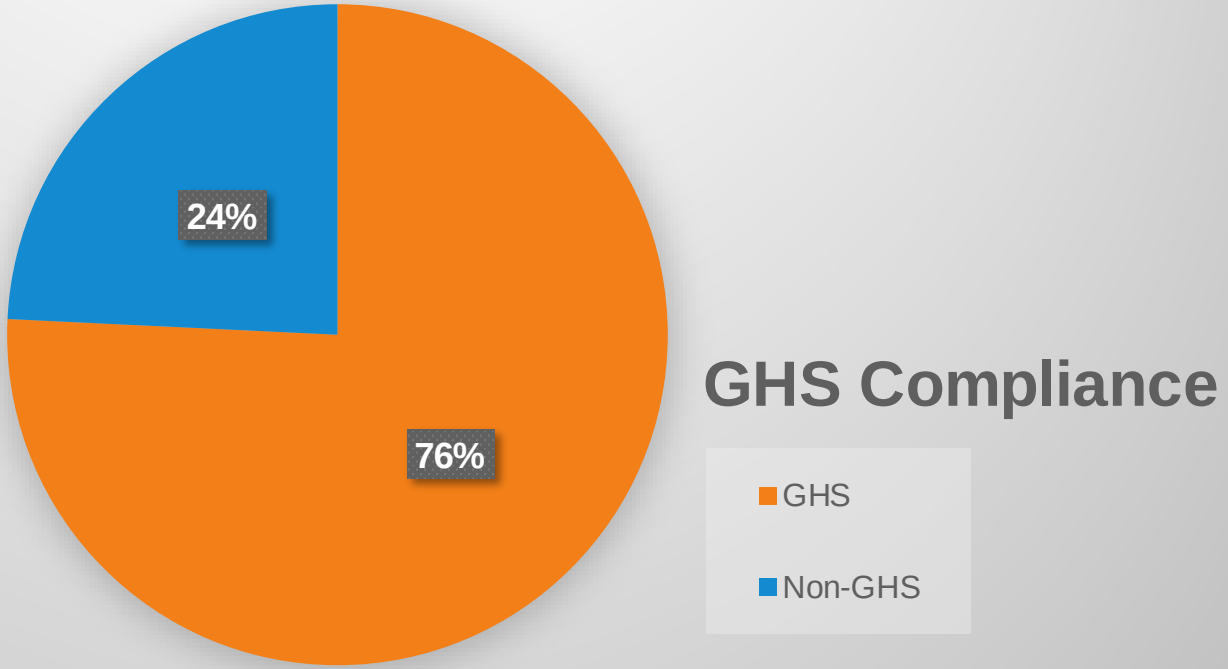
Finding the *right* data…

How are Analytics applied in EHS?

Descriptive Analytics

- What Happened?

What percentage of my Safety Data Sheets are GHS Compliant?

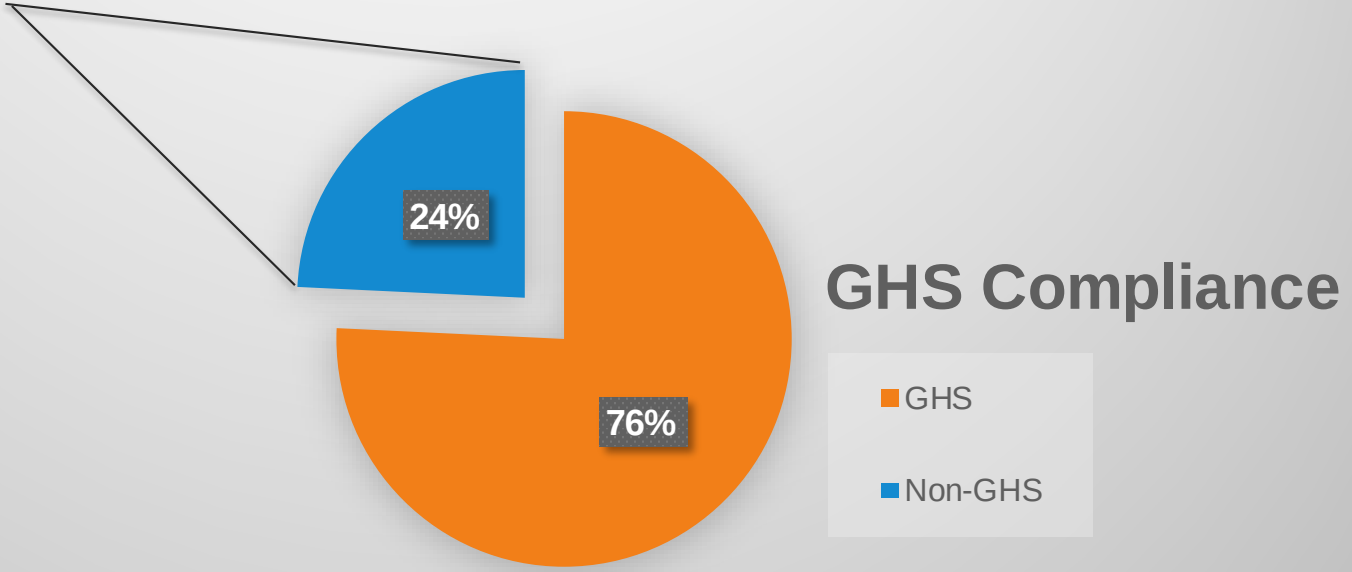


Diagnostic Analytics

- Why Did It Happen?

Why are my SDS not GHS compliant?

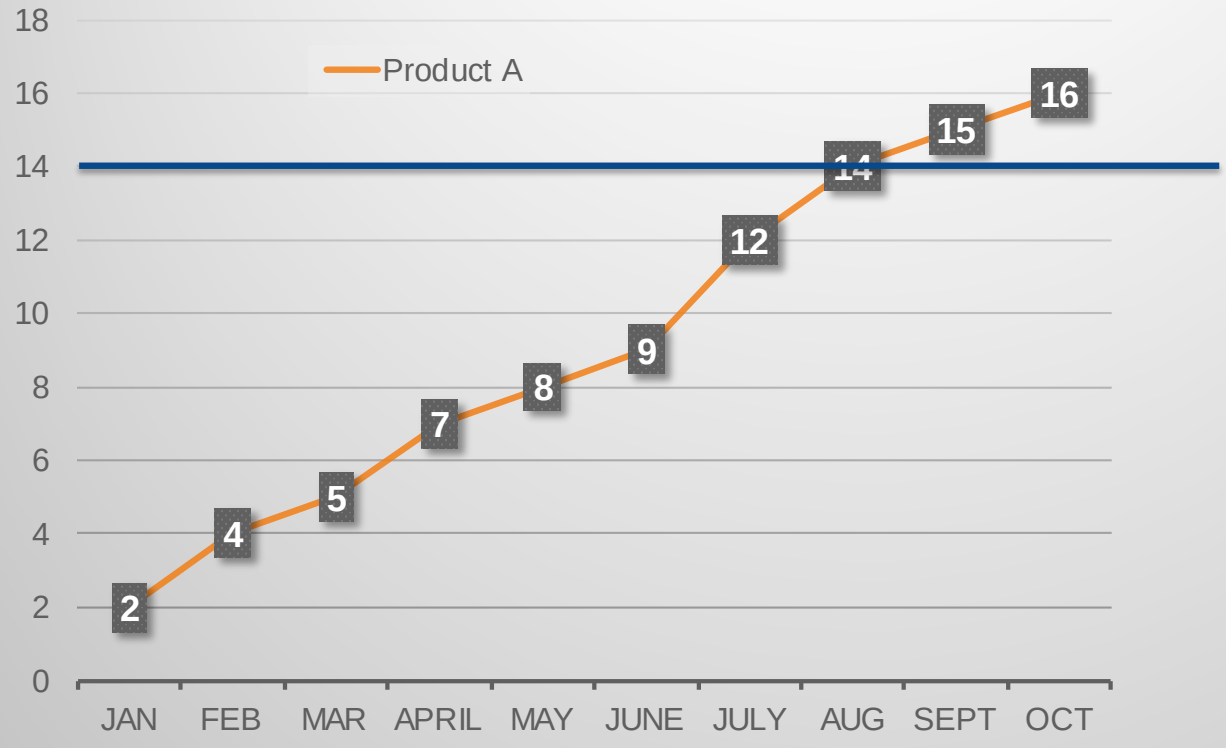
Outdated Products
OOB Manufacturer



Predictive Analytics

- What Will Happen?

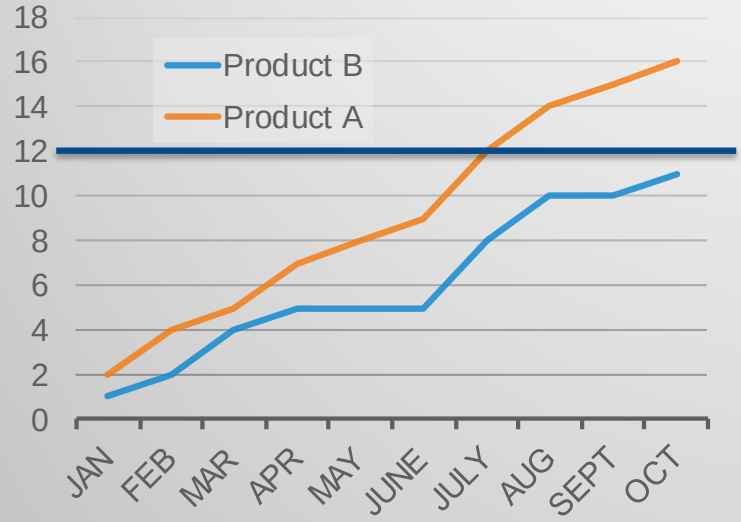
At the current rate, you will cross a threshold on …



Regulatory Threshold

Prescriptive Analytics

-How Can You Affect What Will Happen?



Enables organizations to make material changes or alternative ingredients to prevent crossing a threshold.

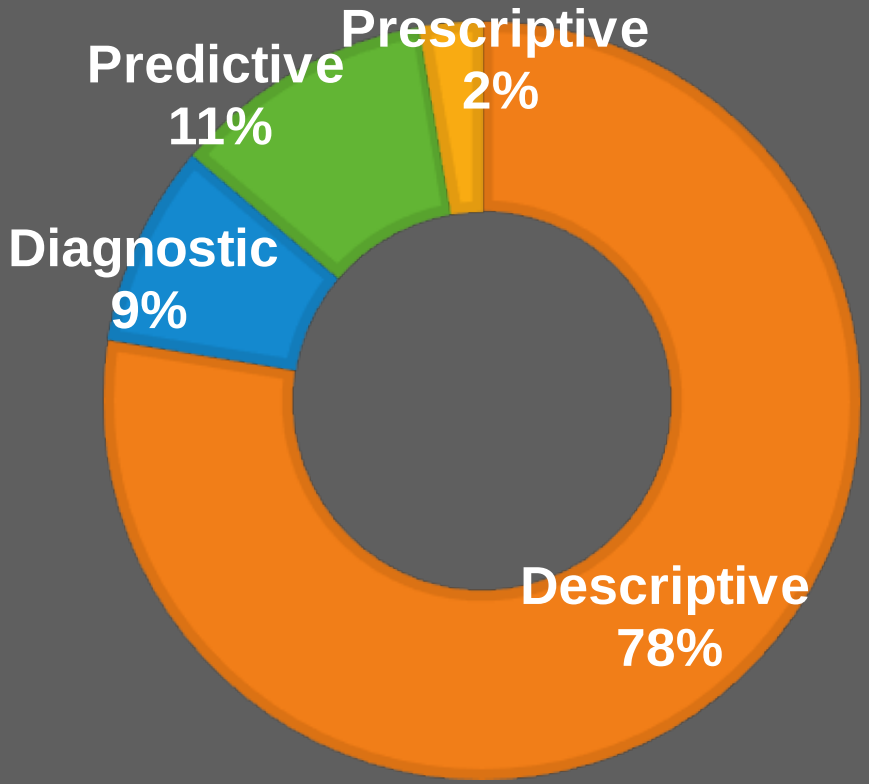
Example: To avoid a threshold, substitute Product B

Analytics | 2018 Market Insight

Gartner based this year's report on three strategic planning assumptions expected by 2018:

- Most business users will have access to self-service tools to prepare data for analysis.
- Most standalone self-service data preparation offerings will either have expanded into generation.
- End-to-end analytic platforms or have been integrated as features into existing analytics platforms.
- Smart, governed, Hadoop-based, search-based, and visual-based data discovery will converge in a single form of next-generation data discovery that will include self-service data preparation and natural-language

Types of Analytics in Use



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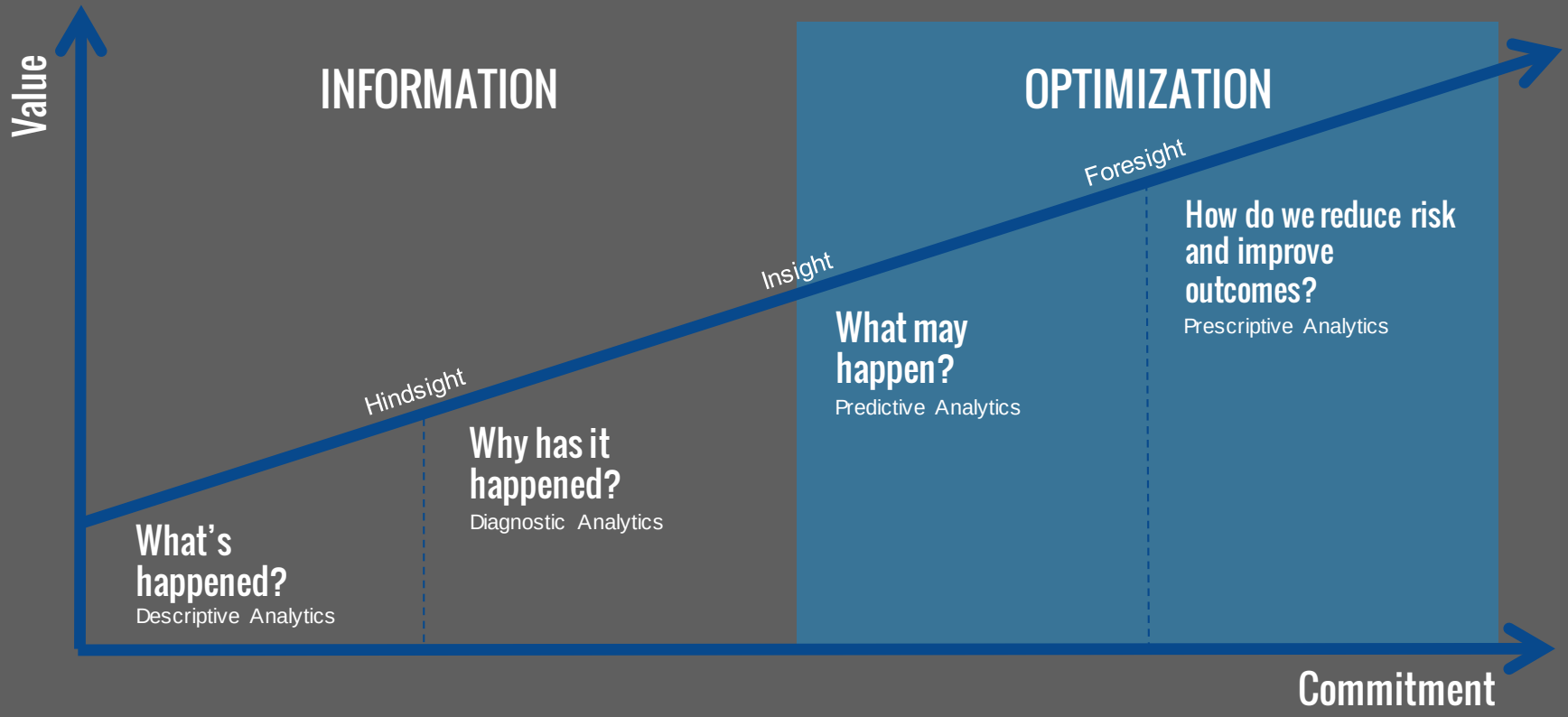

Analytics Checklist for the EHS professional:

Use the provided outline to begin building your question list. Start small, start slow.

Evaluate business needs to understand the questions you are looking to answer.

Explore data sources and methods of integration, aggregation and analytics.

Examine current processes and take action to improve chemical transparency.

Plan to phase adjustments, being deliberate and mindful about each step.

Take action.

Q & A