EHS Technology

What's Now, What's Coming, and How Does It Help Me?

Presented by: Bill Murphy, VelocityEHS

What we will cover

- Types of EHS software

- Benefits of software as a service (SaaS)

- "Big picture" details

- Emerging trends

- Best practices

- Security and privacy issues

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WHAT IS EHS SOFTWARE?

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EHS software helps manage information and tasks related to environmental, safety, and sustainability performance.

Types of EHS Software

- Legacy

- On-premise

- Hosted/Cloud/SaaS

- Multi-tenant

Legacy

- Software in use for a long time used to meet business needs that may not reflect current needs. May also include hardware.

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On-premise

- Installed and run on computers on premises of user

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WHAT IS SOFTWARE AS A SERVICE (SaaS)?
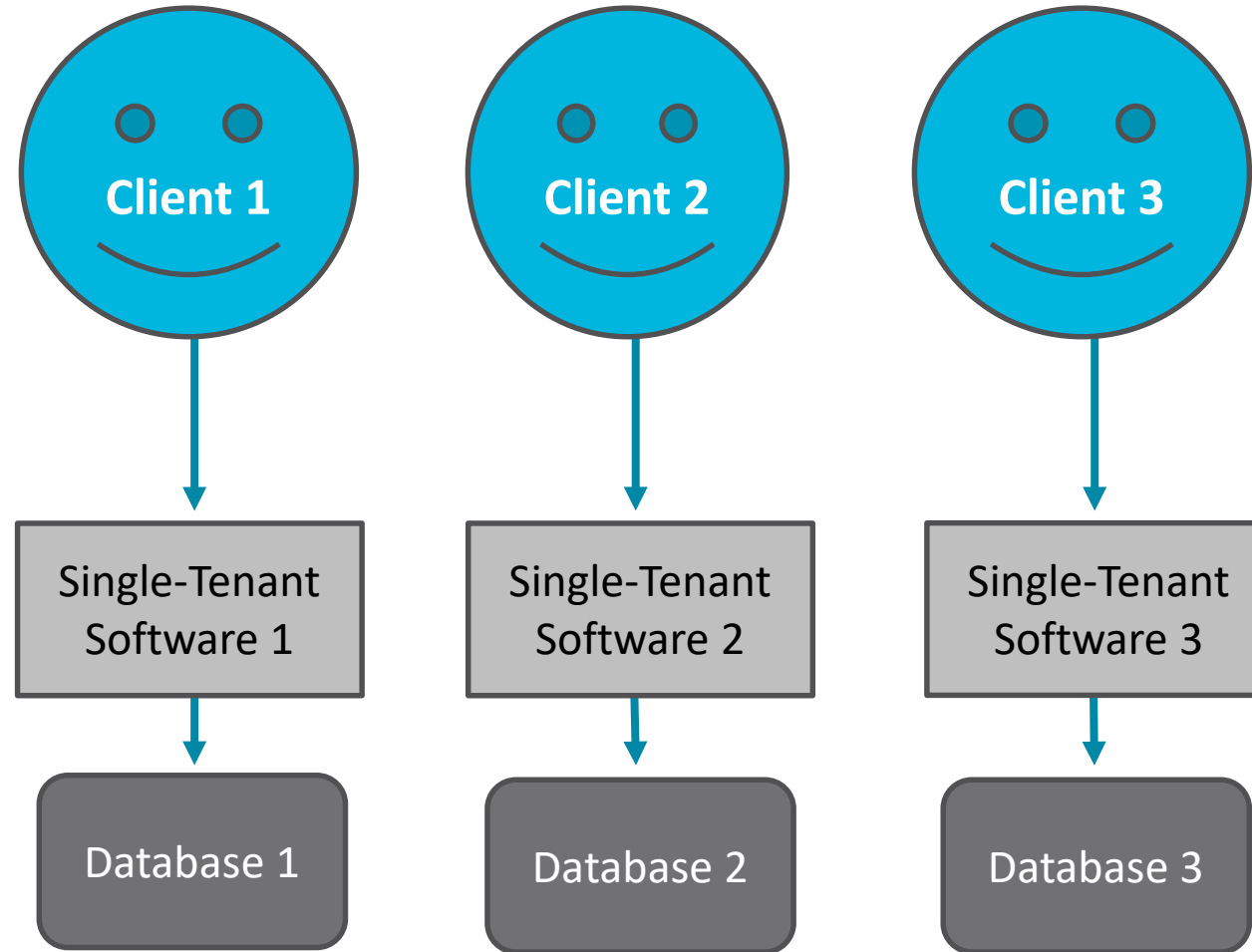
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Software as a Service (SaaS)

- Customer signs contract with service provider

- Accessed via internet

- Managed offsite by 3rd party vendor

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Hosted/Cloud/SaaS

What we see here is
a single-tenant
hosted SaaS system.

Client 1

Client 2

Client 3

| Single-Tenant Software 1 | Single-Tenant Software 2 | Single-Tenant Software 3 |

| Database 1 | Database 2 | Database 3 |

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Multi-tenant/True cloud

Hosted off-site by 3rd party vendor, with multiple customers sharing access

Client 1

Client 2

Client 3

Multi-Tenant Software

Database 1

Database 2

Database 3

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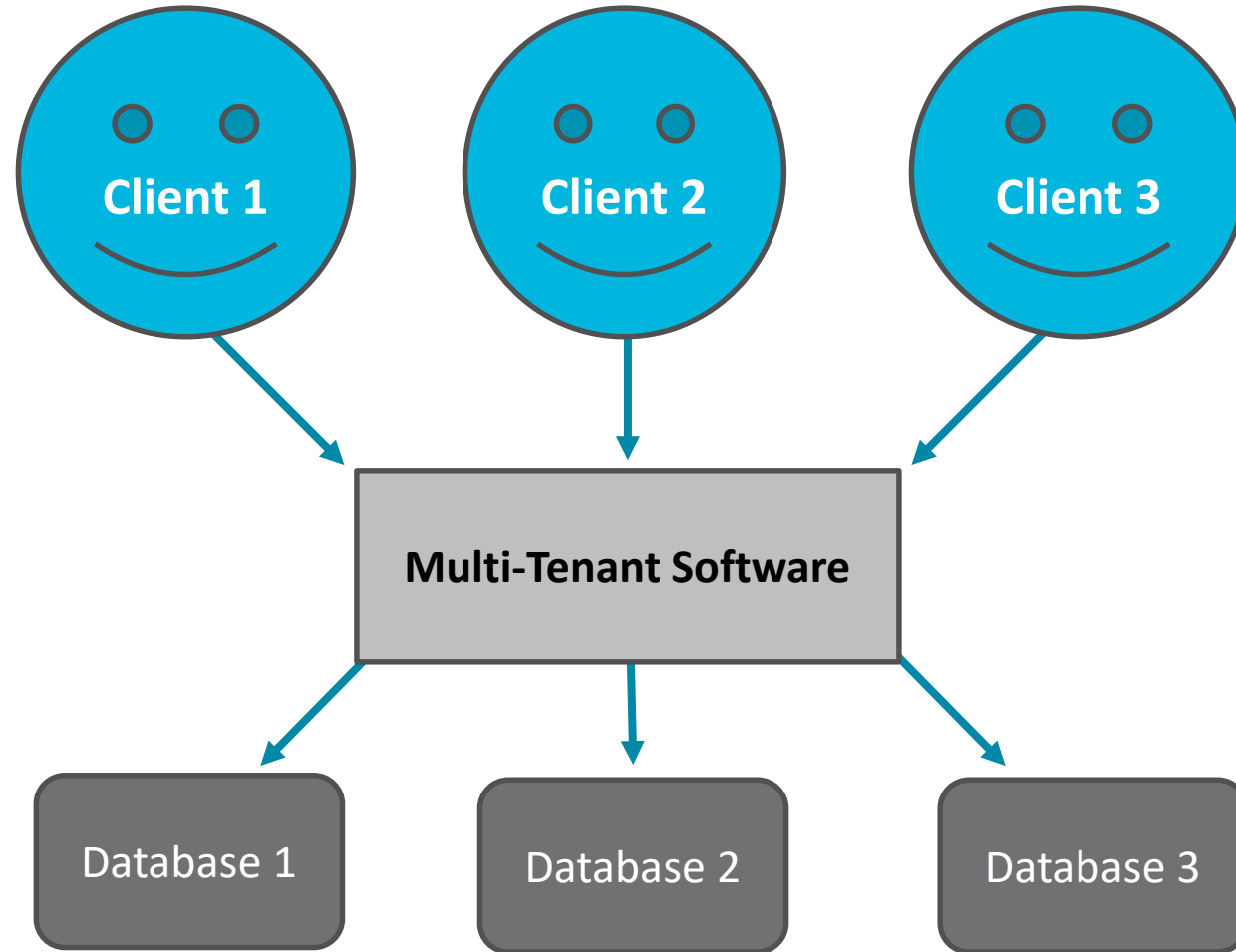
Benefits of True Cloud Systems

- Expenses shared across customers – keeps costs low

- Faster access to updates

- Better data security

WHAT CAN EHS SOFTWARE DO?

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General Tasks

- Data entry

- Data collection

- Report generation

- Calculations/conversions

- Records management

- Project management

- Scheduling tasks (audits, training)

- Accessing EHS info

- Dashboards

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Regulatory Frameworks

"Modules" and "Platforms"

- EHS Solutions are available as either stand-alone modules or part of a comprehensive platform

Inspections & Audits

- Compliance audits

- Self-assessments

- Regulatory inspections

- Management system audits

- Deploy checklists in the field

- Scheduling/management

- Documentation/visibility

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Incident Management

- Reporting incidents
  - "Recordable"
  - Near hit/miss
  - First aid
  - Safety observation

- Managing incidents

- Generating regulatory forms/reports
  - OSHA 300
  - OSHA 301
  - OSHA 300A

- Documentation

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Risk Analysis

- Job Safety Analysis (JSAs)

- Process Hazard Analysis
  Environmental aspects & impacts

- HAZOP

- Make assessments accessible

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Chemical and SDS Management

IS BETTER THAN

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Benefits of Ingredient Indexing

- Ingredient indexing gives you valuable visibility of your "true" chemical inventory

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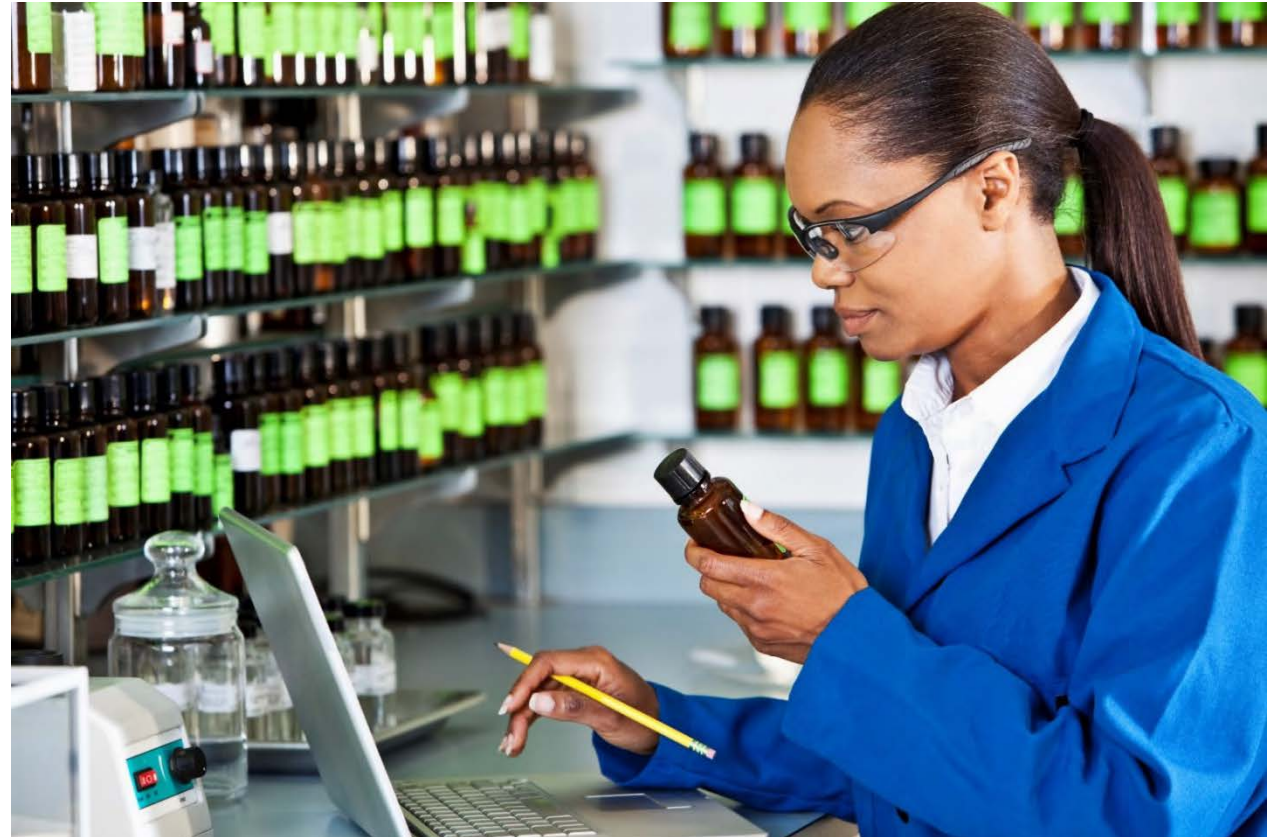
Industrial Hygiene

- Sampling plan

- Survey & sample measurement

- Qualitative exposure assessment

- Medical surveillance tracking

- Occupational Exposure Limit (OEL) database

- Laboratory selection

- Sharing/reporting results

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Four Phases of Planning

Mitigation

Recover

Preparedness

Response

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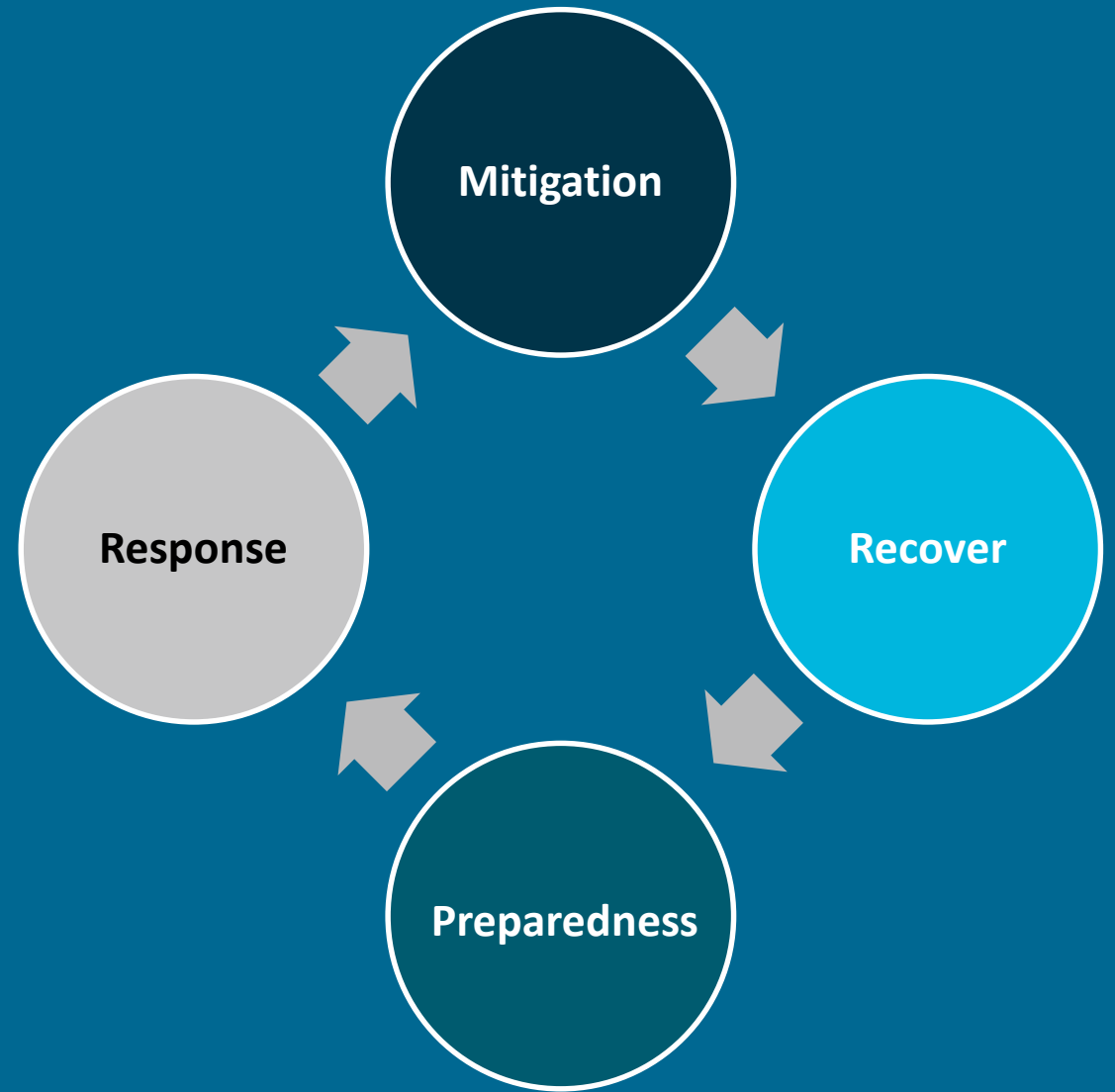
Management of Change (MOC)

- Workflow management

- Pre & post start-up checklists

- Status notifications

- Audit trail

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Ergonomics

- Assessments

- Action plans/risk maps

- Data & reporting

- Training

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Training

- Assignment

- Tracking

- Verifying completion

- Course libraries

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Environmental Management

- Air emissions

- Greenhouse gas (GHG) tracking

- Waste compliance

- Water quality

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Performance metrics

- Collect and track data

- Calculate/convert

- Make metrics visible

- Sustainability

- Greenhouse gas (GHG) emissions

- User-definable KPI reporting

SECURITY AND PRIVACY

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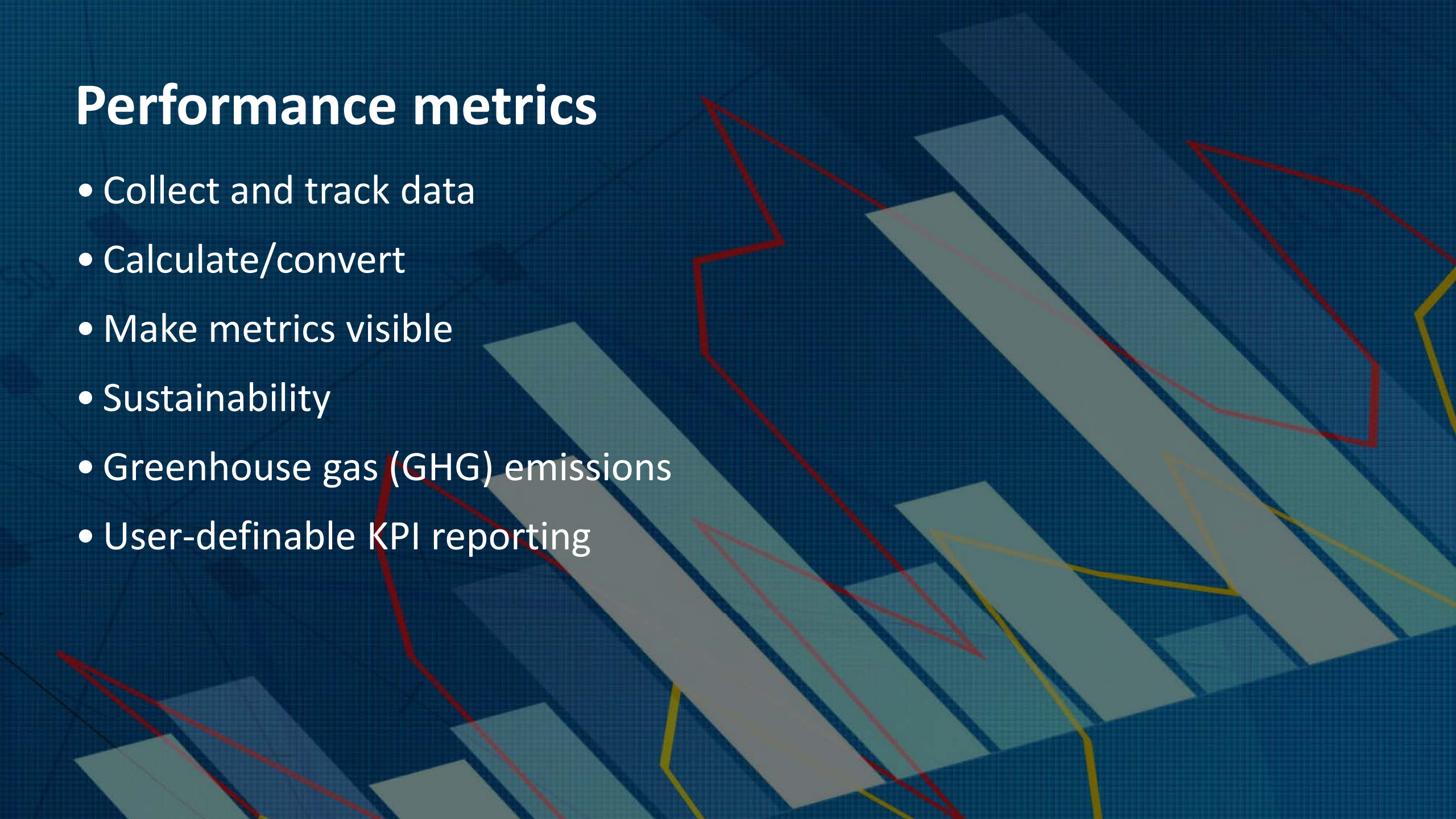
SOC 2

- Technical audit about security

- Organizations "attest" to SOC 2

- Requires strict information security policies

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Security Benefits of SaaS System

- Best systems align with SOC 2

- Data is stored and maintained off premise
  - More continuity in the event of disaster

Photo courtesy of www.bluecoat.com

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EMERGING TRENDS IN TECHNOLOGY

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Internet of Things (IOT)

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Big Data

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Motion Capture

- Especially valuable in ergonomics

- Captures information about body mechanics/ergonomics risks in real time
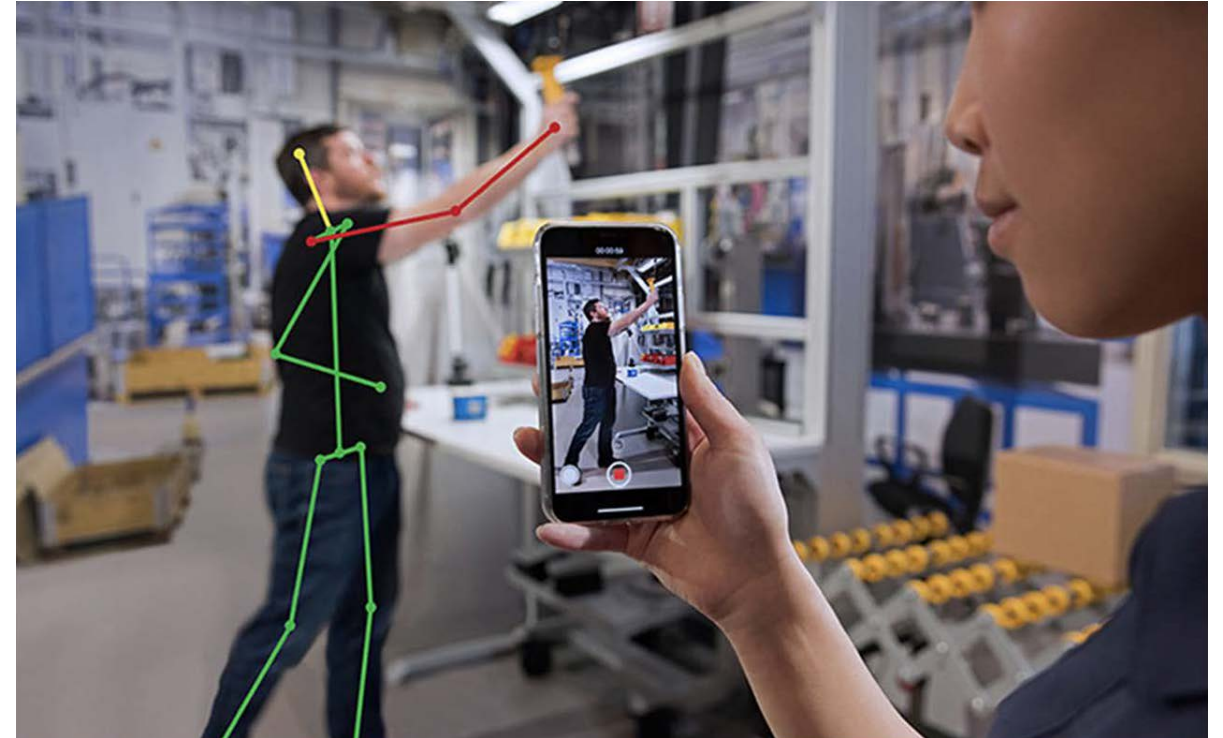
Wearables

- Can include bracelets, hats, gloves, "smart PPE," etc.

- Monitor info about employee to avoid risks

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Virtual & Augmented Reality

Drones

But Remember….

Focus on What Matters to YOU

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Flashy Isn't Always Better!

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BENEFITS OF EHS SOFTWARE

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Simplify Data Collection

- Collect in field on mobile device

- Continuous monitoring

- Calculation engines for data

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Streamline Reporting

- OSHA ITA reporting

- EPA reporting
  - GHG emissions
  - Air emissions
  - Hazardous waste reports
  - Tier 2 reports
  - Form R reports

- Discharge monitoring reports

- Internal reports
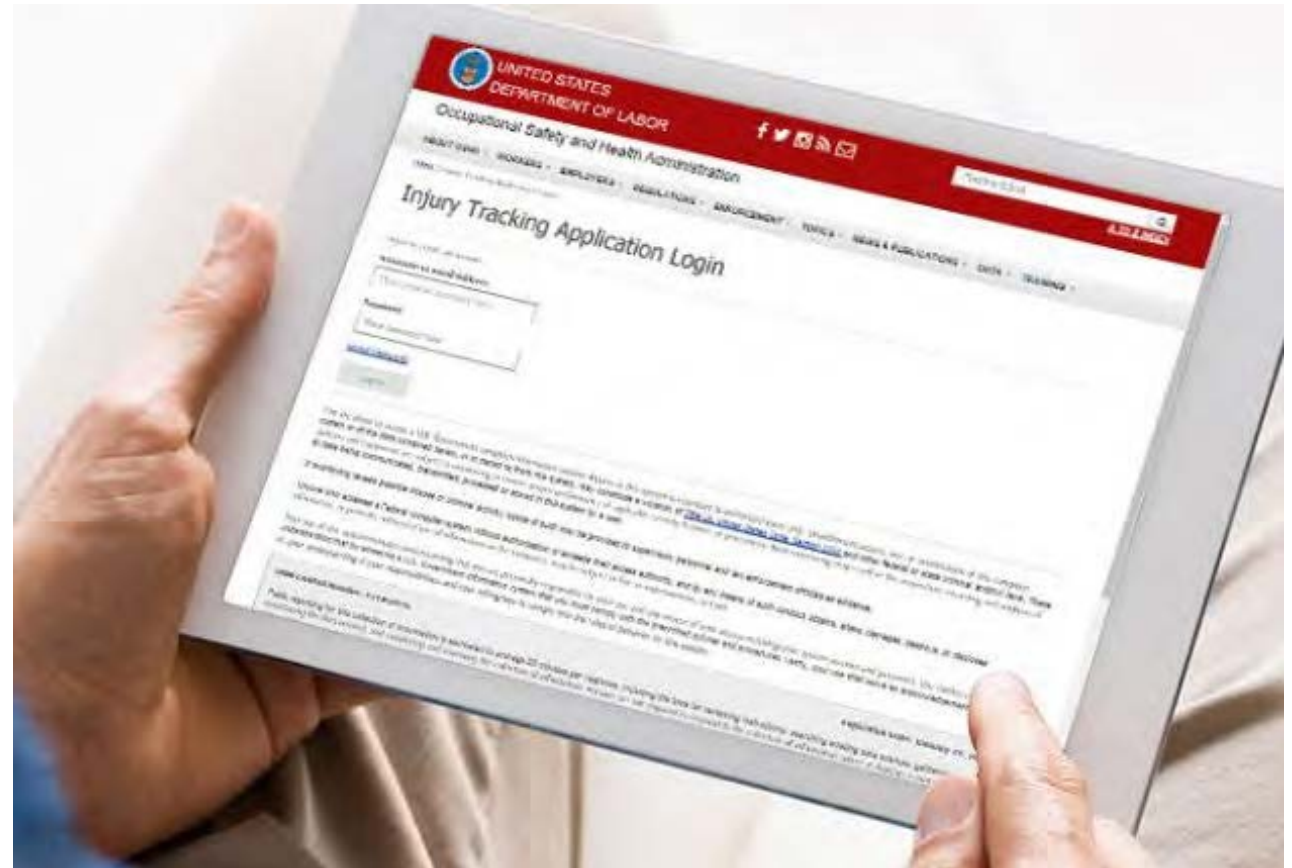
Many establishments must now send injury and illness summary data directly to OSHA

Better EHS Engagement

- Build trust with better visibility

- Share progress

Empowerment through Visibility

- Show that management acts upon feedback

- Encourages more participation

- Gives you more information you need to improve

Example: Progress on Corrective Actions

- Employees "tune out" when actions take too long to close or don't get updates on them

- They "buy in" when they see you're closing them and listening to their feedback

Save Money

Increase Productivity

- Software can free up time otherwise spent

- Entering/managing data

- Better morale leads boosts productivity

- Less lost time due to injuries

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Improve Compliance

- Compliance calendar

- Schedule/manage/ document compliance tasks

- Better visibility of compliance metrics

- Easier reporting

- Better access to permits/documents

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Focus on What Matters!

- Make EHS everyone's job!

- Unite workers behind shared goals and shared vision

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KEY CONSIDERATIONS

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How Easy Is It?

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How Mobile Is It?

Does It Function as a Platform?

- Mobile and desktop access

- Scalable based on your needs

- Corrective actions captured from multiple EHS activities:
  - Incident Investigations
  - Audits/inspections
  - Safety Meetings
  - Training management
  - Risk Analysis
  - Compliance Management

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CLOSING THOUGHTS

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#1 Stats are People

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#2: Empowering Your People to Do the Right Thing

- Here's what we mean by this.

- Don't just TELL your employees what they need to do. Give them the means to do so, and do so easily.

Example:

- Reporting injuries – how easily does your current system allow employees to report injuries? Is it a long, complicated process?

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Empowerment Removes Barriers

- Don't be surprised if the time taken to report an injury is long if your system makes it difficult.

- Remove the barriers. That's one way software, especially mobile software, can help.

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LESSONS LEARNED

- The evolving journey of EHS management awareness

5) PURPOSE & PASSION
- Sharing/spreading EHS best practices
- Risk is low and driving outside investment
- Targeting UN Sustainability Development Goals
- Reporting is largely transparent and public
- Focus is on always "doing the right thing"
- CEO passion for EHS central to company identity

4) INTEGRATED STRATEGY
- Innovating on industry best practices
- Risk is controlled/change is actively managed
- Greening supply chain/zero waste to landfill
- Reporting is real-time and enterprisewide
- Focus is on self-sustaining EHS culture
- EHS is helping to drive business opportunities

3) BEYOND COMPLIANCE
- Beyond compliance, pursuing best practices
- Managing risks beyond regulations
- Resource conservation (energy, water, waste)
- Reporting is consistent and driving decisions
- Focus is on finding and fixing hazards
- EHS considered integral to business

2) COMPLIANCE
- Legal obligations known/mostly met
- Managing risk as relates to regulations
- Sustainability considered, but out of reach
- Reporting is manual and time consuming
- Focus is on compliance deadlines
- EHS respected, but treated as a cost center

1) PRE-COMPLIANCE
- Legal obligations unknown/unmet
- Risk is high and unmanaged
- Sustainability given little consideration
- Reporting is rare and ad-hoc
- Focus is on putting out fires
- EHS considered drag on profit/productivity

START

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#3: Become Who You Want to Be

- Choose the software that helps you be who you want to be.

Questions?

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