EHS Masterclass: How to Use Data to Improve Compliance and Prevent Risk

How Companies Digitize the Compliance Journey with Mapistry

mapistry

May 2022

Today’s Speakers

Ryan Janoch | Co-Founder

Courtney Wilson| Sr. Sales Engineer

Agenda

Introduction	10:00 - 10:05 AM
The Cost & Cause of Non-Compliance	10:05 - 10:25 AM
Best Practices for Improving Compliance & Preventing Risk	10:25 - 10:40 AM
Building a Business Case for Better Data & Developing a Roadmap	10:40 - 11:00 AM
Bonus Demo of Mapistry's Data Solution	11:00 - 11:05 AM

All times are in Pacific Standard Time (PST) – Times may vary depending on audience engagement

The problem

Non-Compliance is **Costly**

Data is **Siloed**

Resources are **Limited**

Breaking it down:

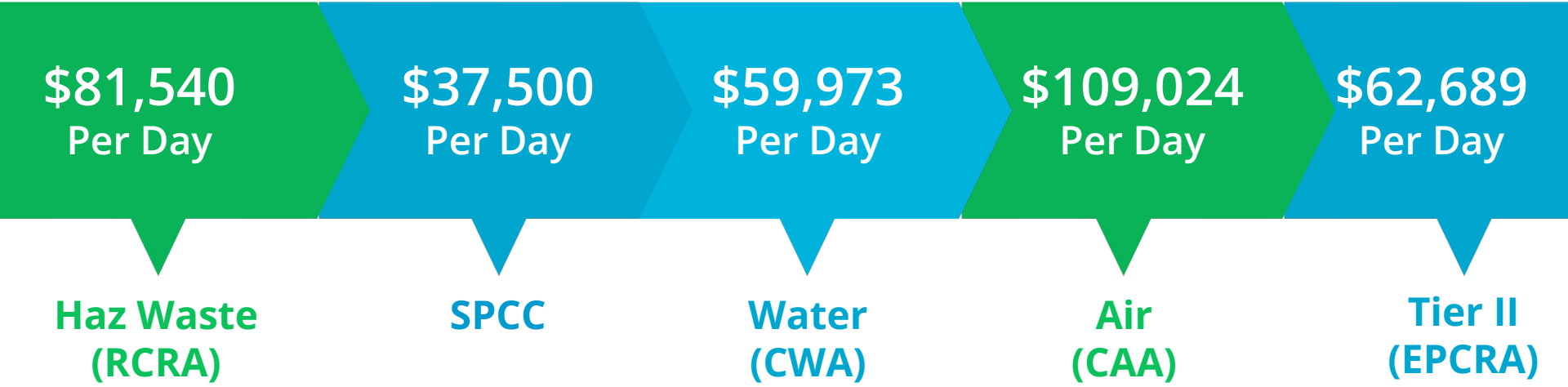
The Cost of Non-Compliance.

Types of Penalties

There are many forms that non-compliance penalties can take when it comes to **impacting your organization's bottom line**:

- 💰 Fines
- 🤬 Civil Lawsuits
- 😱 Brand Damage
- 😢 Employee Relationship Degradation
- 🚫 Facility Closure

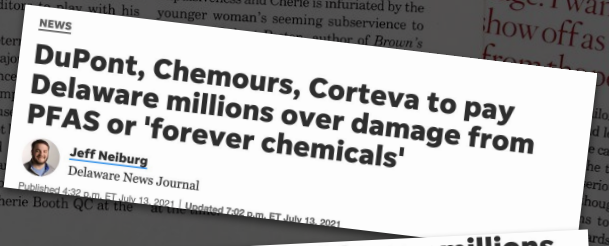
Potential **Penalty Costs**



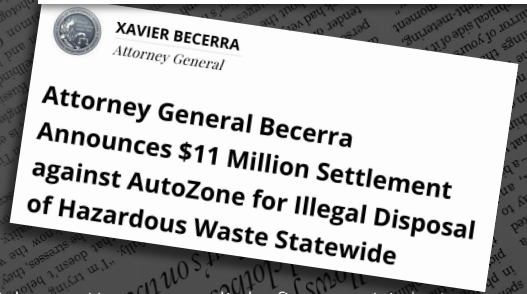
Internal costs on consultants & attorneys are typically 2X the external cost

Source: https://www.govinfo.gov/content/pkg/FR-2022-01-12/pdf/2022-00349.pdf

Compliance failures damage reputations



$1.9B charged in Environmental Violations in 2021[1]



1 https://www.goodjobsfirst.org/violation-tracker

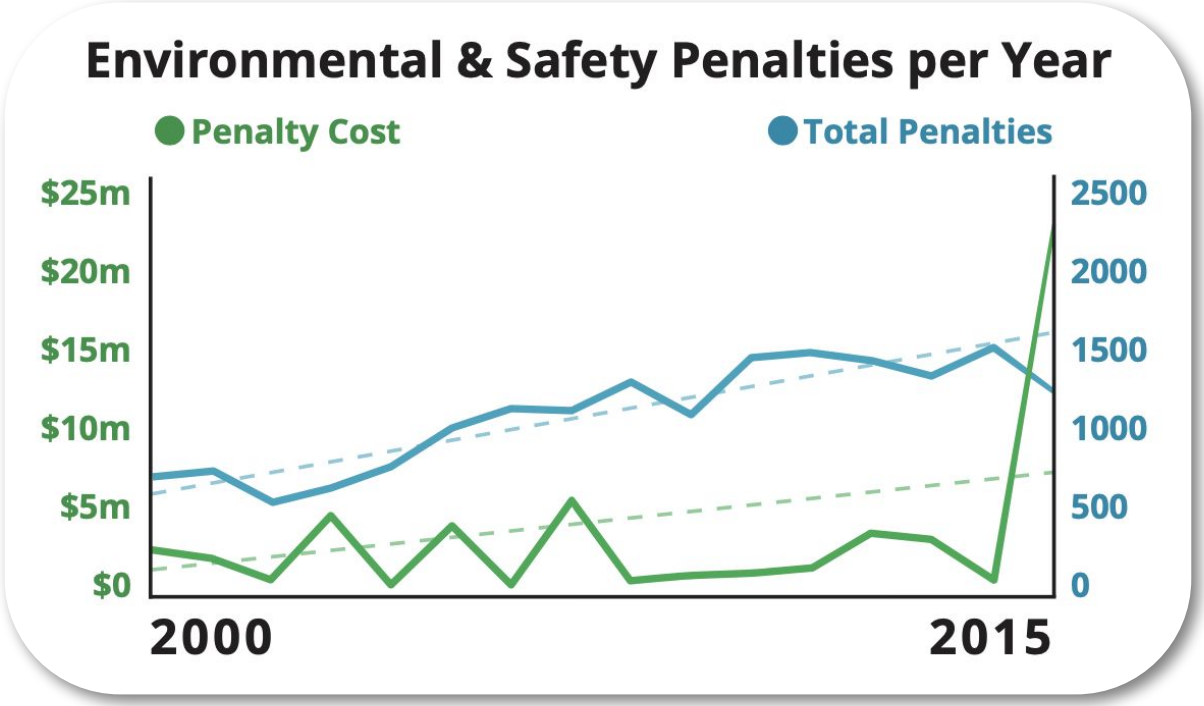
Breaking it down:

The Cause of Non-Compliance.

The **Top 5 Issues** EHS Leaders Face Today:

- **Not enough time** to manually enter data
- Decentralized and disconnected data sources → **No visibility**
- **Stringent air and water permits**
- Regulatory or 3rd Party Scrutiny → **Litigation & fine risks**
- Relying on **too many tools** (Outlook, Excel, paper, DIY forms, etc.)

Analyzing Trends – Average EHS Penalties



Data sourced from The Corporate Research Project's [Violation Tracker] database

Is your Approach **Reactive** or **Proactive**?

Reactive compliance can create **a vicious cycle**

EHS leaders are **overwhelmed by penalties & work**

Using Data as a **Proactive** Tool

Lead with a **more proactive approach to compliance** by:

- **Simplifying data capture** — upload, integrate or capture via a mobile app
- Analyzing data to **understand common pitfalls** and deficits
- Using data to **create a culture of EHS excellence** within the company

The Data Problem:

What Can and Does Go Wrong.

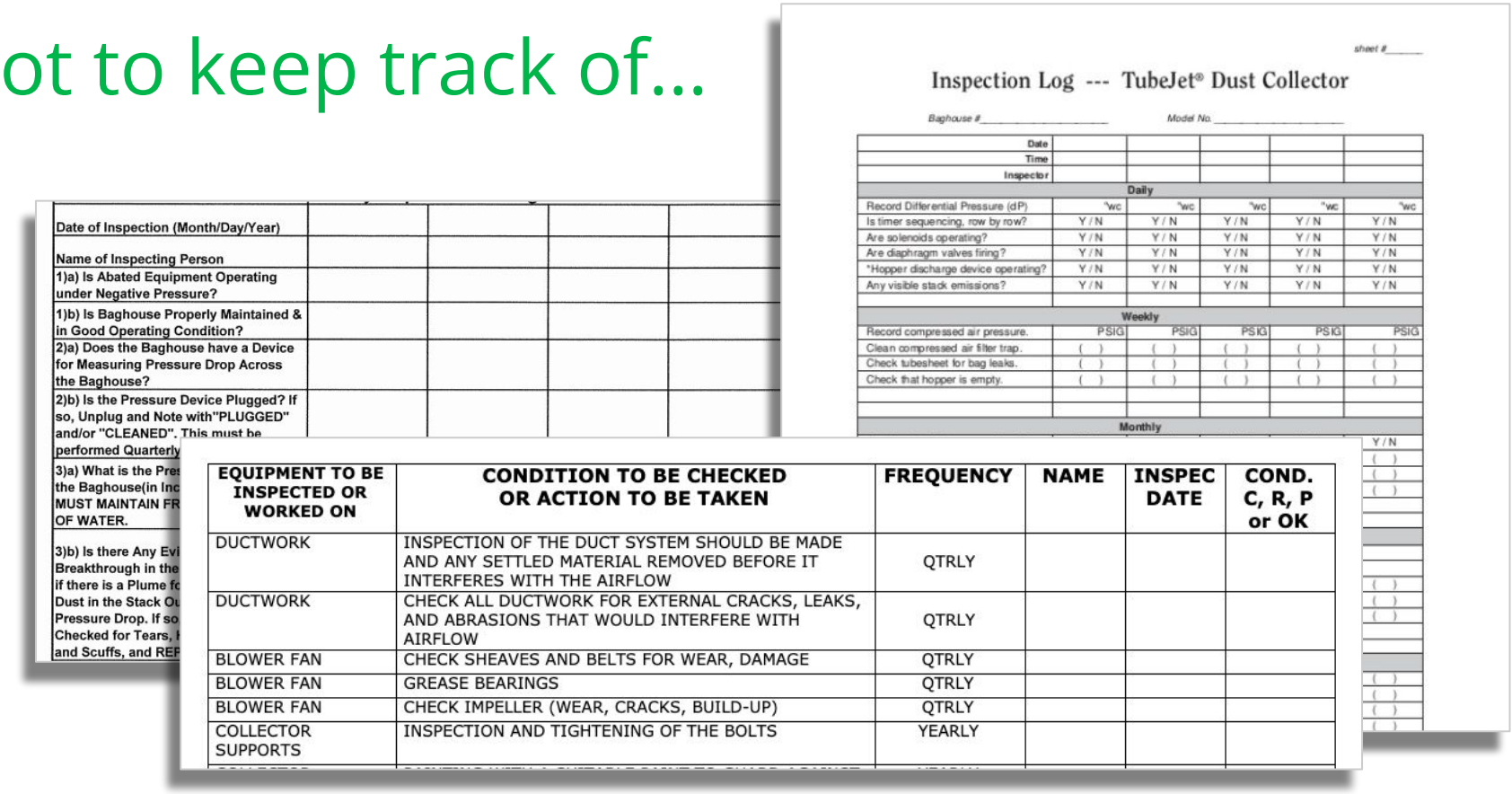
Data Collection Problems

- Paper records are **not accessible** anywhere
- Scanning forms and manual data entry is **too much work**
- **Missing data** from operators or forms are lost in trucks
- Manual entry results in **data transcription errors**
- **Opportunity cost** for EHS Managers don't have time for high value activities (training & problem solving)

Types of Data: **Not Just Numbers**

Qualitative	Quantitative
• Inspections • Observations • Corrective Actions • Photos • Maps	• Lab Reports • Production • Material Usage • Emissions • Flow • Sampling Results

A lot to keep track of…



Date of Inspection (Month/Day/Year)				
Name of Inspecting Person				
1)a) Is Abated Equipment Operating under Negative Pressure?				
1)b) Is Baghouse Properly Maintained & in Good Operating Condition?				
2)a) Does the Baghouse have a Device for Measuring Pressure Drop Across the Baghouse?				
2)b) Is the Pressure Device Plugged? If so, Unplug and Note with"PLUGGED" and/or "CLEANED". This must be performed Quarterly				
3)a) What is the Pres the Baghouse(in Inc MUST MAINTAIN FR OF WATER.				
3)b) Is there Any Evi Breakthrough in the if there is a Plume fo Dust in the Stack Ou Pressure Drop. If so Checked for Tears, and Scuffs, and REP				

sheet #_____

Inspection Log --- TubeJet® Dust Collector

Baghouse #_____ Model No._____

Date					
Time					
Inspector					
Daily					
Record Differential Pressure (dP)	"wc	"wc	"wc	"wc	"wc
Is timer sequencing, row by row?	Y / N	Y / N	Y / N	Y / N	Y / N
Are solenoids operating?	Y / N	Y / N	Y / N	Y / N	Y / N
Are diaphragm valves firing?	Y / N	Y / N	Y / N	Y / N	Y / N
*Hopper discharge device operating?	Y / N	Y / N	Y / N	Y / N	Y / N
Any visible stack emissions?	Y / N	Y / N	Y / N	Y / N	Y / N
Weekly					
Record compressed air pressure.	PSIG	PSIG	PSIG	PSIG	PSIG
Clean compressed air filter trap.	( )	( )	( )	( )	( )
Check tubesheet for bag leaks.	( )	( )	( )	( )	( )
Check that hopper is empty.	( )	( )	( )	( )	( )
Monthly					

EQUIPMENT TO BE INSPECTED OR WORKED ON	CONDITION TO BE CHECKED OR ACTION TO BE TAKEN	FREQUENCY	NAME	INSPEC DATE	COND. C, R, P or OK
DUCTWORK	INSPECTION OF THE DUCT SYSTEM SHOULD BE MADE AND ANY SETTLED MATERIAL REMOVED BEFORE IT INTERFERES WITH THE AIRFLOW	QTRLY			
DUCTWORK	CHECK ALL DUCTWORK FOR EXTERNAL CRACKS, LEAKS, AND ABRASIONS THAT WOULD INTERFERE WITH AIRFLOW	QTRLY			
BLOWER FAN	CHECK SHEAVES AND BELTS FOR WEAR, DAMAGE	QTRLY			
BLOWER FAN	GREASE BEARINGS	QTRLY			
BLOWER FAN	CHECK IMPELLER (WEAR, CRACKS, BUILD-UP)	QTRLY			
COLLECTOR SUPPORTS	INSPECTION AND TIGHTENING OF THE BOLTS	YEARLY			

Traditional Methods of Data Capture

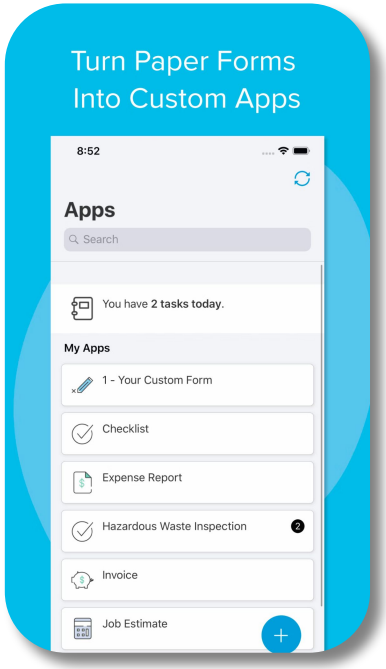
Many EHS leaders use these methods to input and store their data:

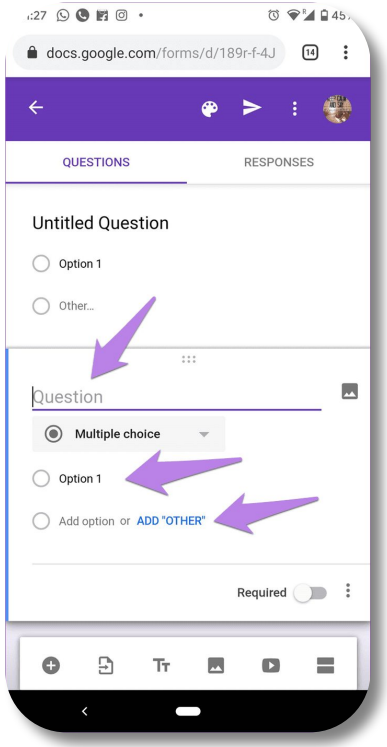
- Paper
- Word/Excel
- Scanned File Storage
- Google Forms/DIY Apps
- Sensors

Look familiar?

Example: Digitizing Forms

Often due to small budgets, EHS Leaders **get creative with digital tools**

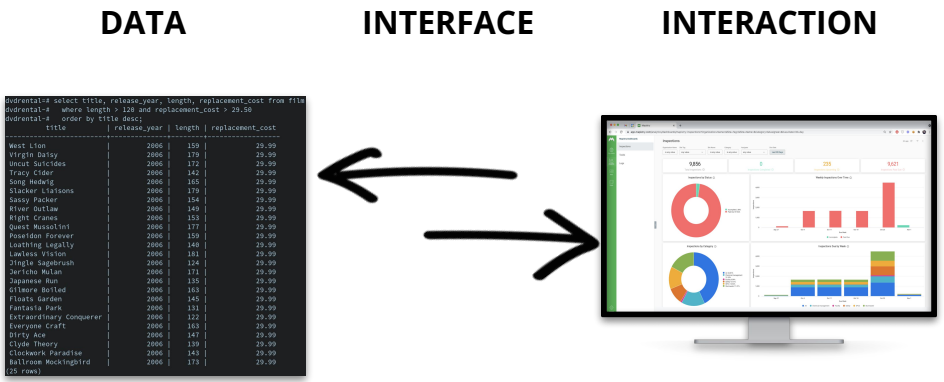


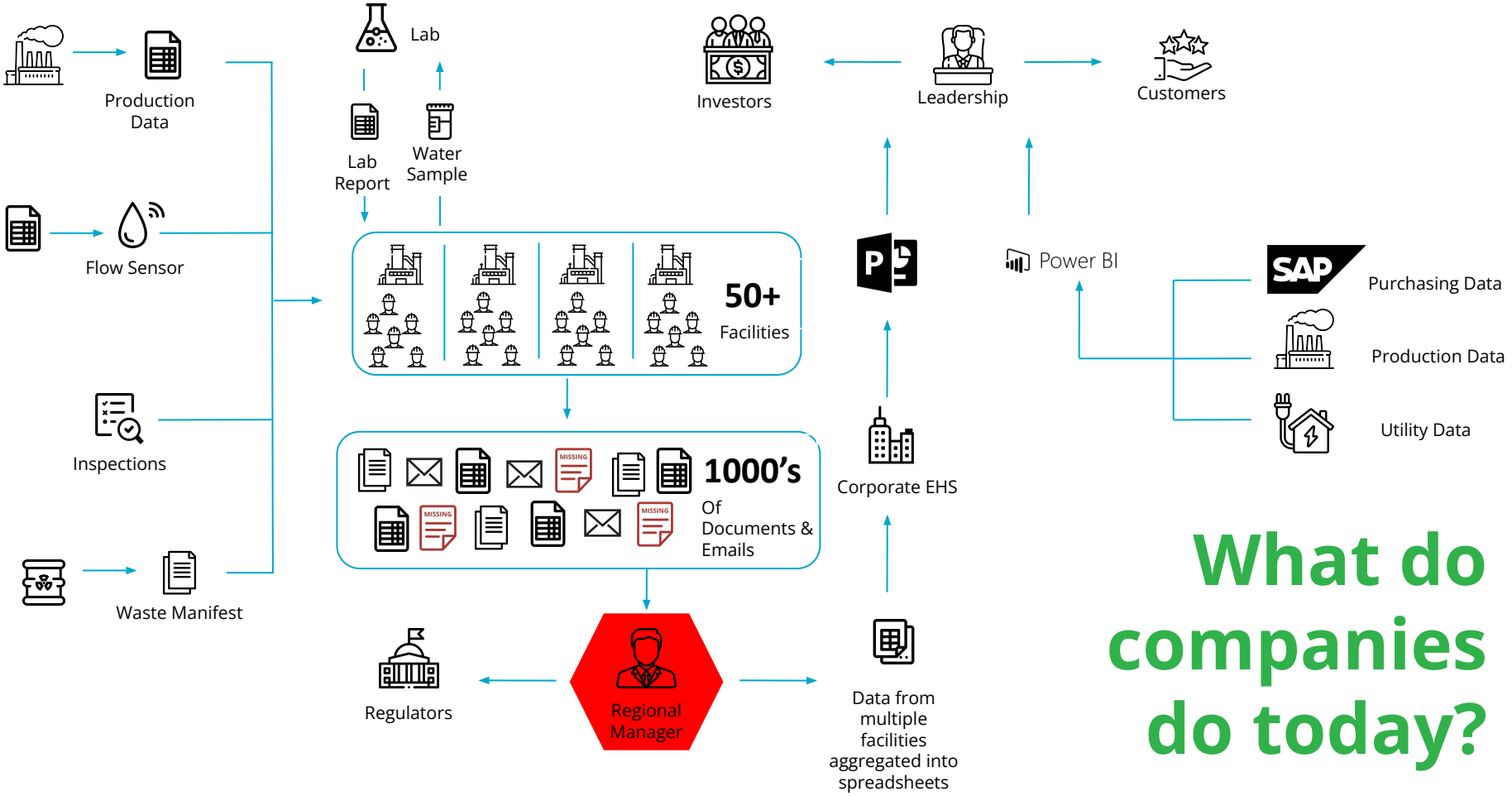


Example: Using an API

Application programming interface (API) allow your data to move directly from one place to another **without manual interaction**.

➤➤➤ Eliminates the need to upload data to multiple locations!





What do companies do today?

Comparing Data Management Solutions

	Pros	Cons
Paper & Physical Storage	Don't need to implement new technology	Reactive solution, with opportunities for human error
MS Office (Word/Excel)	Can calculate and visualize large amounts of data	Isn't built for EHS use cases; data input/output is clunky
Google (Docs/Sheets/Forms)	Collaborative tools with cloud-based storage	Low volumes of data; manual analysis options
EHS Software	Single system with complete visibility	Initial implementation phase can be time consuming

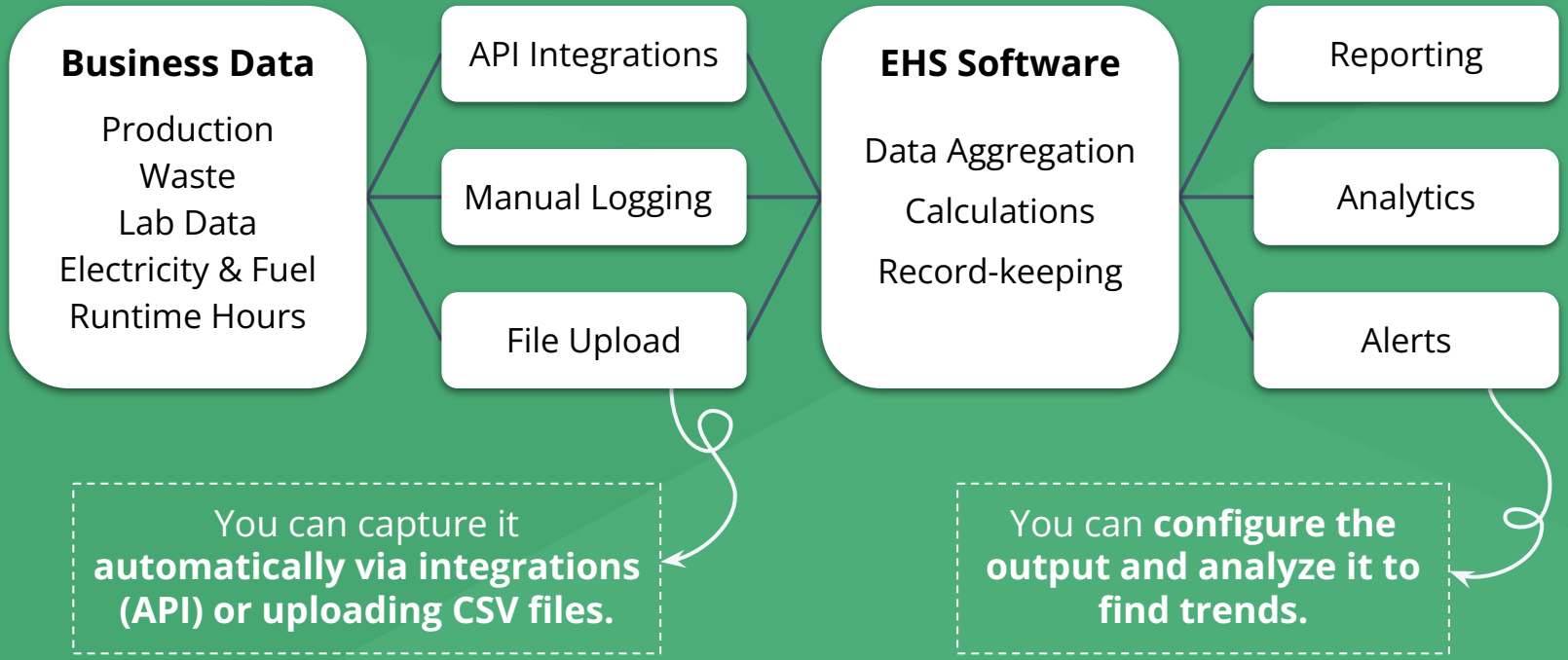
A Centralized Approach:
Creating Order and Efficiencies.

Pros of Using **a Dedicated EHS Platform**

You will gain.....

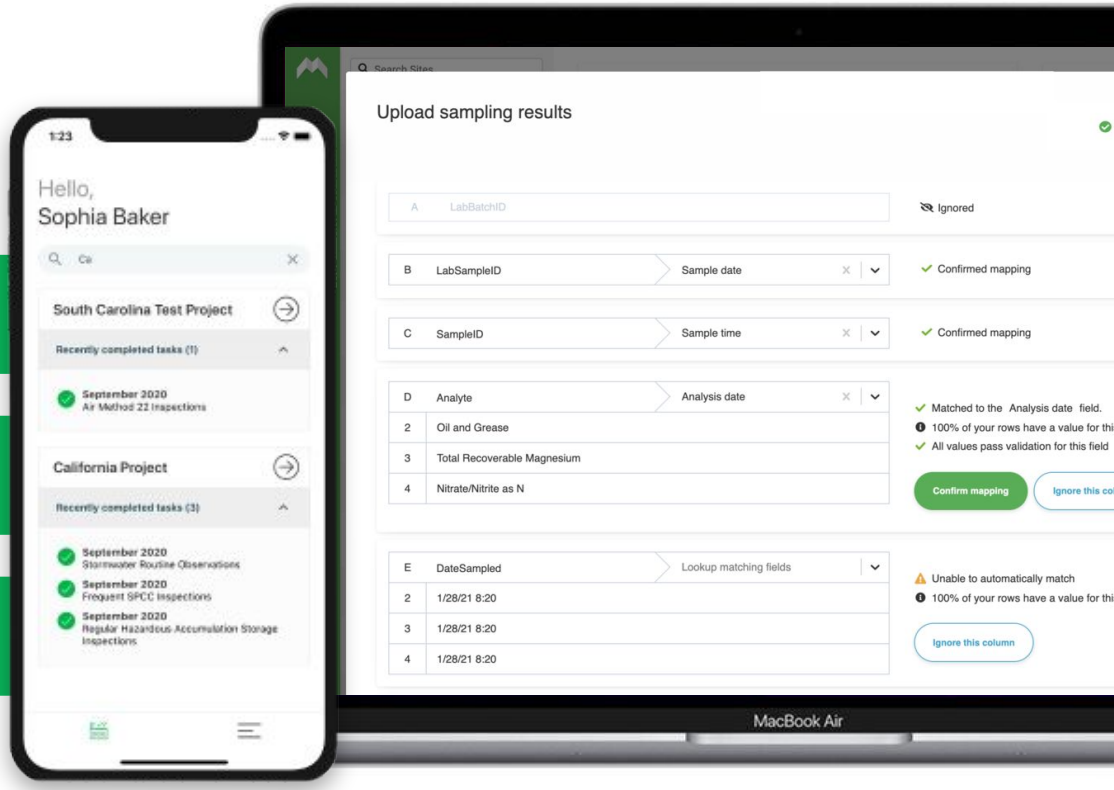
- Automated and **Consistent Data Capture**
- **Efficient Calculations** & Visualizations of Data
- Endless Storage, Users, and **Sharing Options**

The **Digital** Solution



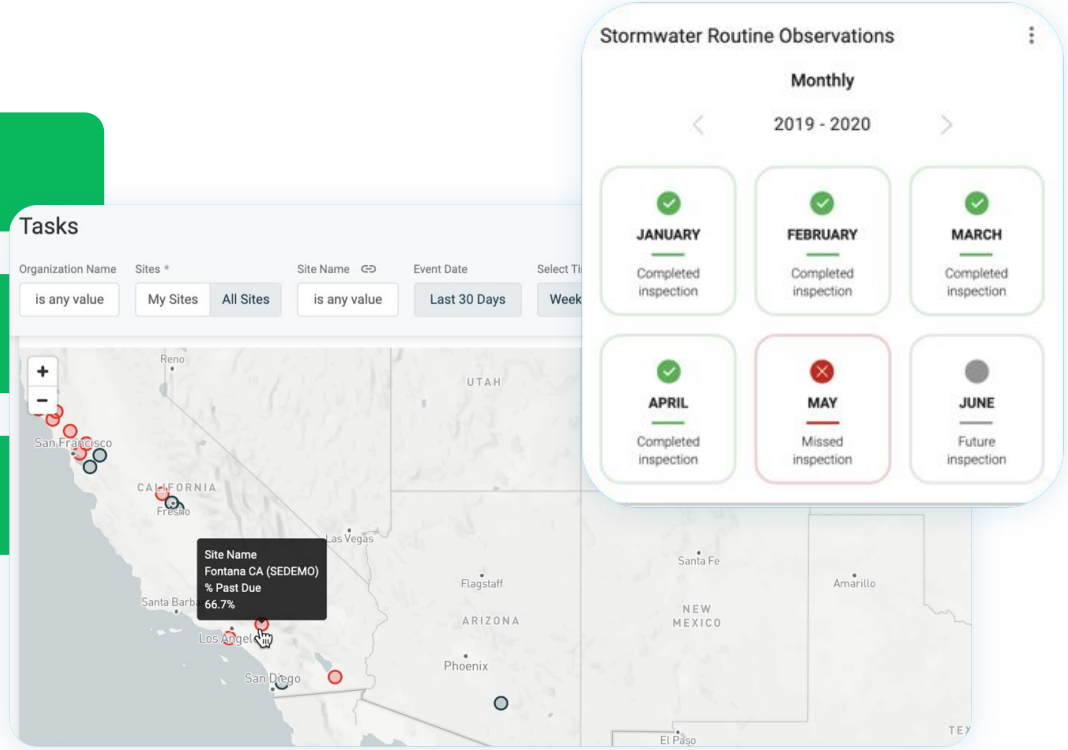
Data Capture

- Mobile App
- File Upload
- API



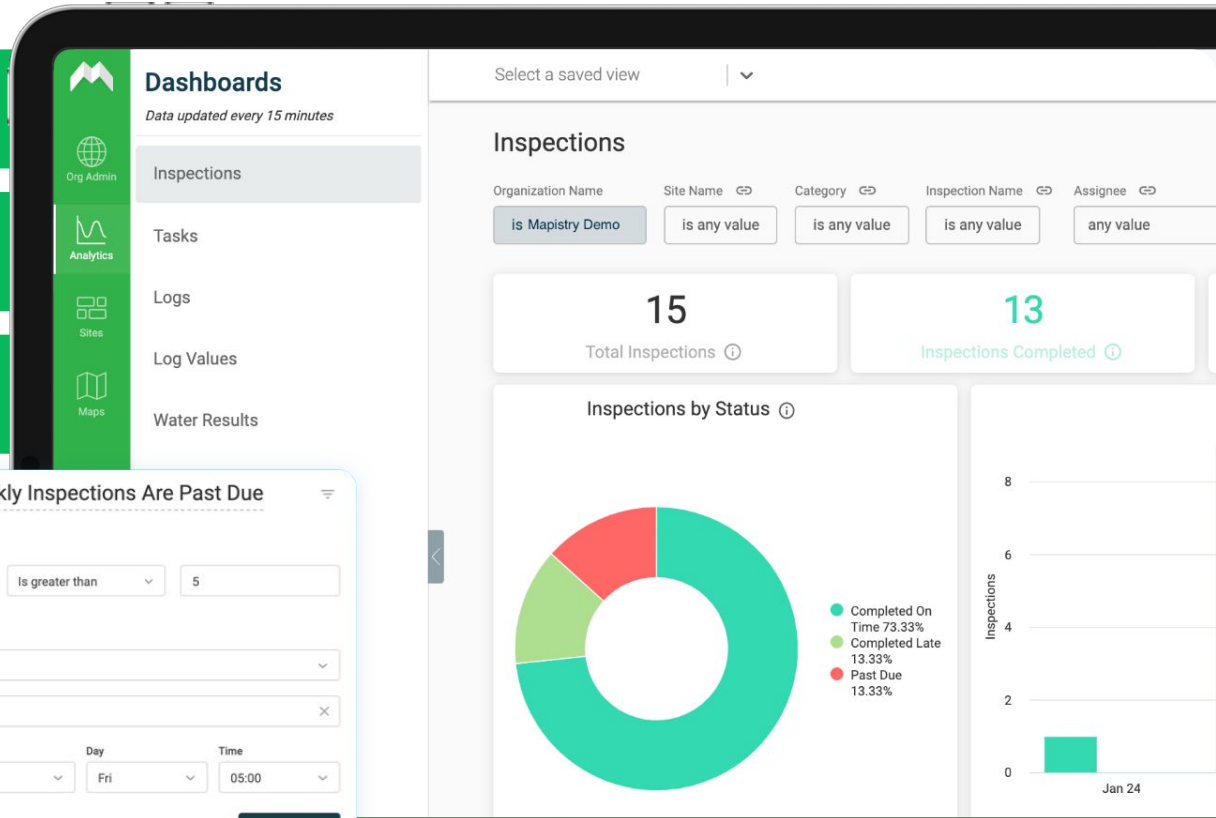
Communicate

- Reminders
- Tasks
- Alerts



Analyze

- Detect Exceedances
- Staff Accountability
- Identify Risks



Digitizing Your EHS Data:
Key Steps Towards Success.

Prepare

- **Identify potential data sources:** From basic inspections and corrective actions to utility bills to machinery.
- **Agree on an Approach:** Shared objectives; internal v. external tools; important capabilities; time to value; scheduling and bandwidth
- **Set the bar for data quality:** Success depends on consistent and accurate data.

Start **Data Collection**

- **Get your end users on board** with trainings, accessible equipment, and easy-to-use software
- **Digitize core compliance activities**, including inspections and tasks
- **Leverage historical data** by bringing together CSVs and other data sources into a single system of record

Automate Data Sources

- **Identify top areas** for automation and streamlining
  - **Production Data**
  - **Utility Data**
  - **Sensors**
- **Leverage vendor APIs** to integrate with unique data sources

Develop **Outputs**

- **Create** dashboards, reports, and visualizations
- **Set up** alerts and monitoring on known thresholds
- **Spend** time digging into the data to identify unique issues and opportunities
- ***Assess, iterate, and improve*** in partnership with IT!

Picking Software – What **Not** to Do

- Just Get an Email System….**Your staff will hate it!**
- **Only Use it for Tracking Tasks**…It should not just be a checkbox
- Ignore the time and **cost necessary to set up**
- **Skip getting leadership support** AND keeping them engaged

Questions to ask **Vendors**

- ❑ What percentage of customers implement **more than task tracking** during the first phase of implementation?
- ❑ Can air and water data be easily added and analyzed?
- ❑ Tell me about your setup and training process? Does a consultant do that or is it an **in-house team**?
- ❑ **How long did it take** the last company our size to have everyone completing inspections/tasks?
- ❑ What are the **top challenges I will face in implementing**?

The Business Case:

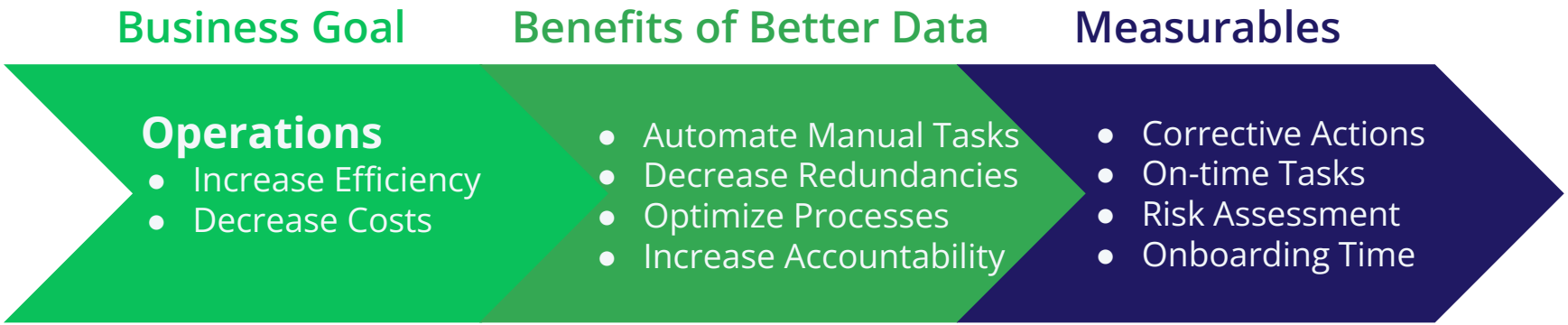
Bringing Better Data to Your Company.

Business Case for Digitization

Align your data investments with your business's goals.

The **Revenue** Business Case

The **Operations** Business Case



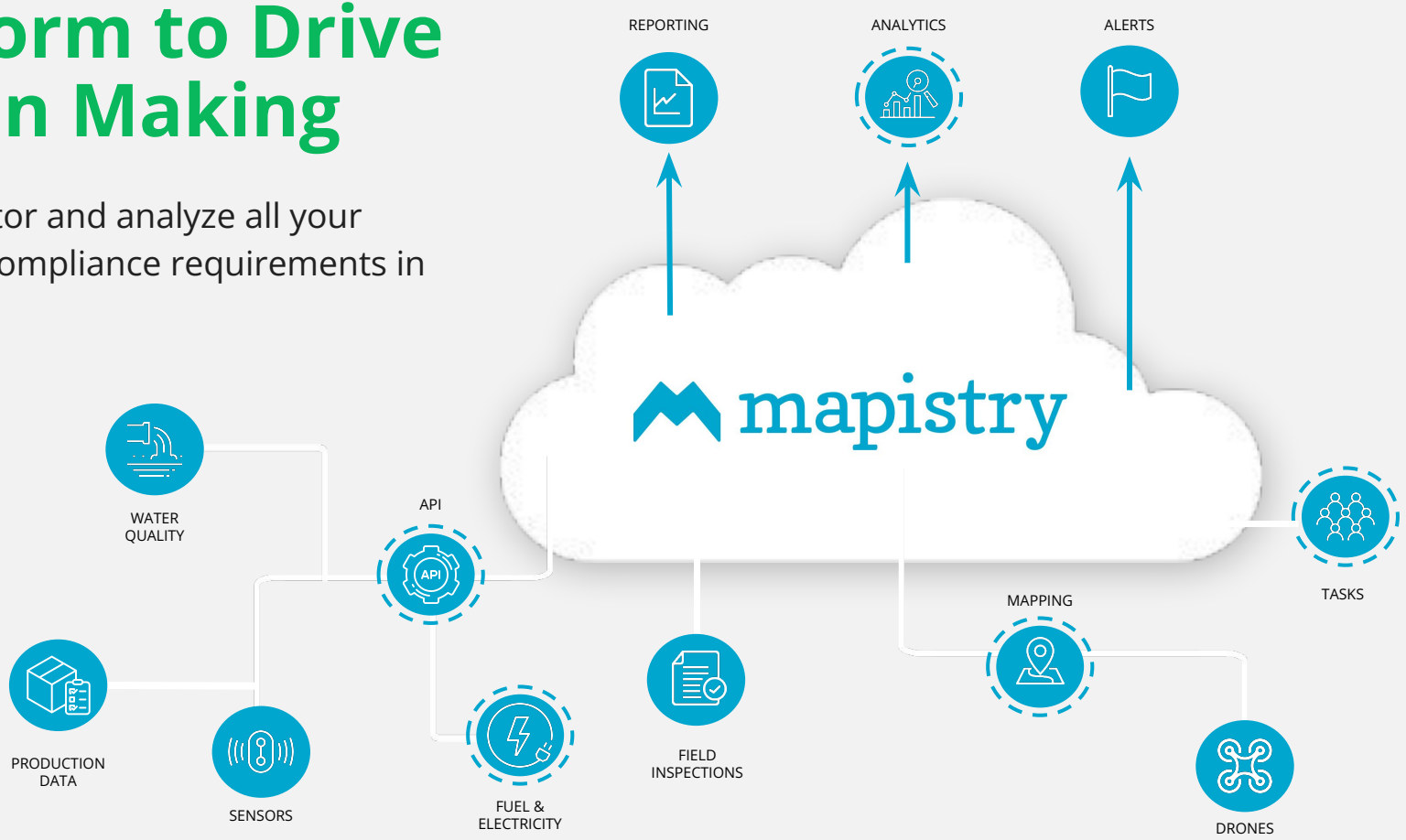
The **Growth** Business Case

The **Customers** Business Case

Have More Questions? Contact us!

Ryan Janoch | Co-Founder
ryan@mapistry.com

Courtney Wilson| Sr. Sales Engineer
courtney@mapistry.com

A Platform to Drive Decision Making

Complete, monitor and analyze all your environmental compliance requirements in one place.