

Digital Transformation for Power Providers



Engineers and Consultants



Biography



Evan White

Program Manager
Analytics and Artificial Intelligence



OMS - Historical outage analysis

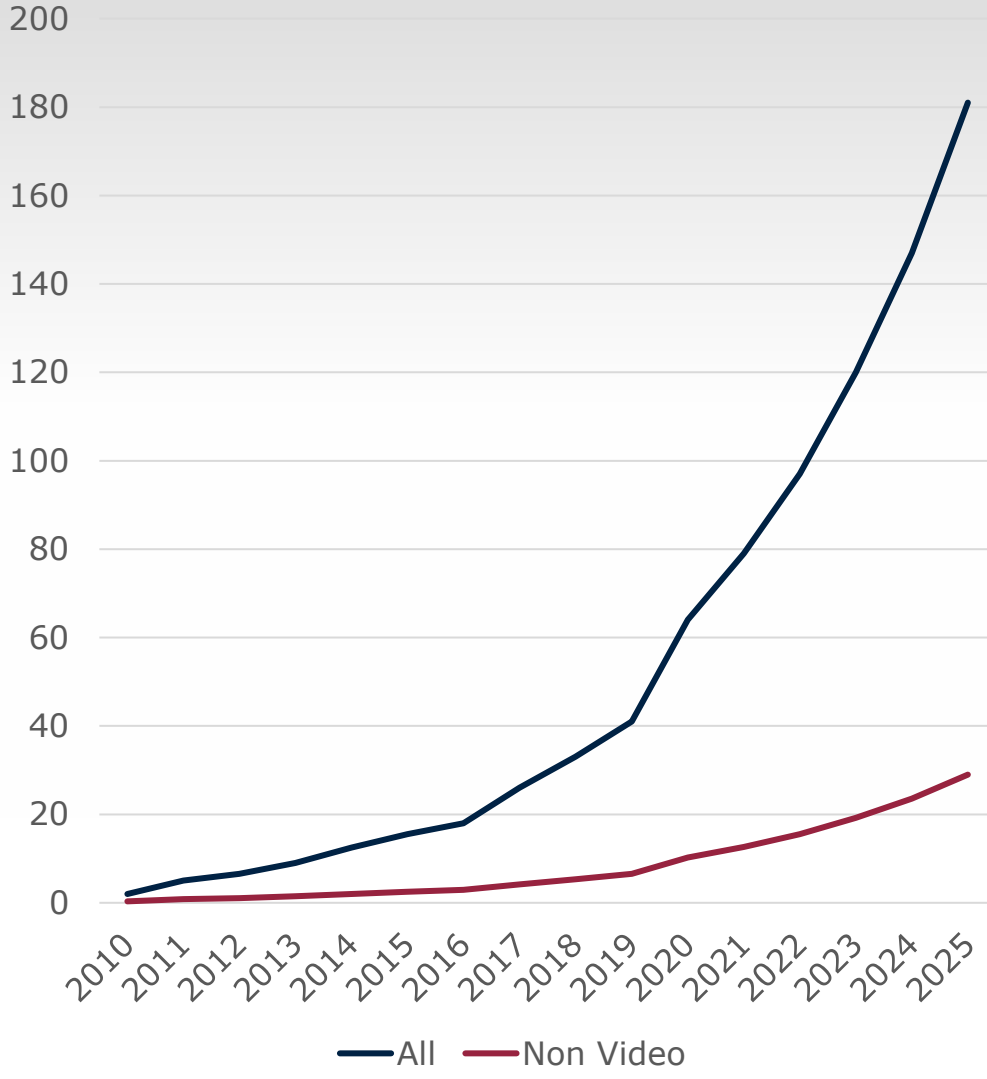
GIS - Geographic outage analysis

CMMS - Inspection image processing



Data Growth

Data production
42%
Annual growth



Never, Never, Never



Engineers and Consultants

Data
68%
Never used

Projects
85%
Never go live

Insights
80%
Never drive an action



Why?

- 1. Too much backlog**
- 2. Projects are too complex**
- 3. No trust in the data**

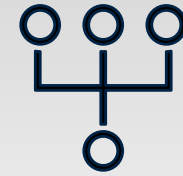
Small data projects can often provide valuable solutions much quicker than their complex counterparts.



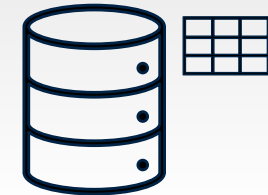
A Pragmatic Approach

One gigabyte of text data is more than 650,000 pages of text.

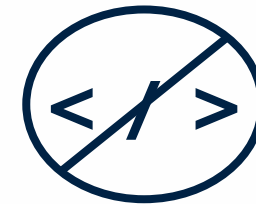
Minimum viable outcome



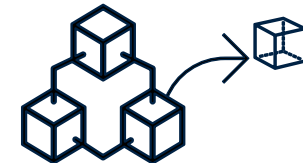
Smaller, focused datasets



Use low/no-code tools



Simplify the approach

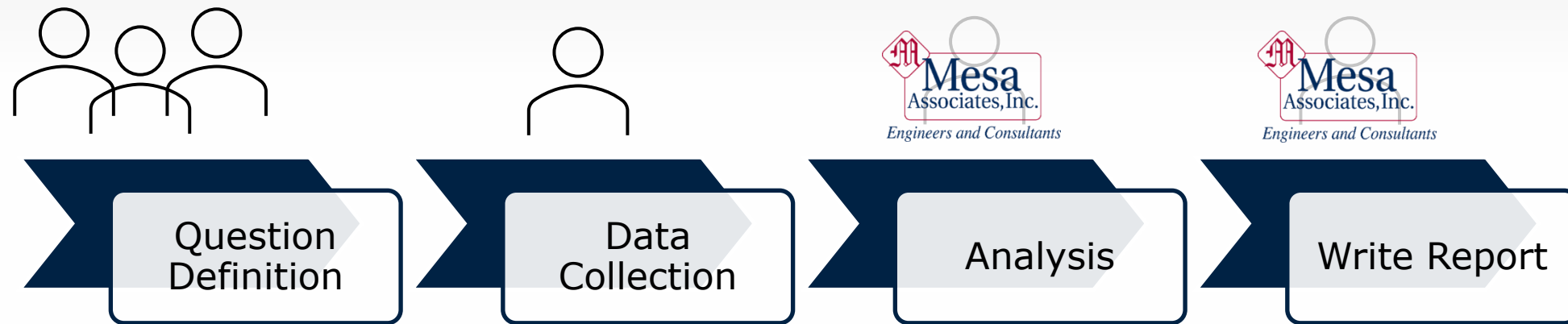


Outage Analysis

Data to report and automation



Workflow



Utility Overview

- More than 400,000 Customers
- More than 12,000 miles of T&D lines



Engineering Report

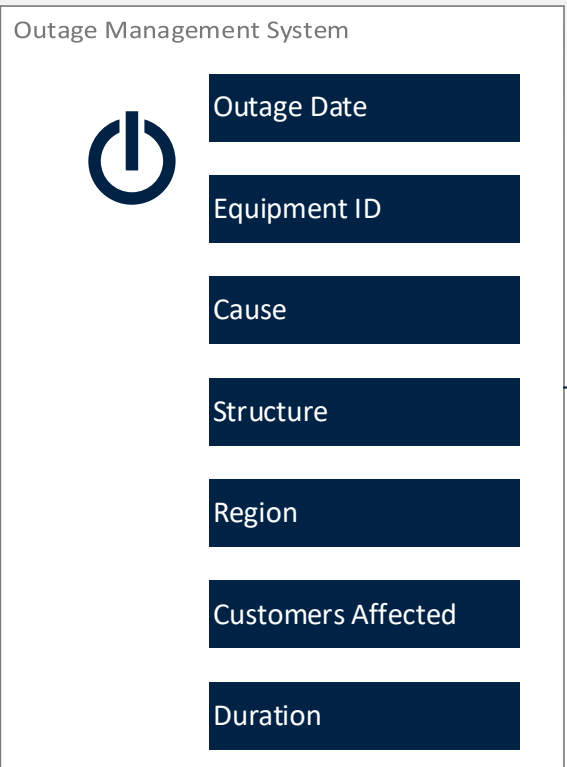


OMS Analytics – Architecture

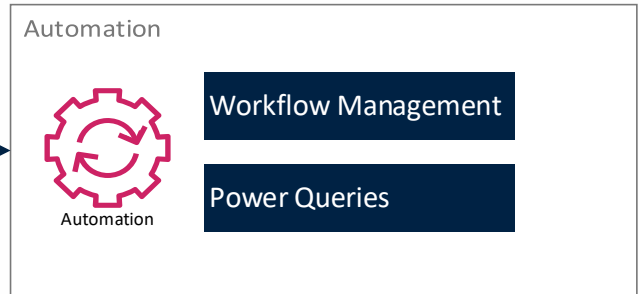


Engineers and Consultants

OMS Data



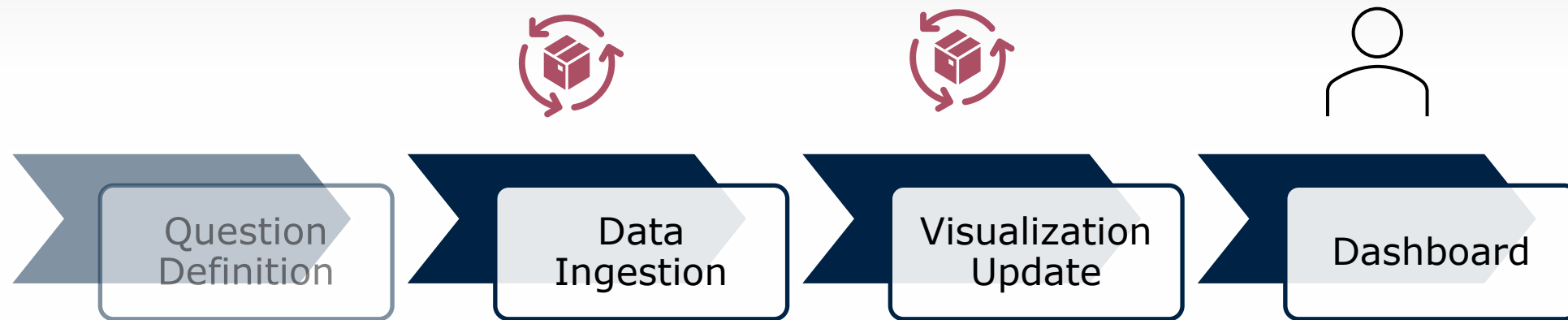
Automation



Annual report detailing progress made in the various regions, across equipment, or causes.




Workflow



OMS Analytics – Dashboard

1st Generation



AAI Program

Filters

REGION

SUBSTATION

FEEDER

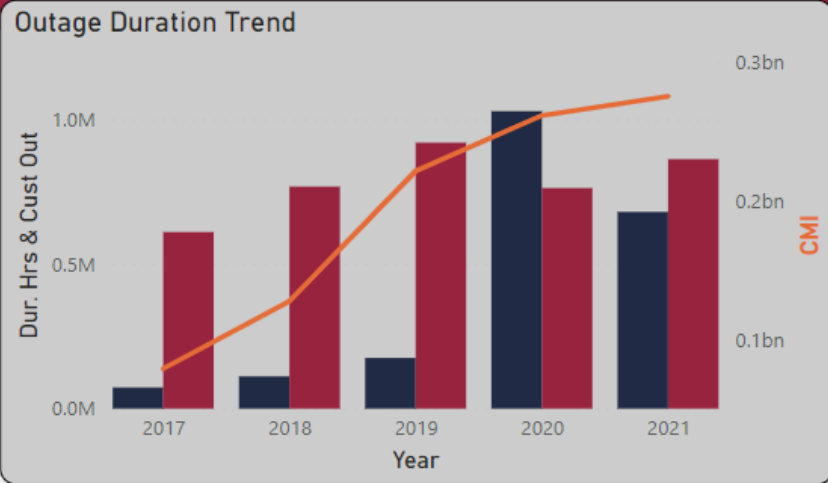
DEVICE CATEGORY

CAUSES

EQUIPMENT

AI ANALYSIS

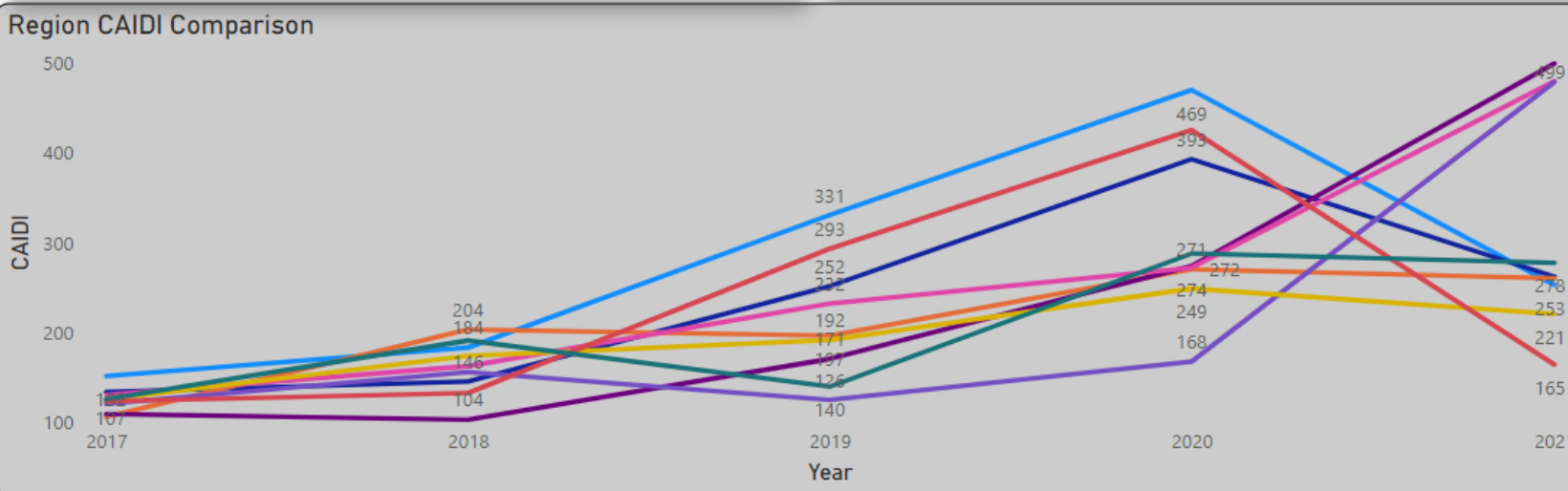
Outage Duration Trend



Region Outage Metrics

Region	Dur. Hrs	Cust. Out	CMI	CAIDI
TN-0009-Knoxville	534583	860493	242519192	282
TN-1234-Miami	346197	547119	144227462	264
TN-7000-Nashville	343199	711406	175646826	247
TN-7878-Cleveland	242808	442321	94079902	213
TN-4456-Denver	223782	420906	93958524	223
TN-0908-Columbus	120379	404182	86204914	213
TN-6754-Orlando	110697	168983	33406442	198
TN-0500-Florence	92369	176080	42966985	244
TN-0987-Lexington	54775	193166	50904275	264
Total	2068789	3924656	963914521	246

Region CAIDI Comparison



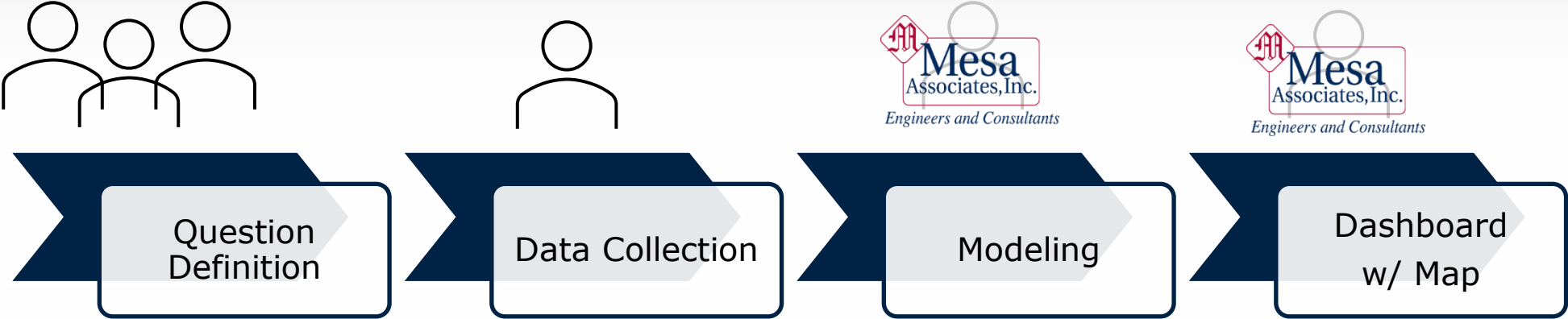


Phase 2

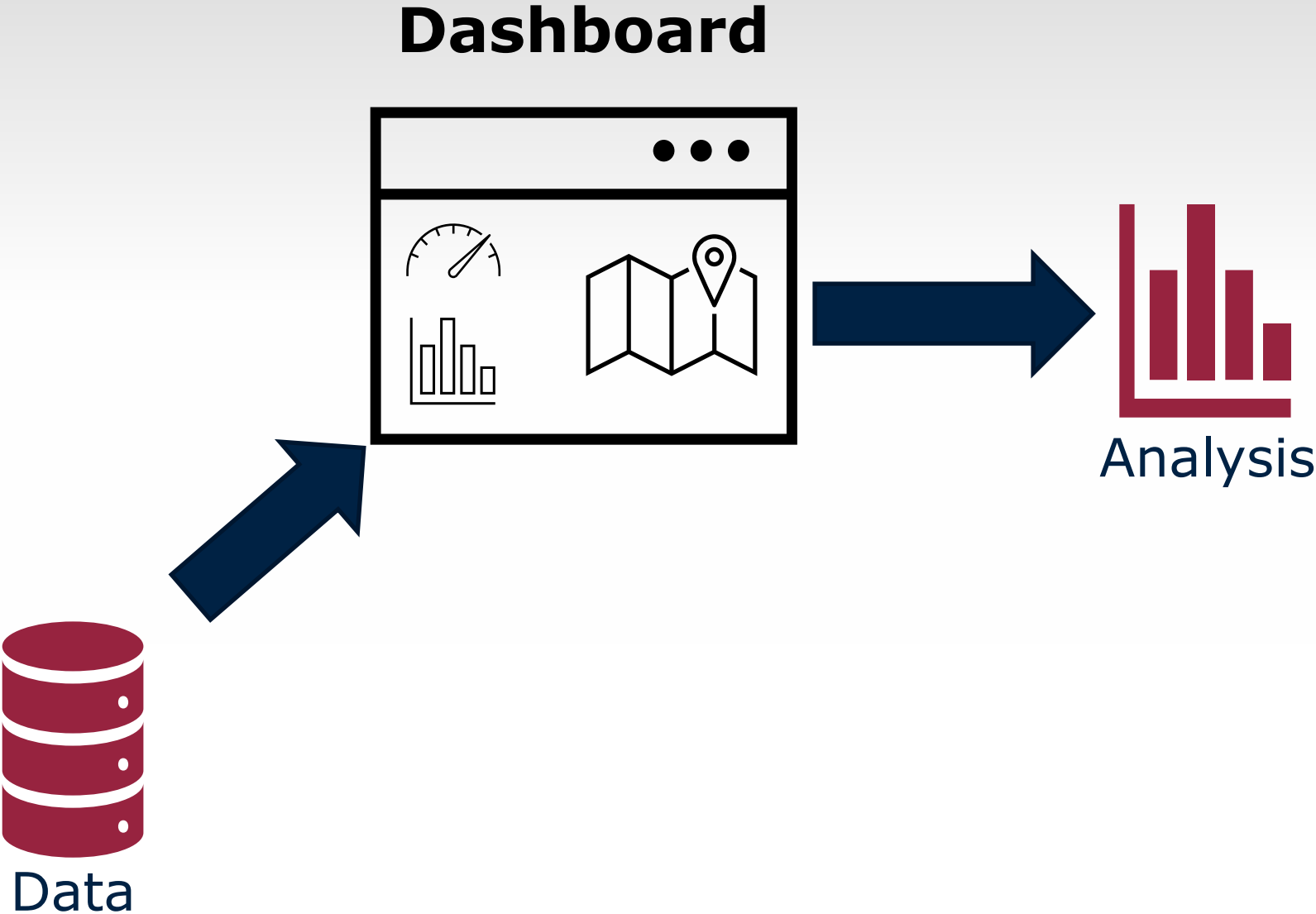
Geospatial Outage Analysis



Workflow

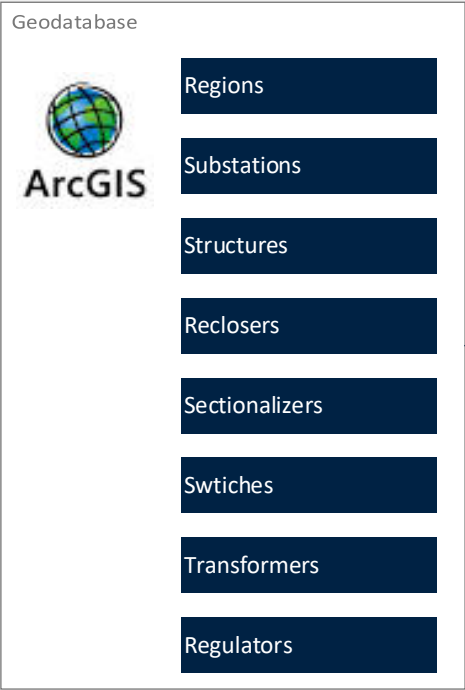


Outage Analytics

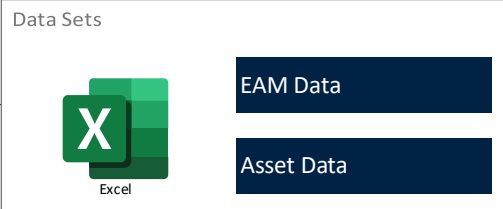
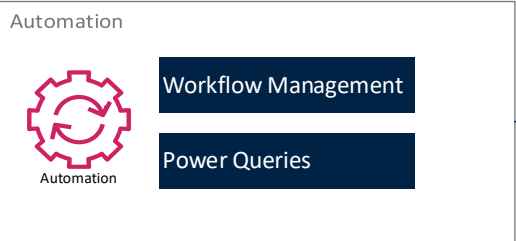


OMS Analytics – Architecture PH2

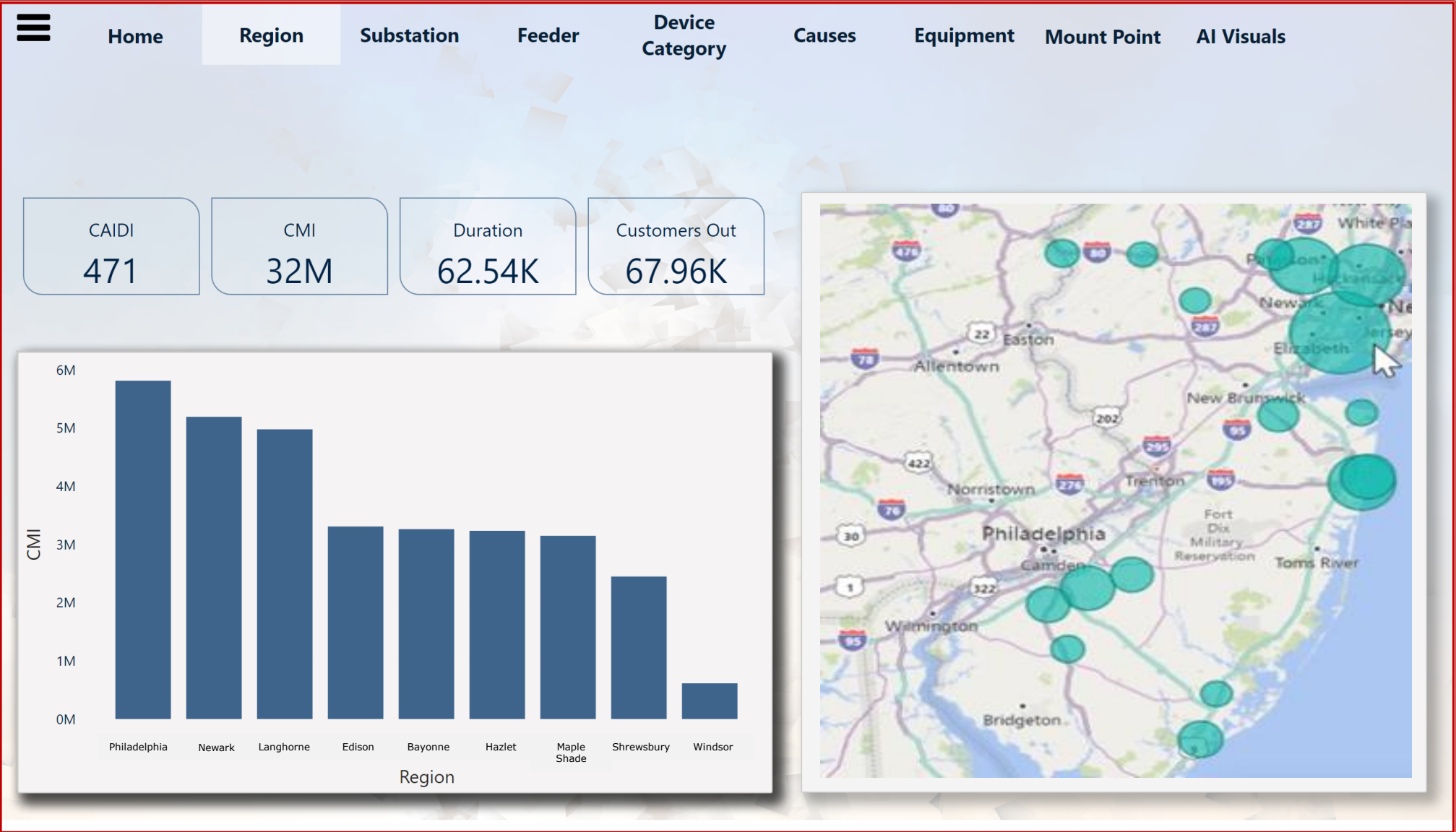
OMS Data



Automation



OMS Analytics – Dashboard PH2



2nd Generation



Inspection Image Application

Insights from drones



Drone Image Processing

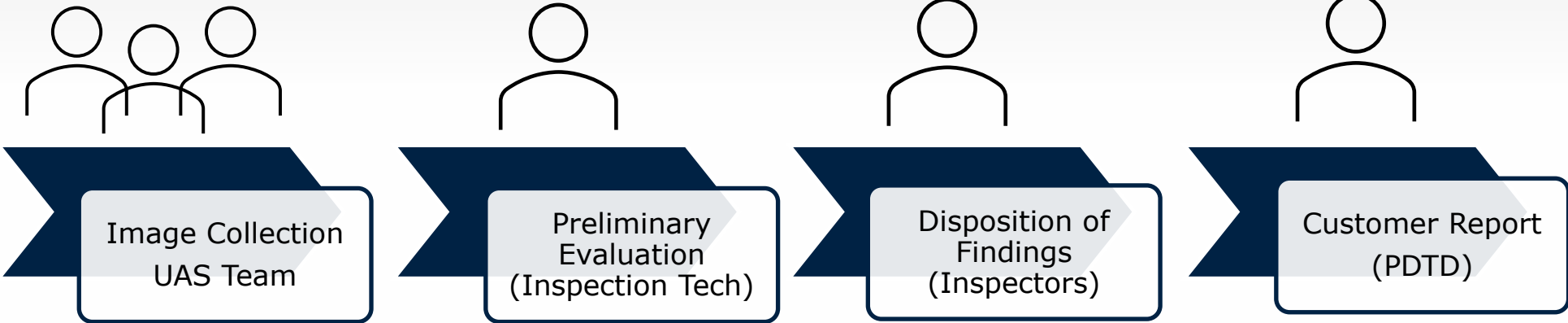
Reduction of effort

Elevate critical issues

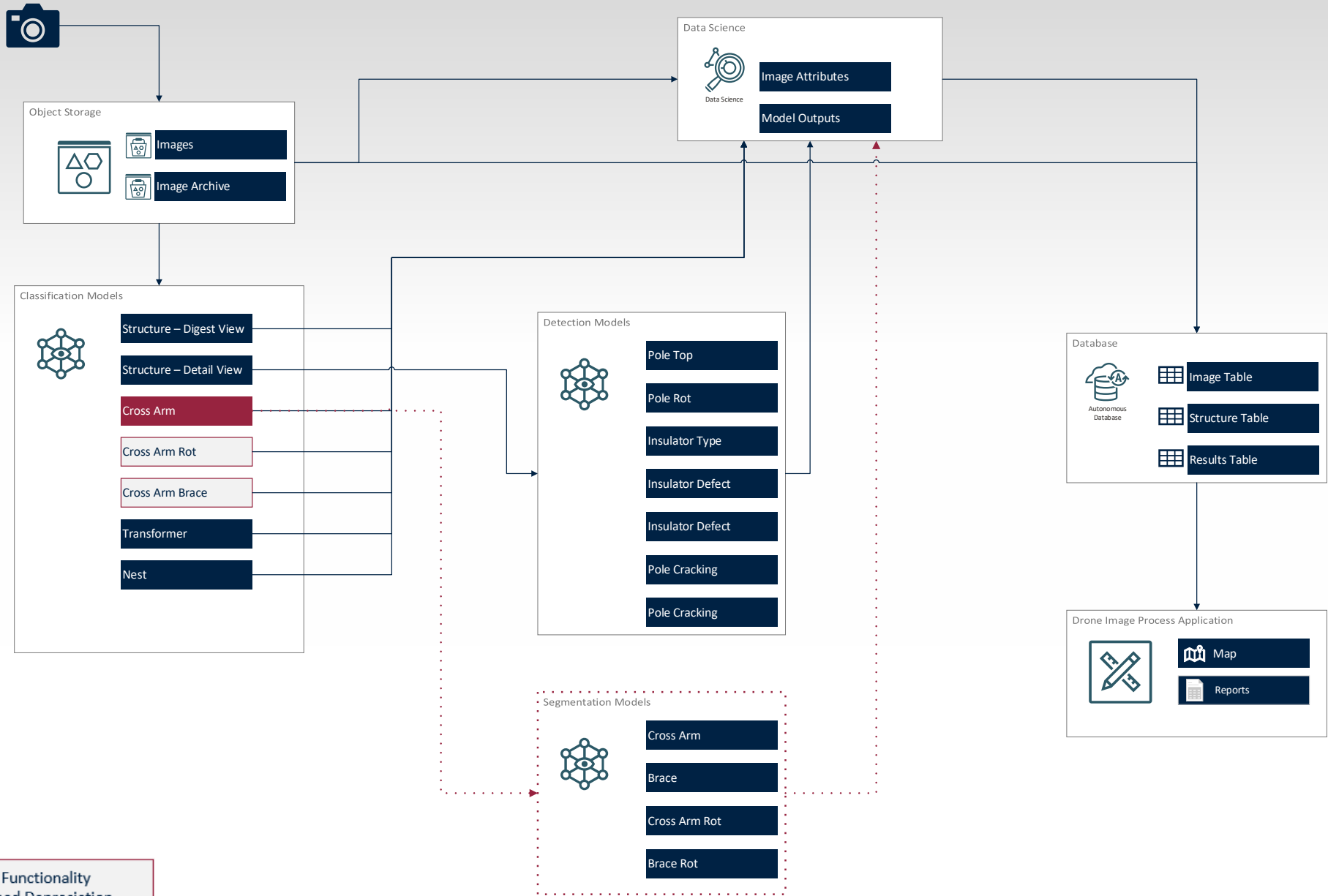
95% of data-based decisions can be automated, at least partially.



Workflow



DIP - Architecture

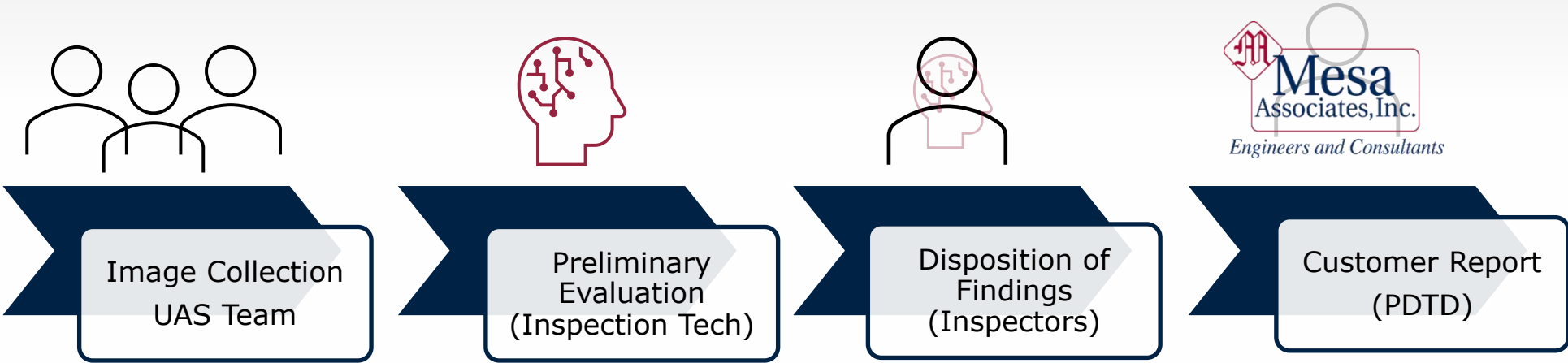


Planned Change

MVP Functionality
Planned Depreciation

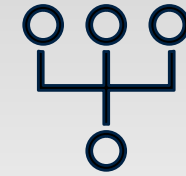


Workflow

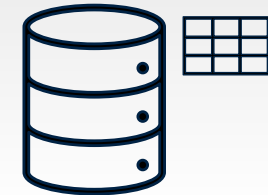


Alignment to the approach

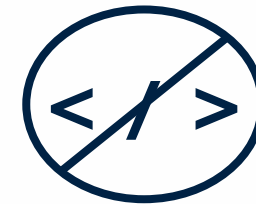
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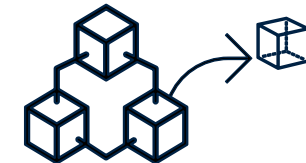
Smaller, focused datasets



Use low/no-code tools



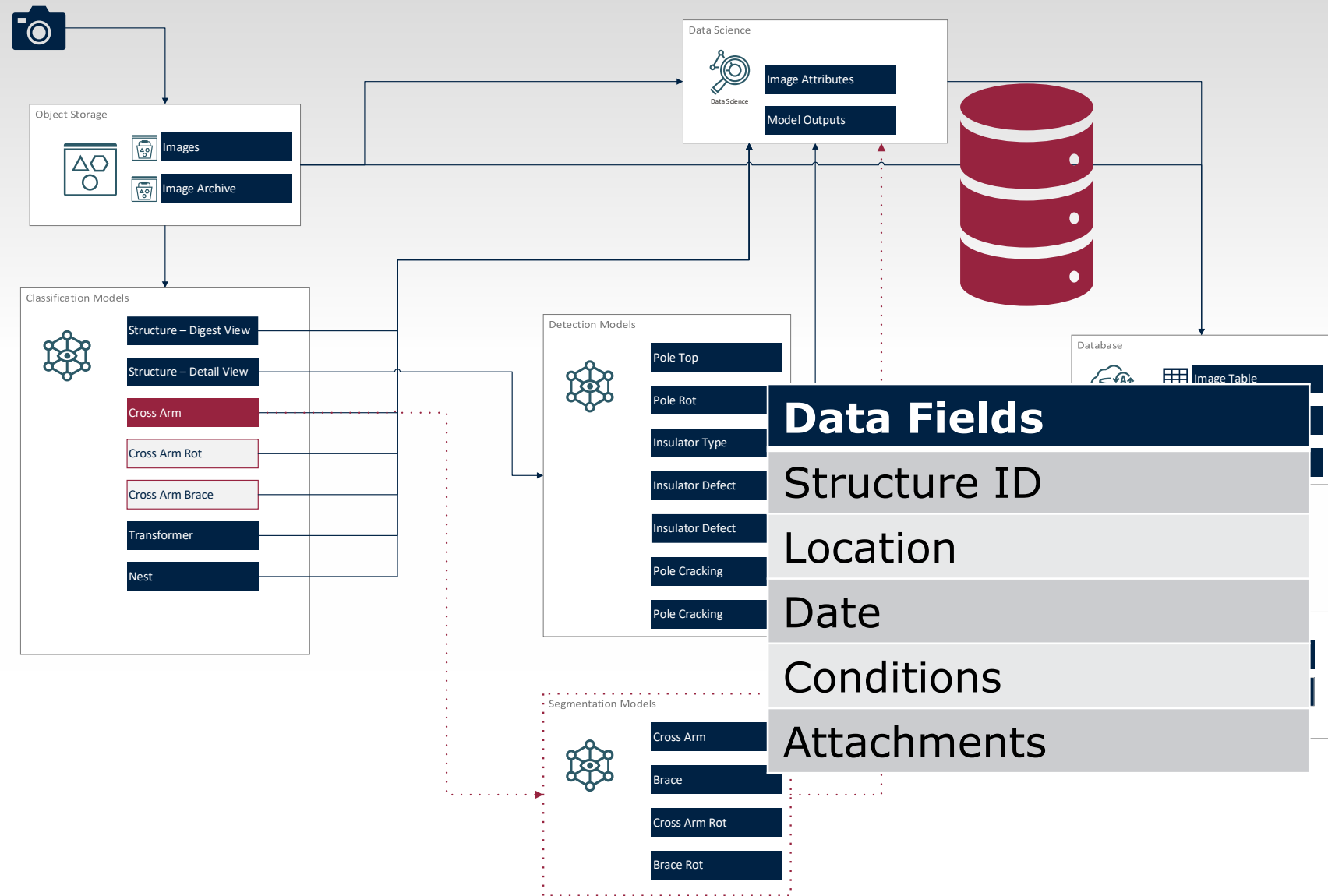
Simplify the approach



Why show this?

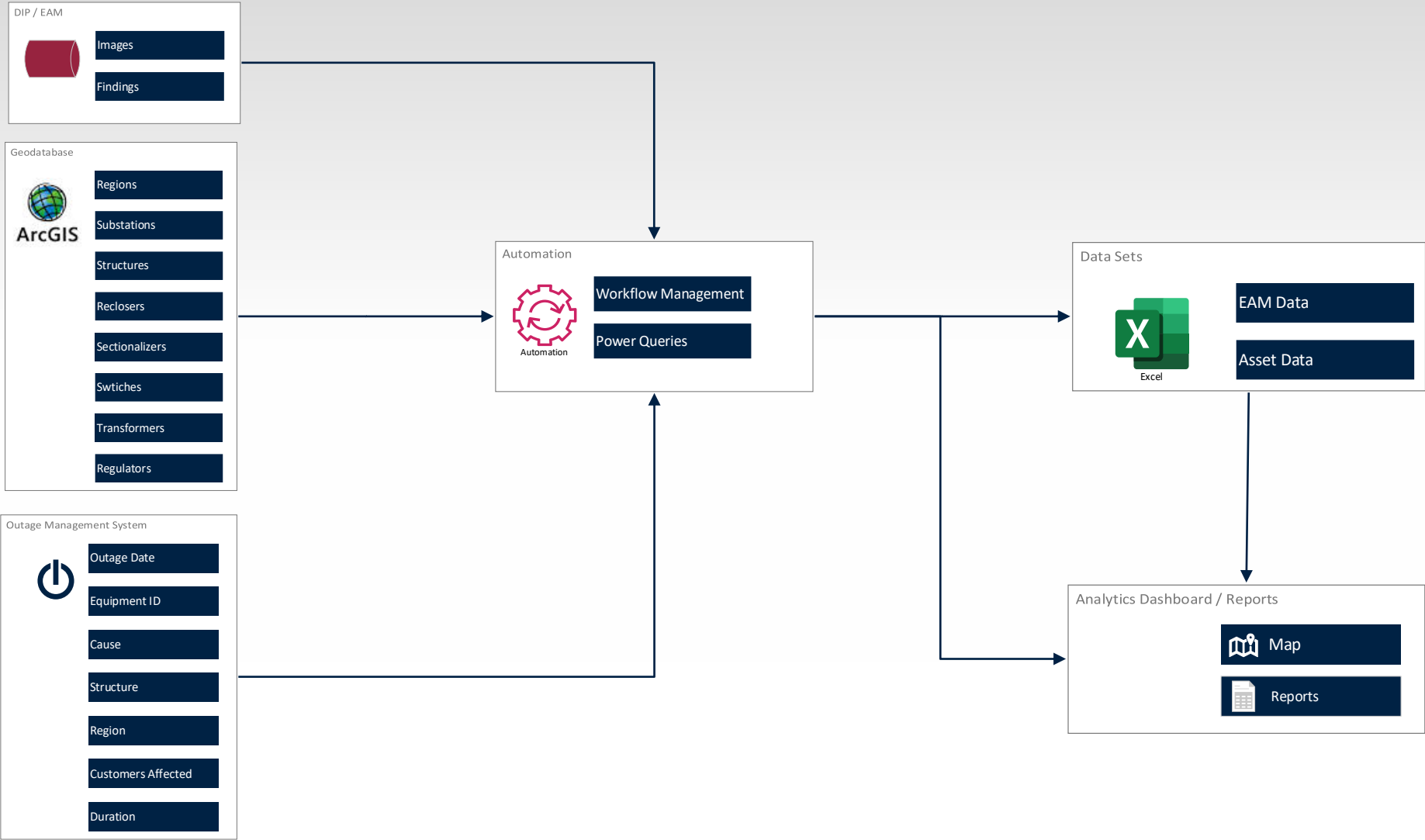
ORACLE
CloudWorld

September 18th-21st
Las Vegas



Greater Solution - Architecture

“Where the architecture tells what happens, the implementation describes how it is made to happen.”
-Gerrit Blaauw-

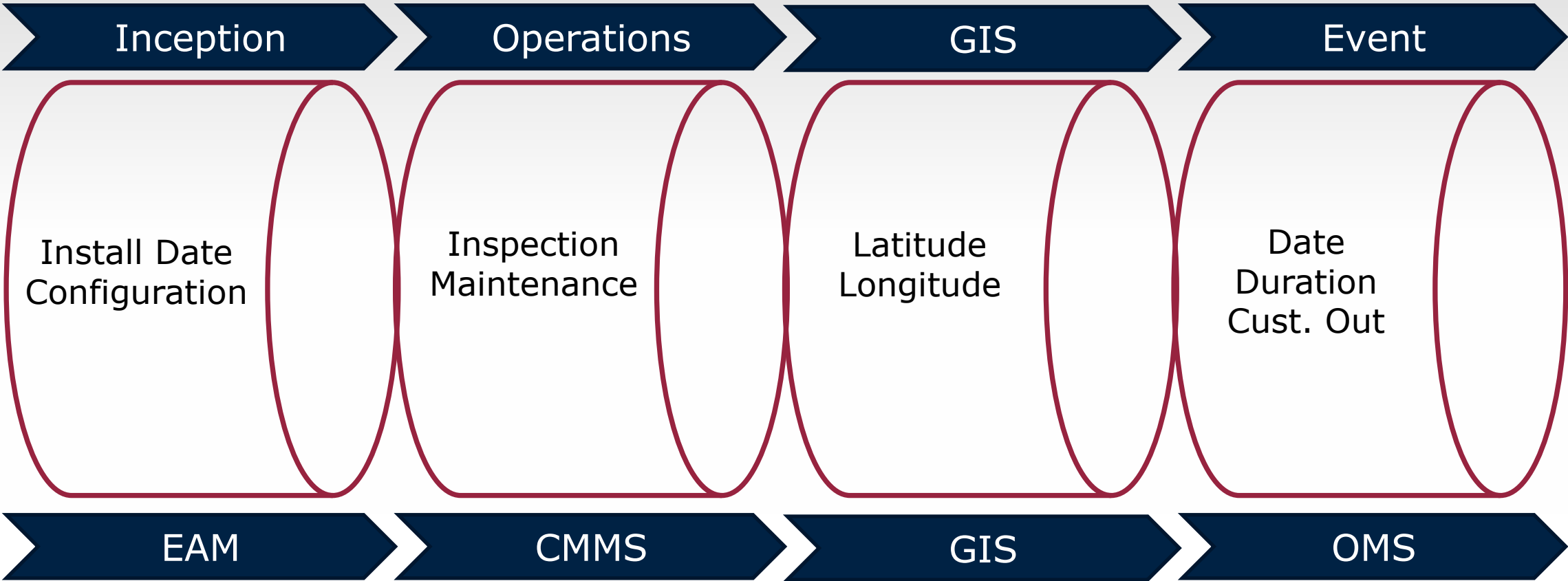


Greater Solution

Compounding work



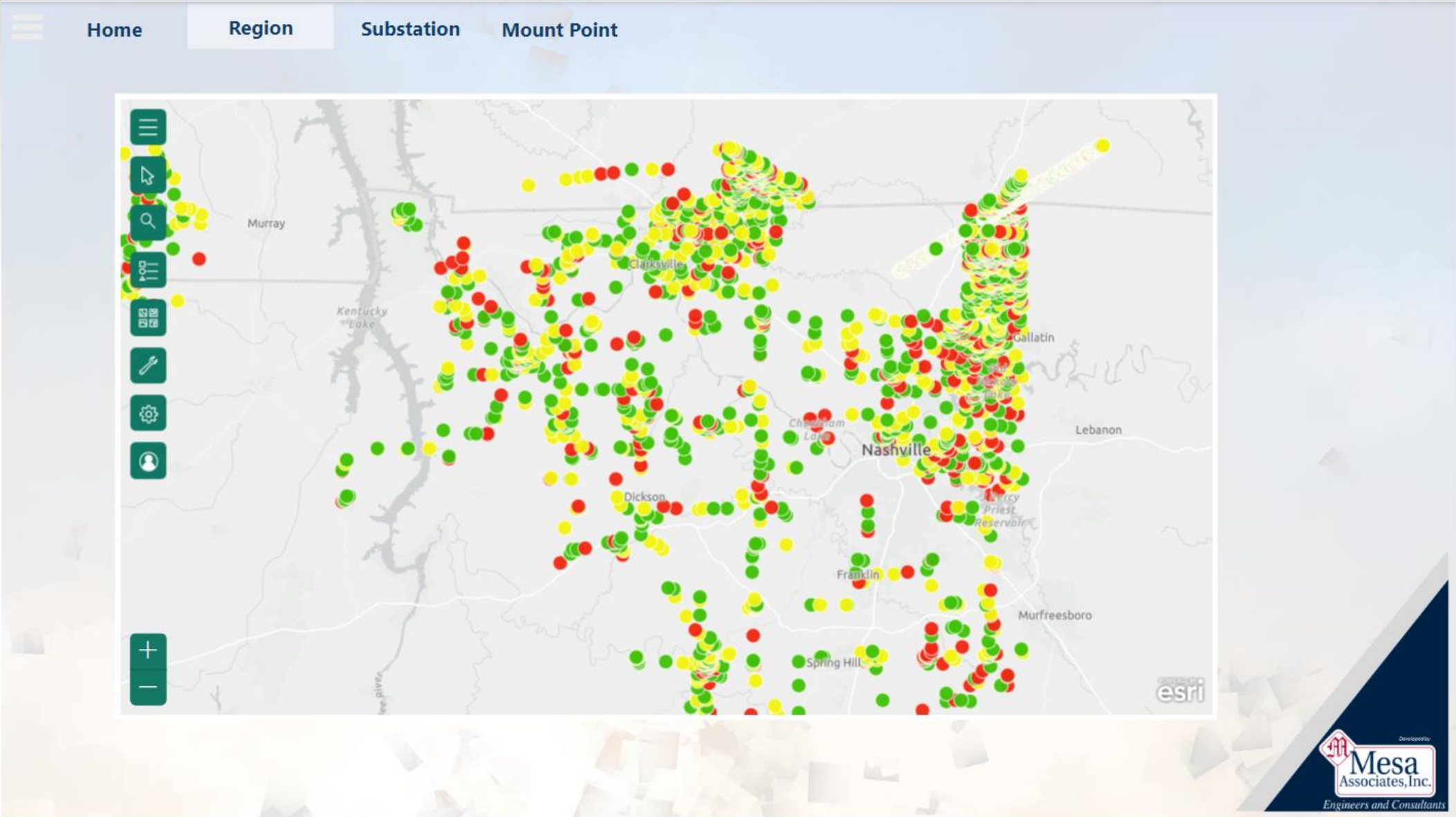
Contextualized Analysis



OMS Analytics GIS Dashboard



Engineers and Consultants





Contextualized analysis



Focused data



Time to value reduced



Reusable solution

- No IT Project
- No New Software
- No recurring costs



Thank you

“The challenge and the mission are to find real solutions to real problems on actual schedules with available resources.”

The Mythical Man-Month



Evan White

Program Manager
Analytics and Artificial Intelligence



LinkedIn

