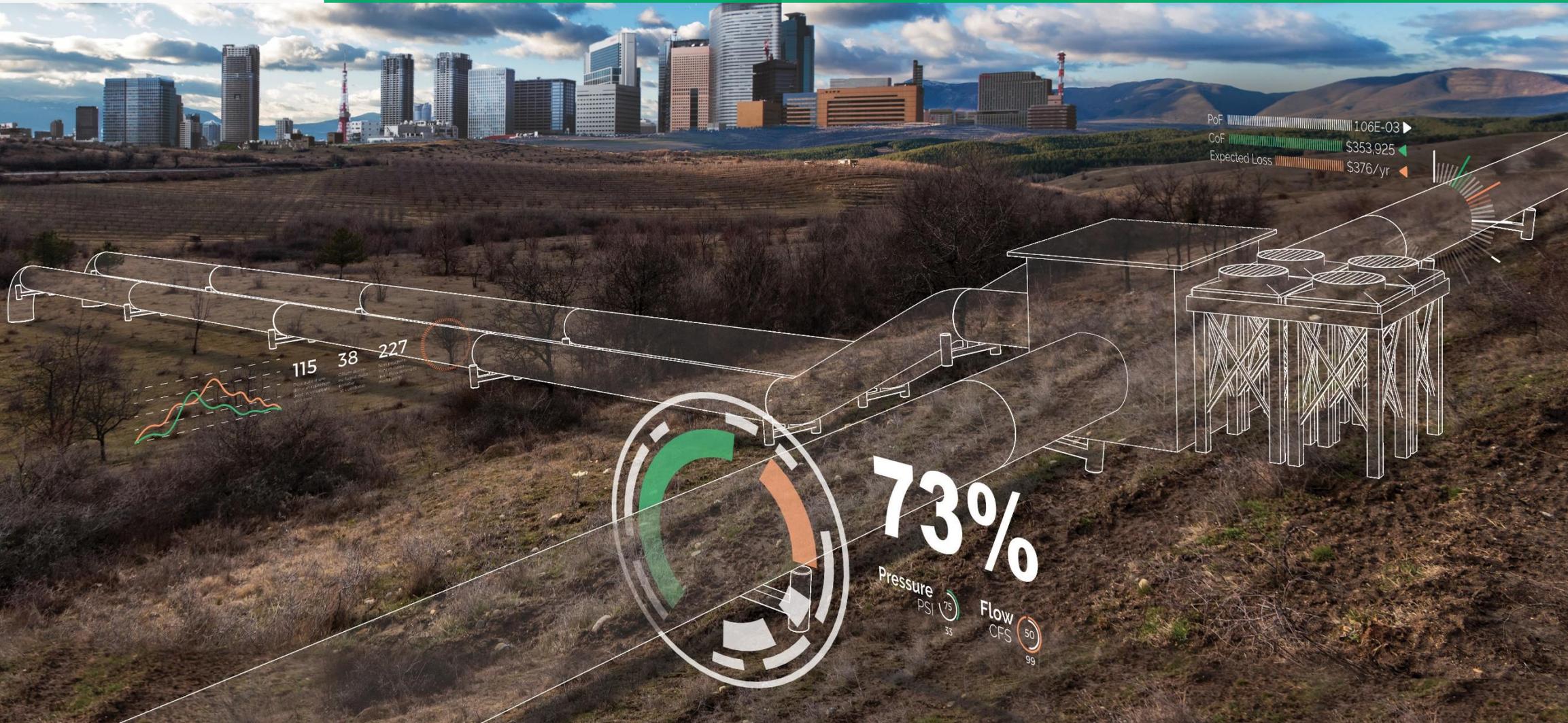




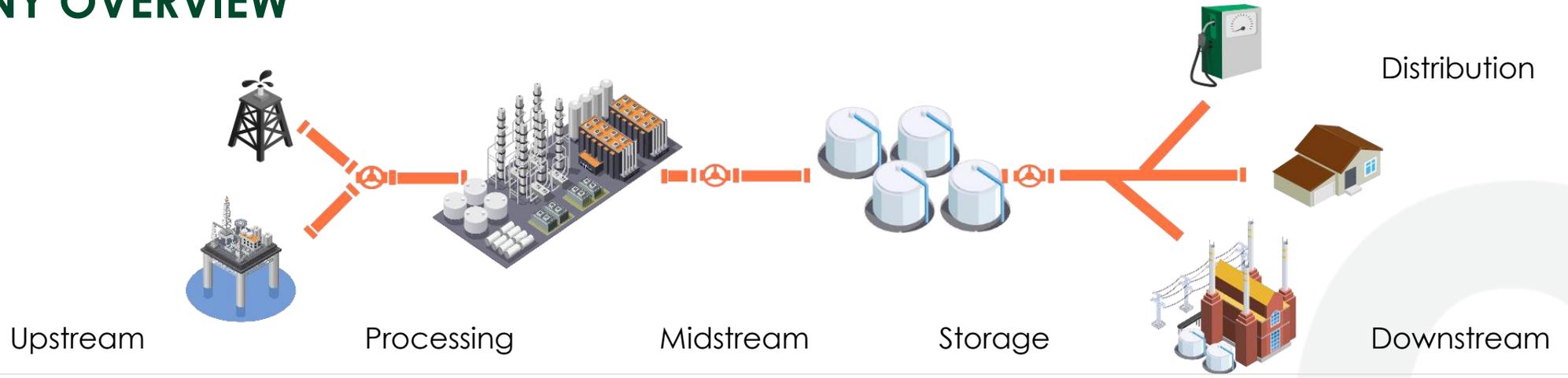
Managing Risk
Assuring Compliance
Optimizing Performance

WHERE ENERGY CHALLENGES MEET INNOVATION



COMPANY OVERVIEW

Domain



Values



Solutions



Enabling Services & Technologies



What we will cover



- Introduction/Background
- Manuals/Guides
- Reporting/Analytics
- Mapping
- 3D Scanning

Introduction/Background



- Eric Cowan
VP Field Services
928-853-3915
Eric.cowan@G2-IS.com

Manuals/Guides





Issues and Concerns

- Unorganized
- Incomplete
- Hard to update
- Difficult to use





Electronic Manuals

❑ Unorganized

- ✓ Now Organized and Accessible

❑ Incomplete

- ✓ Always Complete
- ✓ Always in Compliance

❑ Hard to Update

- ✓ Easy Push Updating

❑ Difficult to Use

- ✓ Searchable
- ✓ Online/Offline Capable
- ✓ Easy to Transport

PDF	Safety Manual	7-10
PDF	California Safety Plan	7-10
PDF	DIMP Guide	7-11
PDF	Equipment Guide	7-11
PDF	Distribution Documents	7-19
PDF	Corrosion Guide	7-20
PDF	Operations Manual	7-23
		7-24
		7-25
		8-1
		8-1
		8-1
		8-1
		8-2
		8-2
		8-3
		8-3
		9-1
		9-1
		9-2
		9-4
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		11-1
		11-1
		11-2
		12-1
		12-1
		12-2
		12-2
		13-1
		13-1
		13-1
		13-2
		13-2
		13-3



Reporting/Analytics



Typical Reporting In Field



Can Lead To Unorganized Reports in the Office





Issues and Concerns

- Incomplete
- Accuracy
- Not Legible
- Not Turned In/Lost
- What Do You Do With Them
- Storage





Electronic Forms

- Incomplete
 - ✓ Required Fields
 - ✓ Rules
- Accuracy
 - ✓ GPS Stamped
 - ✓ Time & Date Stamped
- Not Legible
 - ✓ Typed, Not Hand Written
 - ✓ Voice Recognition

Verizon LTE 4:25 PM 81%

7.0 Pipe Installation Save

Inspect Pipe For Damage

Successful	Unsuccessful	Not Observed	Not Applicable
------------	--------------	--------------	----------------

Ops Main and Service Installation Proc. Section 2

Verify Print Line On Pe Pipe Does Not Exceed 3 Years From Date Of Manufacture

Successful	Unsuccessful	Not Observed	Not Applicable
------------	--------------	--------------	----------------

Ops Main and Service Installation Proc. Section 1

Bend Radius Not Exceeded

Successful	Unsuccessful	Not Observed	Not Applicable
------------	--------------	--------------	----------------

Ops Main and Service Installation Proc. Section 2

Depth Clearance

Successful	Unsuccessful	Not Observed	Not Applicable
------------	--------------	--------------	----------------

Ops Main and Service Installation Proc. Section 2

Shading And Padding

Ops Main and Service Installation Proc. Section 2

Materials Meet Requirements

Successful	Unsuccessful	Not Observed	Not Applicable
------------	--------------	--------------	----------------

Depth Of Shade And Pad Per Procedure

Successful	Unsuccessful	Not Observed	Not Applicable
------------	--------------	--------------	----------------

Photographs / Comments



Electronic Forms

- ❑ Not Turned In/Lost
 - ✓ Once Submitted, Received And Backed Up
- ❑ What Do You Do With Them
 - ✓ Analytics
 - ✓ Risk Analysis
 - ✓ TVC
- ❑ Storage
 - ✓ Digital Storage Is Cheaper Than Physical
 - ✓ Takes Up Less Space

The screenshot shows a mobile application interface for '14.0 Inspection Completion'. The status bar at the top indicates 'Verizon LTE', '4:25 PM', and '81%' battery. The app header is orange with a close button, the title '14.0 Inspection Completion', and a 'Save' button. The form is divided into sections: 'Overall Ratings' with 'Workmanship *' and 'General Safety *' sections, each containing 'Successful' and 'Unsuccessful' radio buttons; 'Any Failed Tasks?' with 'Yes' and 'No' radio buttons; 'Signatures' with a 'Crew Leader / Personnel *' field; 'Inspector *' field; and 'Photographs / Comments' with a camera icon and a right arrow.



Electronic Forms

Verizon 10:12 PM 50%

Upload images to this record:

[Step 1] Field Evaluation Information
[Step 2] Crew Information
[Step 3] Workmanship Quality
[Step 4] Time Management/Productivity
[Step 5] General Safety
[Step 6] Environmental
[Step 7] Training
[Step 8] Evaluation Summary
Reset All
Send PDF
Exit

This form is to be used by perform construction activities. to document quality control inspections of Contract Personnel who

*Required
Evaluation of: Crew Individual

Ops Manual OK
 Chart/Gauge Calibration OK - #
Chart/Gauge Expiration

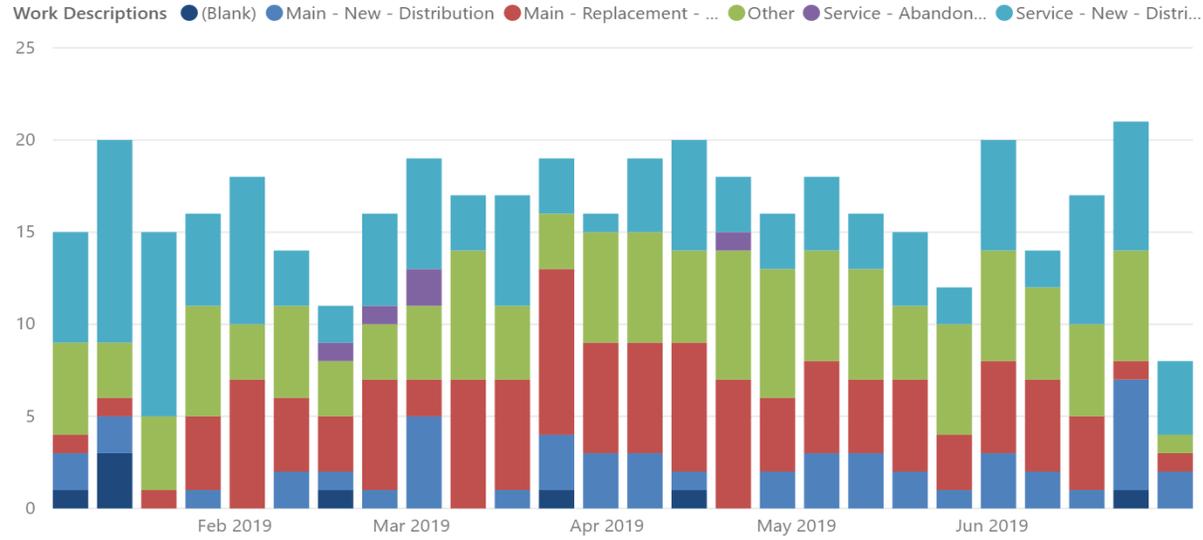
	Address	*Required Type of Activity	Successful	Unsuccessful	N/A
1.	<input type="text"/>	Line Location	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="text"/>	Pipe Installation	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3.	<input type="text"/>	Pipe Repair	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="text"/>	Leakage Survey/Centering	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="text"/>	Emergency Response (Hit Truck)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.	<input type="text"/>	Valve Installation/Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Save

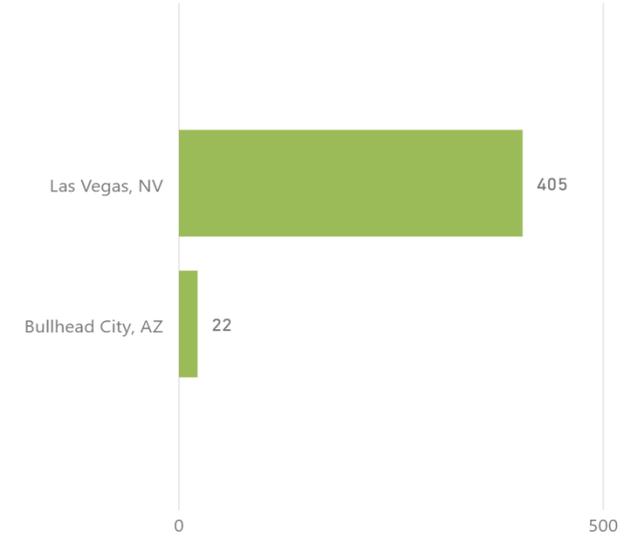
Reporting/Analytics



Count of Id by WEEK ENDING and Work Descriptions

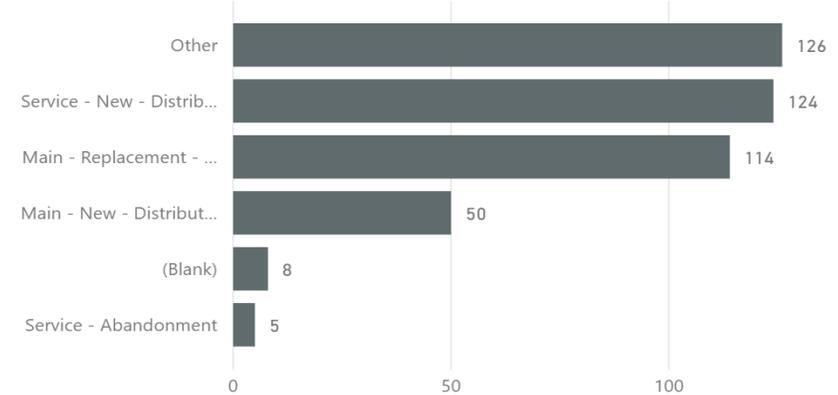


Count of Id by City Name




 This visual does not support exporting.

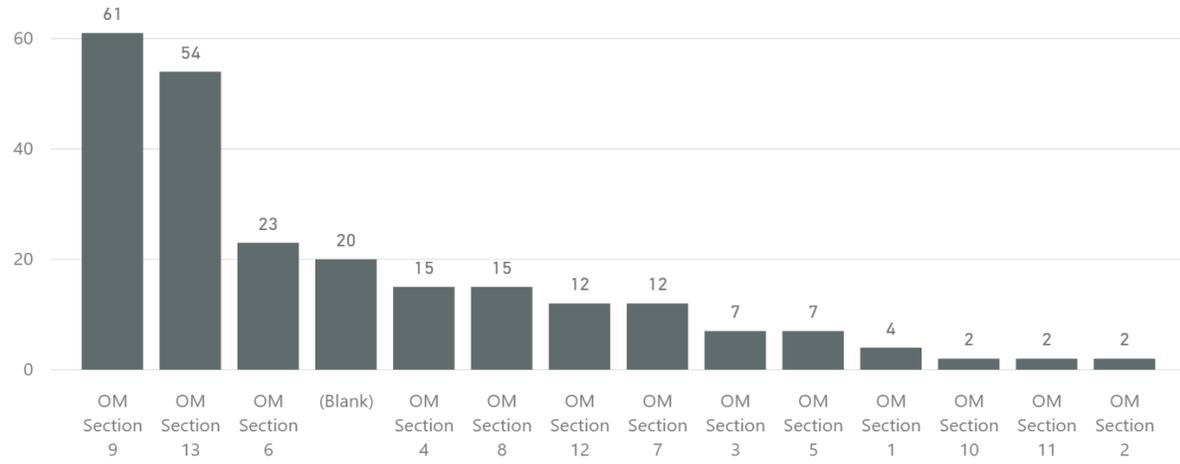
Count of Id by Work Descriptions



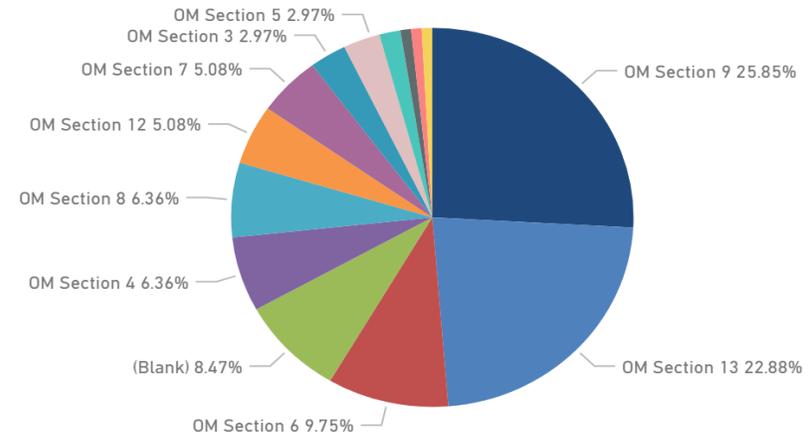
Reporting/Analytics



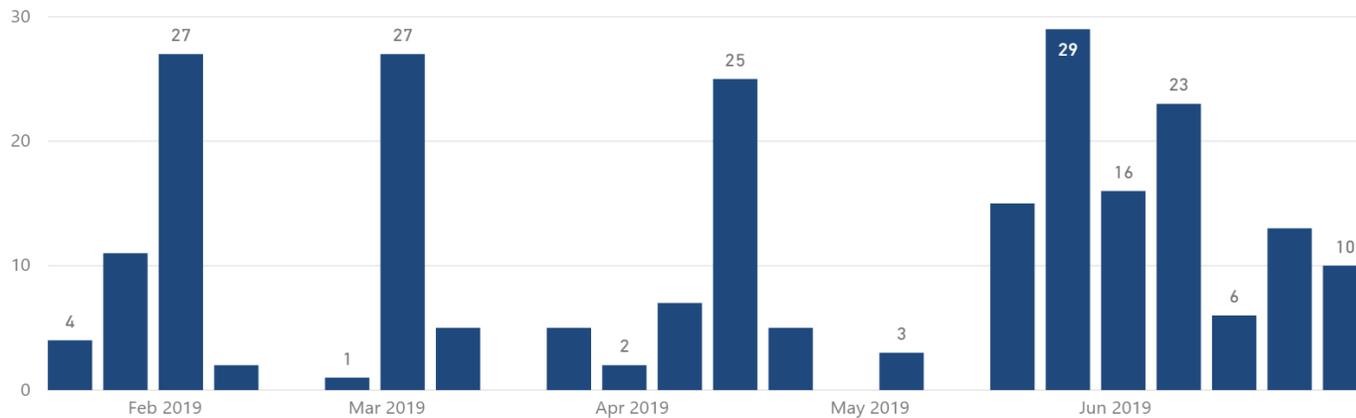
Count of Id by Issue Category



Count of Id by Issue Category

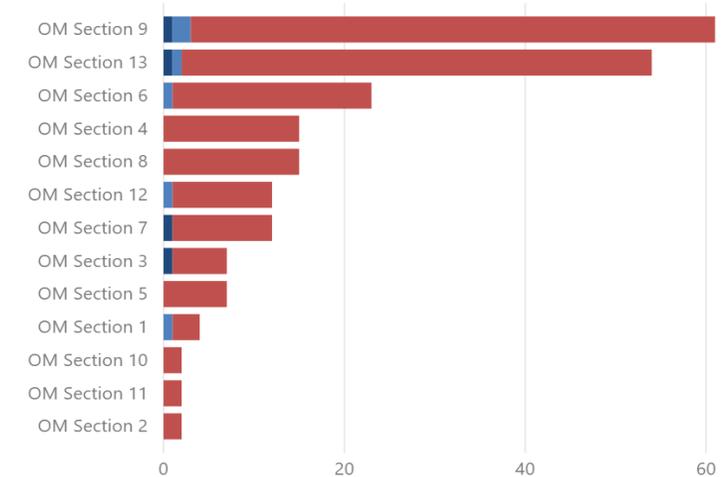


Count of Id by WEEK ENDING



Count of Id by Issue Category and QC Result

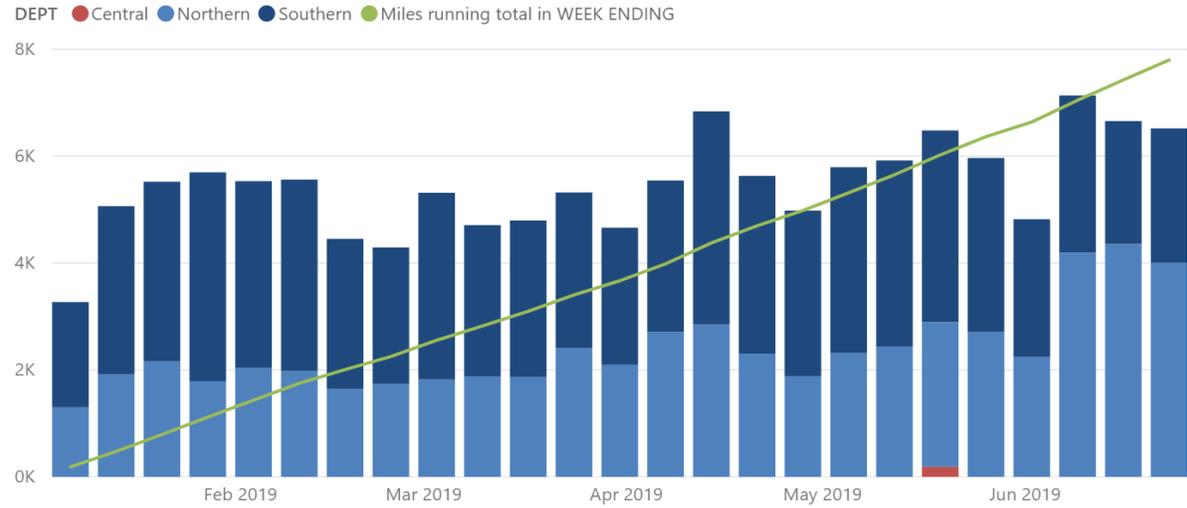
QC Result ● (Blank) ● N/A ● Unsuccessful



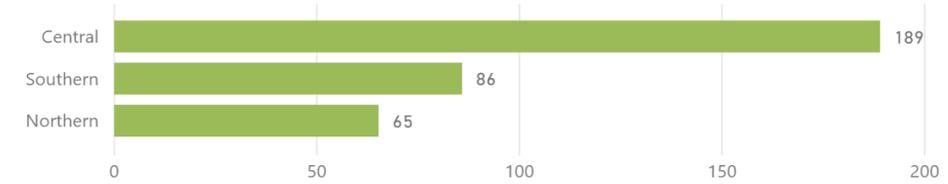
Reporting/Analytics



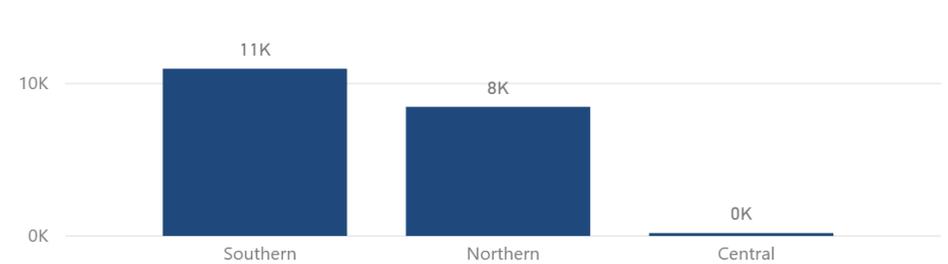
Miles and Miles running total in WEEK ENDING by WEEK ENDING and DEPT



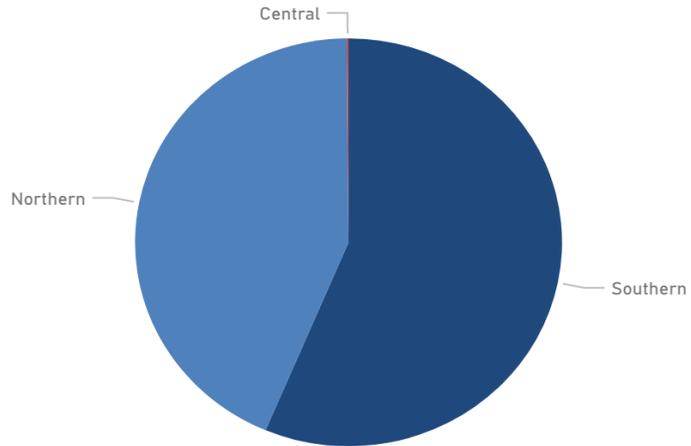
DAILY AVG MLG by DEPT



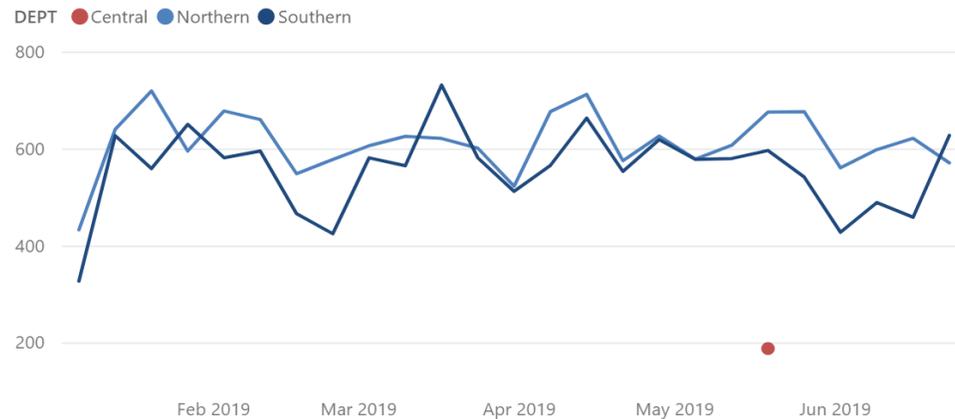
AVG MLG PER PERSON by DEPT



Miles by DEPT



AVG MLG PER PERSON by WEEK ENDING and DEPT



3D Scanning



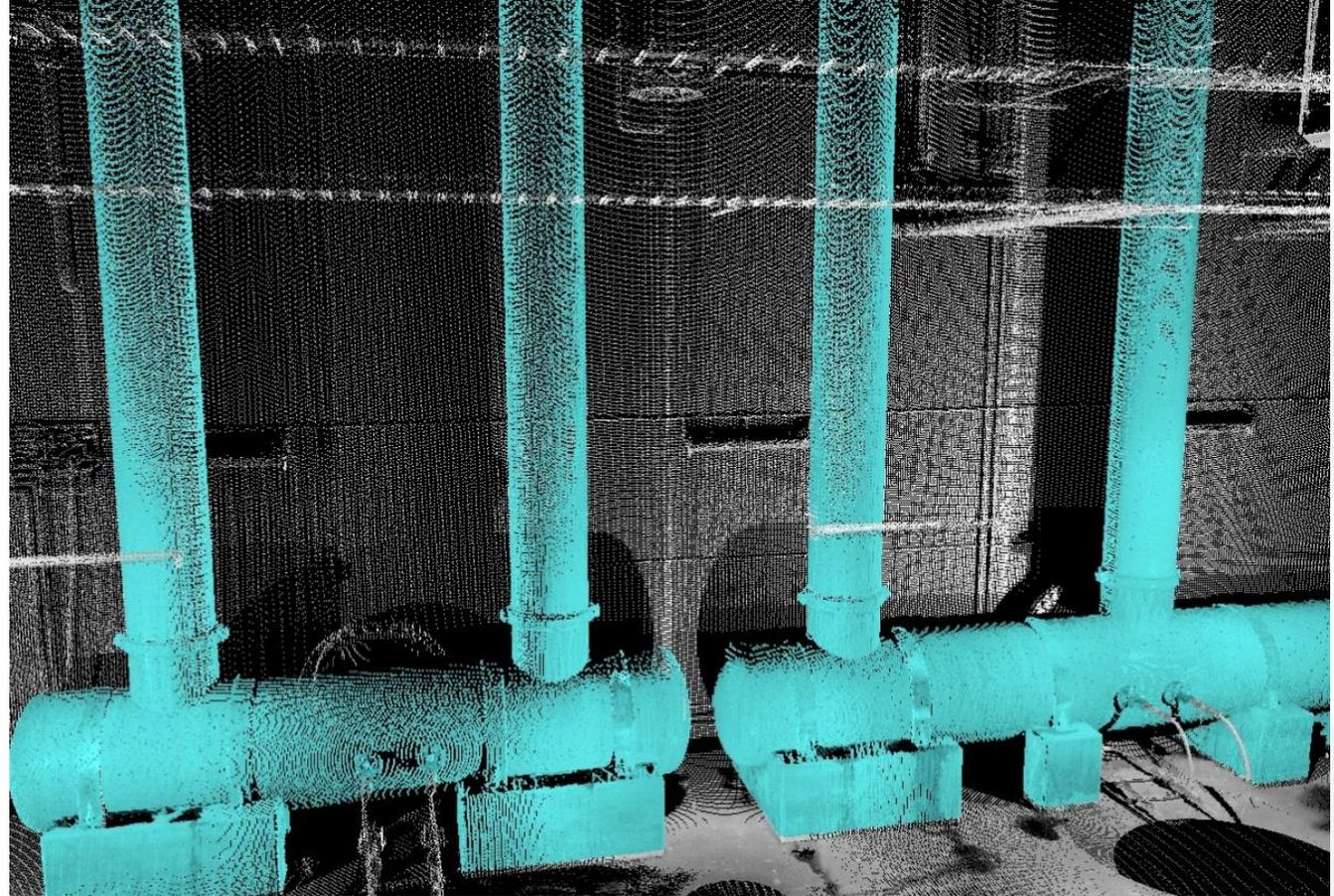
□ Leica RTC 360

- ✓ **2 Million Data Points a Second**
- ✓ **Millimeter accuracy**
- ✓ **Can collect data up to 300' away**
- ✓ **Collect using smartphone/tablet**

3D Scanning



- ❑ Automatic registration and point cloud creation
- ❑ Imagery overlaid on point cloud data



3D Scanning



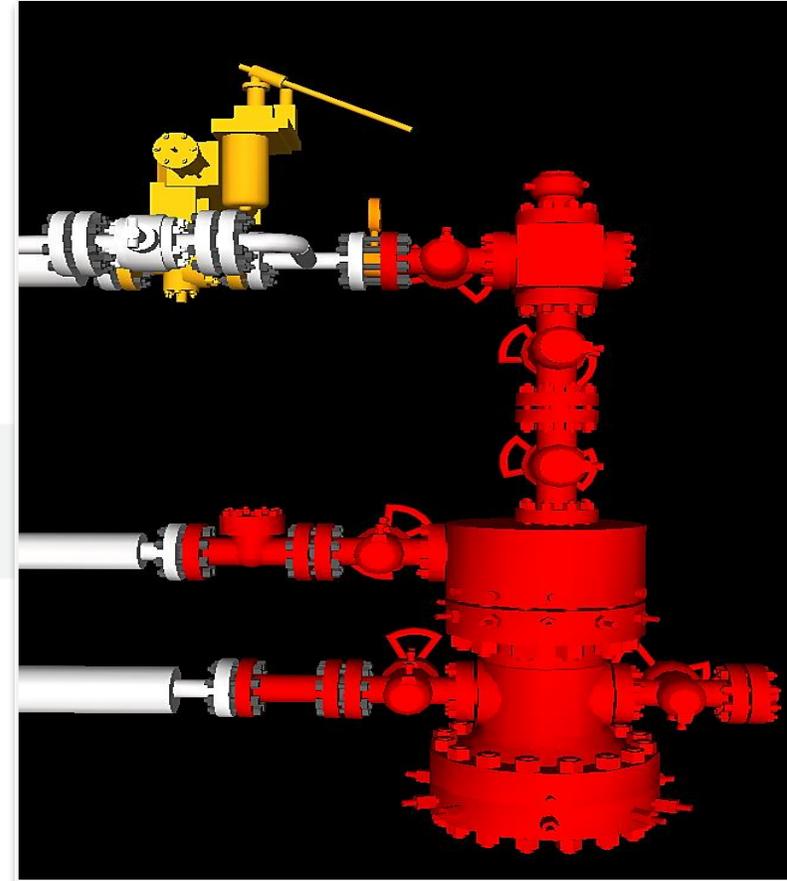
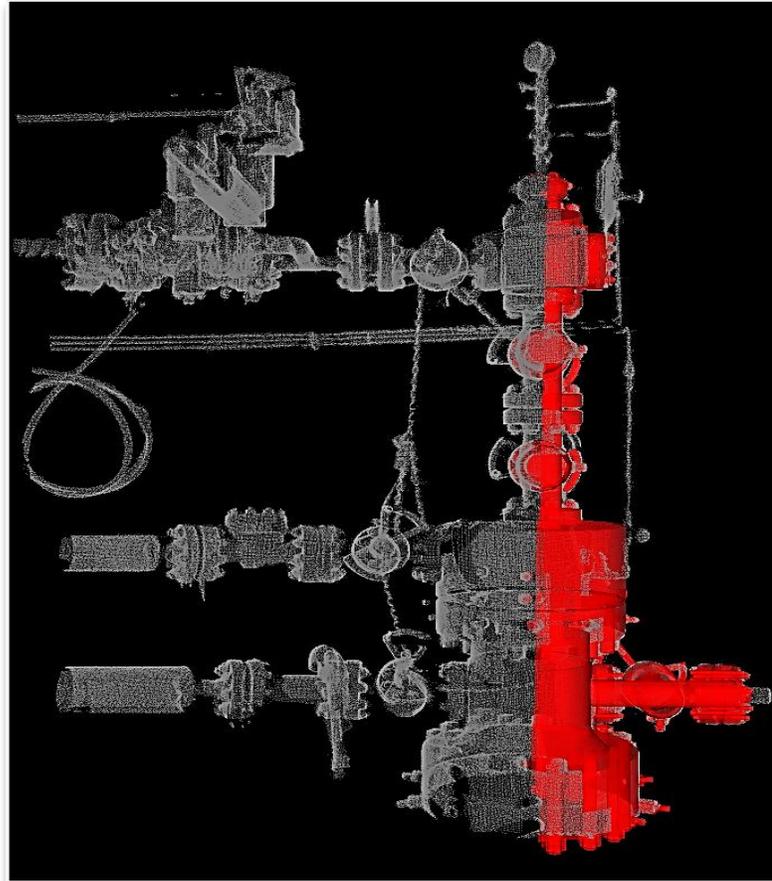
- 3D models/drawing generation
- +/- 1mm @10M, 3mm@50M
- Limits Safety Hazards
- Reduces field time and shutdowns
- Improves project management
- Precise, fast and complete
- Photographic visual animation
- Variation between design / execution
- Virtual site visit and preliminary design
- 3D models/drawing generation



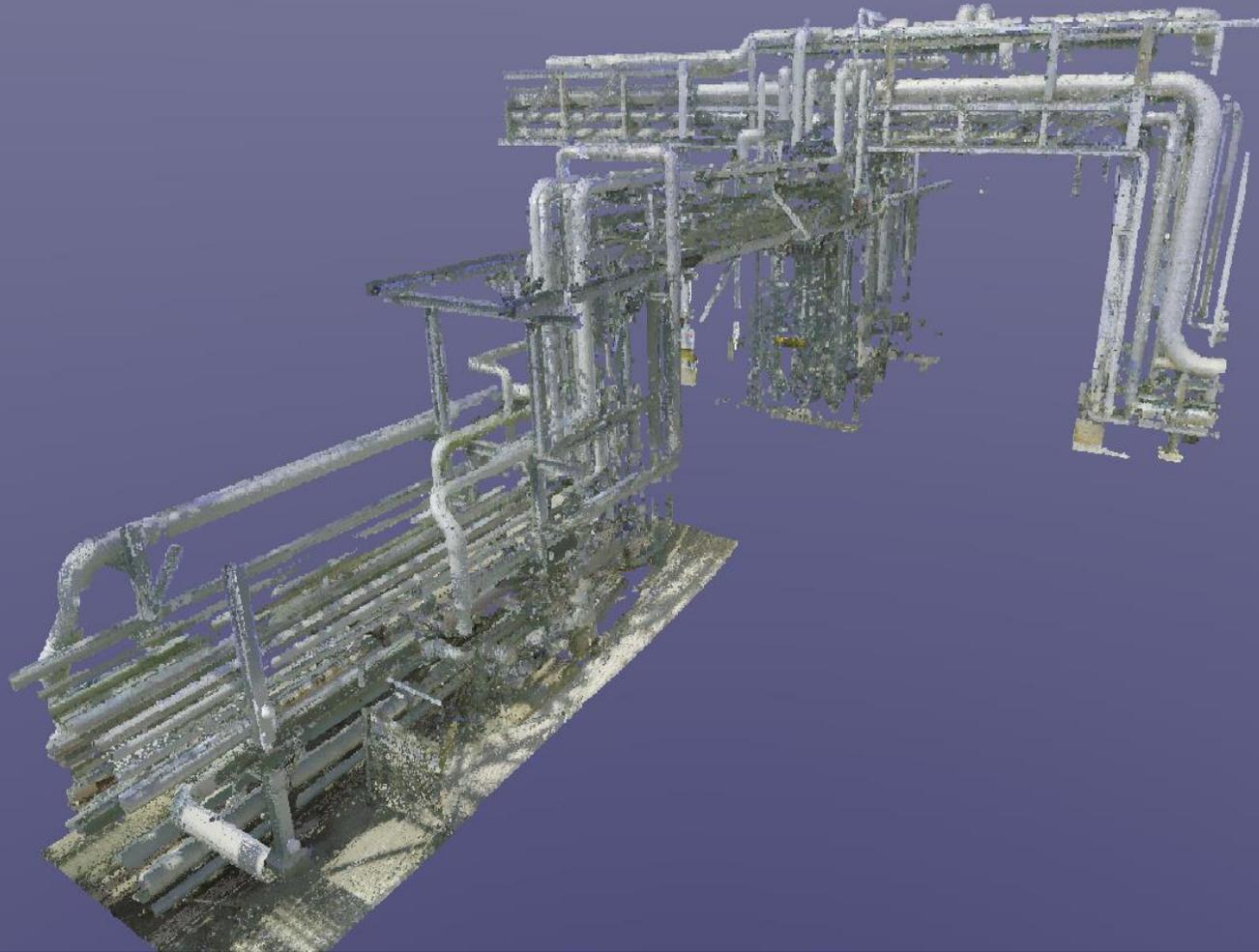
3D Scanning



- ❑ Full As-Is 3D models of piping, structural steel, equipment and buildings
- ❑ True Representation of the environment
- ❑ Replaces 3D Cad models



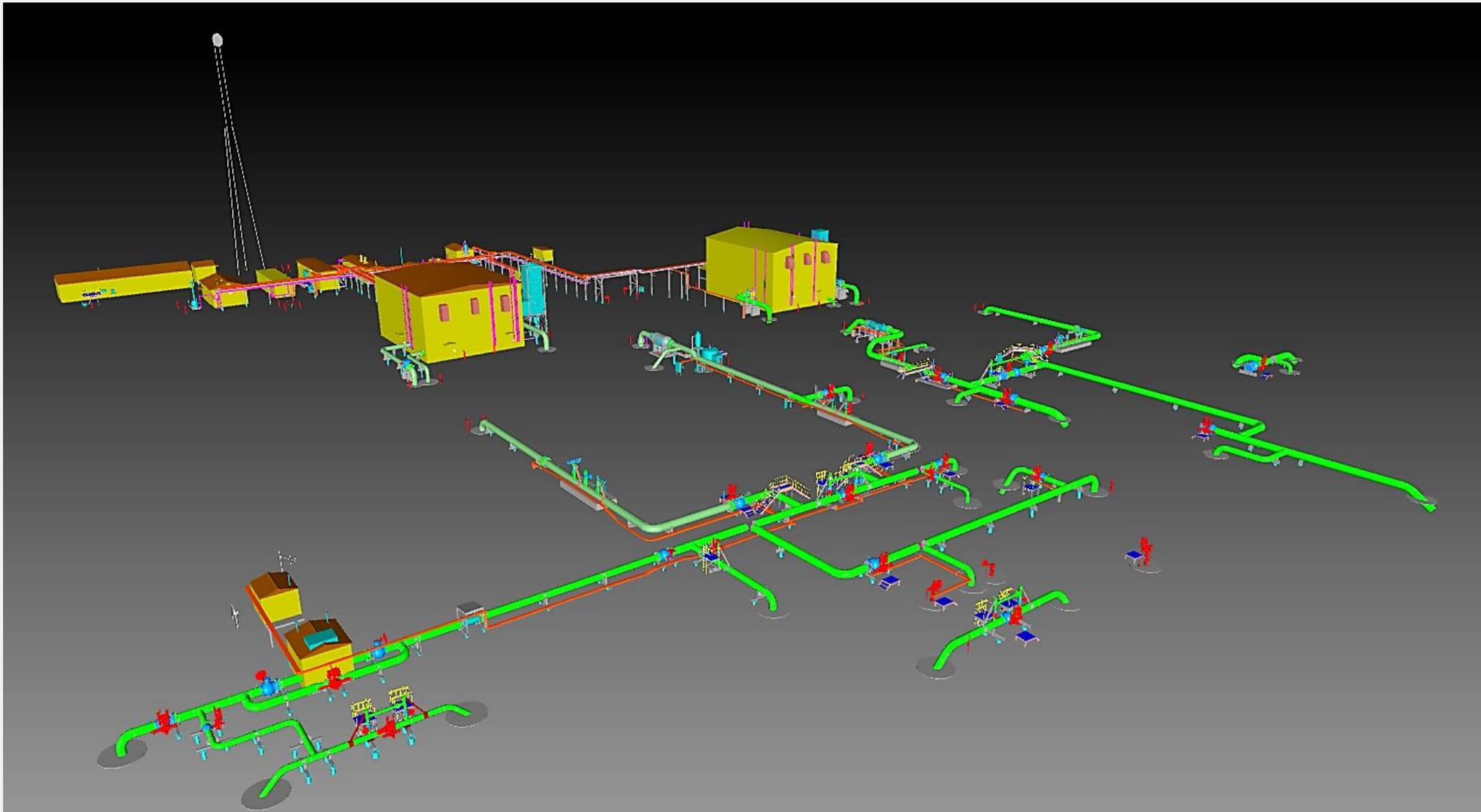
3D Scanning



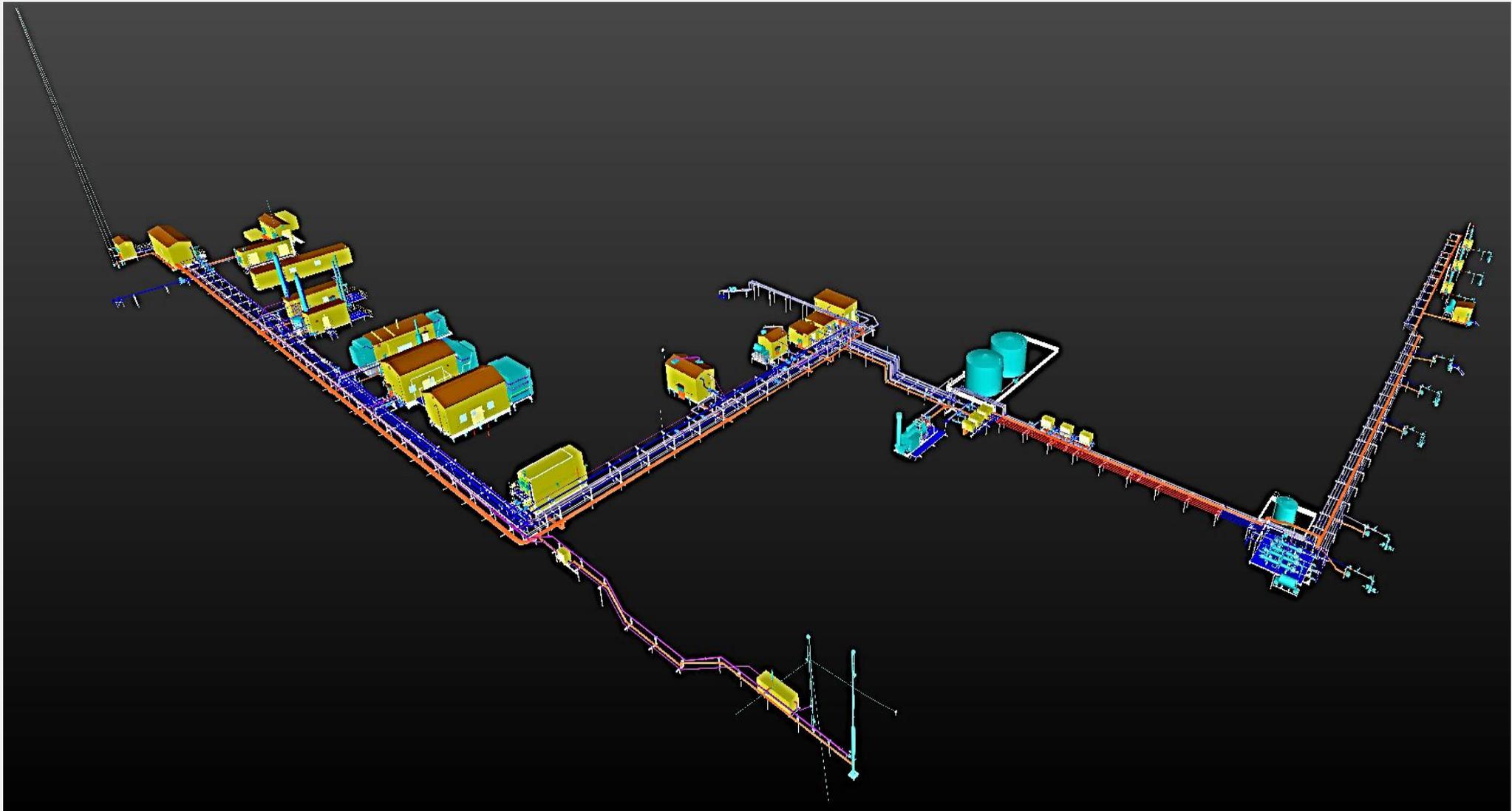
3D Scanning



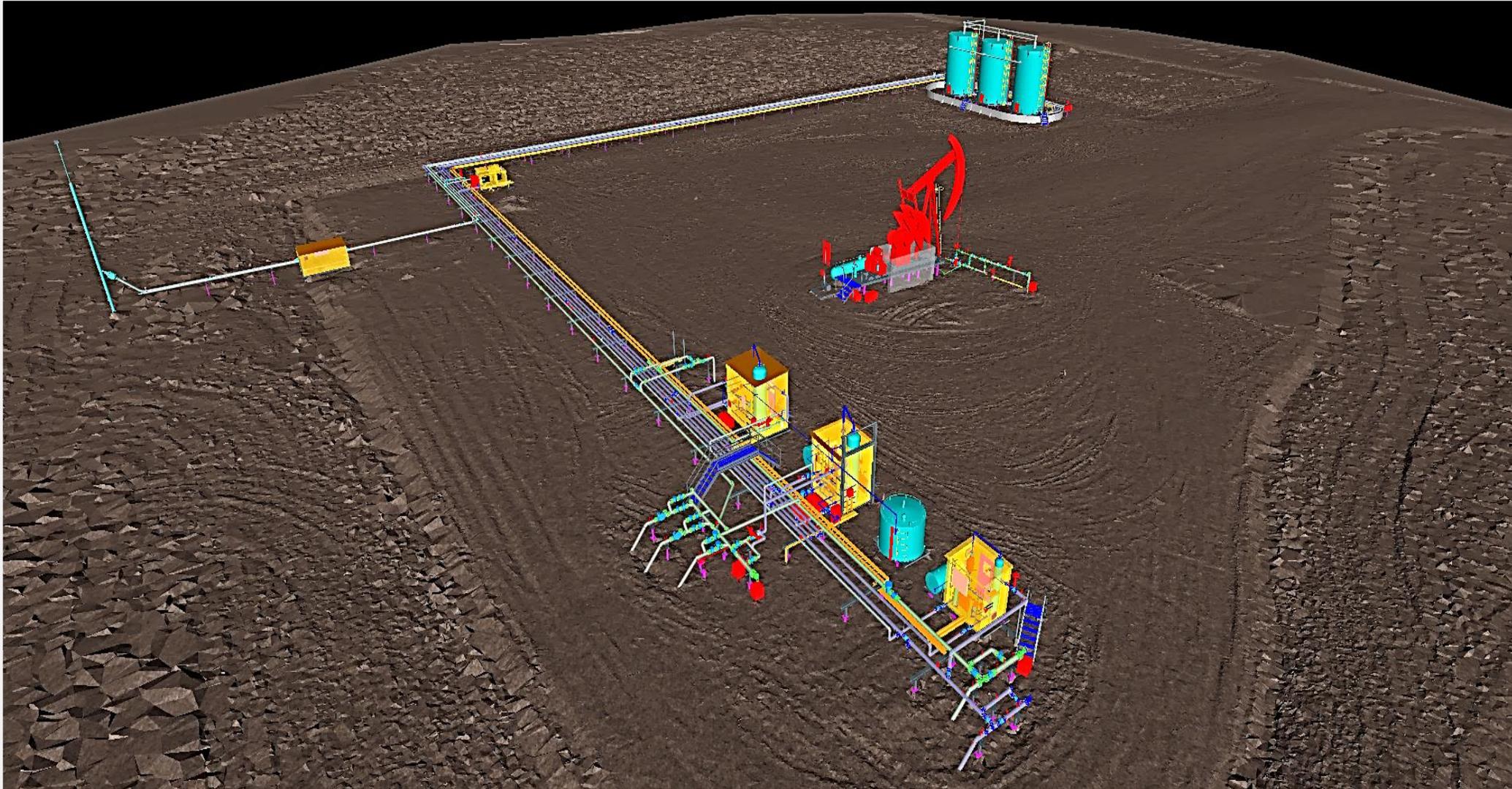
3D Scanning



3D Scanning



3D Scanning



Mapping



- Removing Paper Maps From Field
- Current
- Updated and Accurate

Verizon 9:44 PM 53%

Back Attributes Edit

LINELENGTH
11754.67

ROUTE
186

SEGMENTNUM
123

MP1
14.65

MP2
16.87

DIAMETER
6.625

MEASUREDLE
11715

SOURCEACCU
56

Distance: 2.22 miles

Word/Address/Lat,Lng/UTM

Google

Edit Points

Mapping



Verizon 2:42 PM 53%

Details

Light #	<input type="text" value="Light #"/>	New Ty...	<input type="text" value="New"/>
Style Code	<input type="text" value="Style"/>	Orig Type	<input type="text" value="Original"/>
Act Code	<input type="text" value="Action Code"/>	Placement	<input type="text" value="Placement..."/>
Block No.	<input type="text" value="Block #"/>	St. Name	<input type="text" value="St. Name"/>
Active	<input type="text" value="Active"/>	Voltage	<input type="text" value="Voltage"/>
ID	<input type="text" value="Lan ID"/>	Wiring Code	<input type="text" value="Wiring Code"/>
		Map No.	<input type="text" value="Map #"/>

Inputs

Inspect Date	Converted	Banner	Wifi Atch	# of Lights
<input type="text" value="Inspection D..."/>	<input type="text" value="Conve..."/>	<input type="text" value="Banner"/>	<input type="text" value="Wifi At..."/>	<input type="text" value="# of La..."/>

[To view the documentation, click here.](#)

Photo Snap Add Street Lights

Save

Track MAP

Aerial map view of a residential area with a street light icon. The map shows houses, trees, and a parking lot. A blue crosshair icon is visible in the bottom right corner of the map area.

Verizon 2:42 PM 53%

Details

Light #	<input type="text" value="Light #"/>	New Ty...	<input type="text" value="New"/>
Style Code	<input type="text" value="Style"/>	Orig Type	<input type="text" value="Original"/>
Act Code	<input type="text" value="Action Code"/>	Placement	<input type="text" value="Placement..."/>
Block No.	<input type="text" value="Block #"/>	St. Name	<input type="text" value="St. Name"/>
Active	<input type="text" value="Active"/>	Voltage	<input type="text" value="Voltage"/>
ID	<input type="text" value="Lan ID"/>	Wiring Code	<input type="text" value="Wiring Code"/>
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**1575 Treat Boulevard
Suite 105
Walnut Creek, CA 94598
Phone: 925.349.7700**

www.g2-is.com

**10850 Richmond Avenue
Suite 200
Houston, TX 77042
Phone: 713.260.4000
info@g2-is.com**

**1515 W Deer Valley Rd
Suite B-108
Phoenix, AZ 85027
Phone: 928.853.3915**

THANK YOU



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