Unlocking Project Innovation

Unveiling the Power of AI, Spatial Analytics, and Data Insights for Project Controls

Orion Matthews
Founder/CEO @ Queryon

PROJECT CONTROL SUMMIT

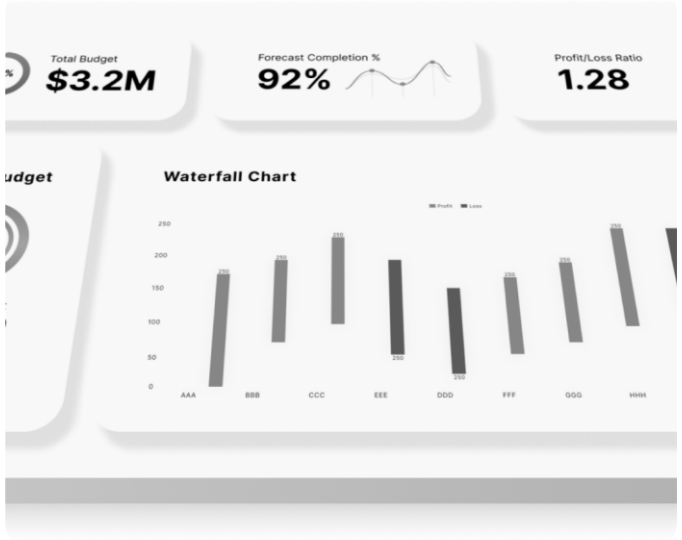
Topics

Welcome

2024 Conference

Queryon

Our own take on data analytics



Real-Time Analytics

Intuitive data dashboards for Project Controls

Topics

Queryon

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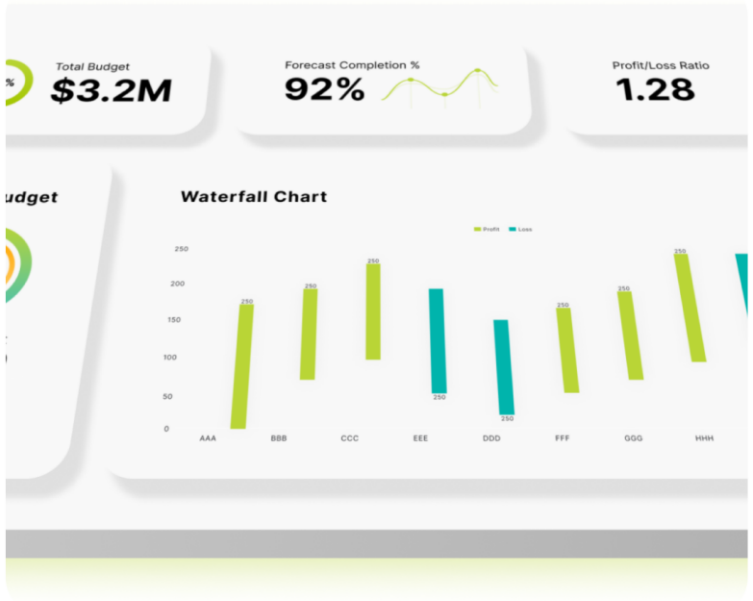

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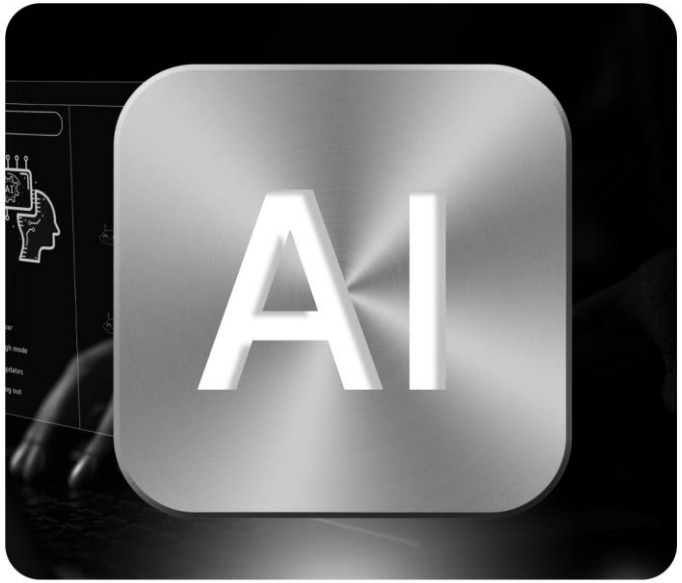
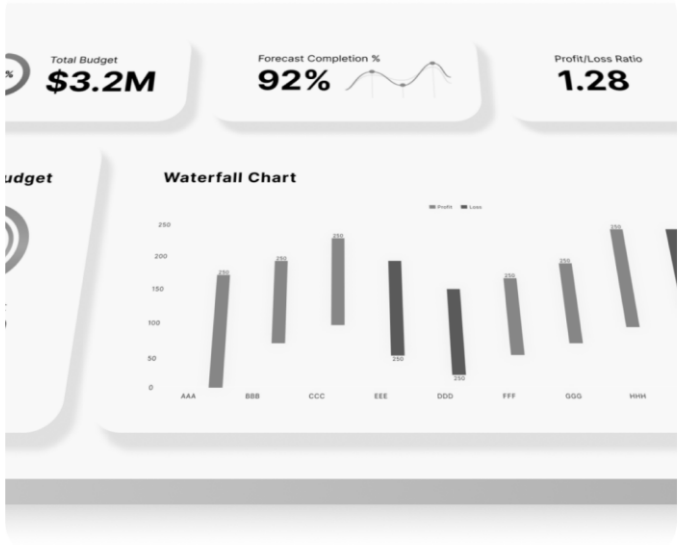
Intuitive data dashboards for Project Controls



AI Reporting

Power BI plugin for Artificial Intellegence

Topics



Real-Time Analytics

Intuitive data dashboards for Project Controls

AI Reporting

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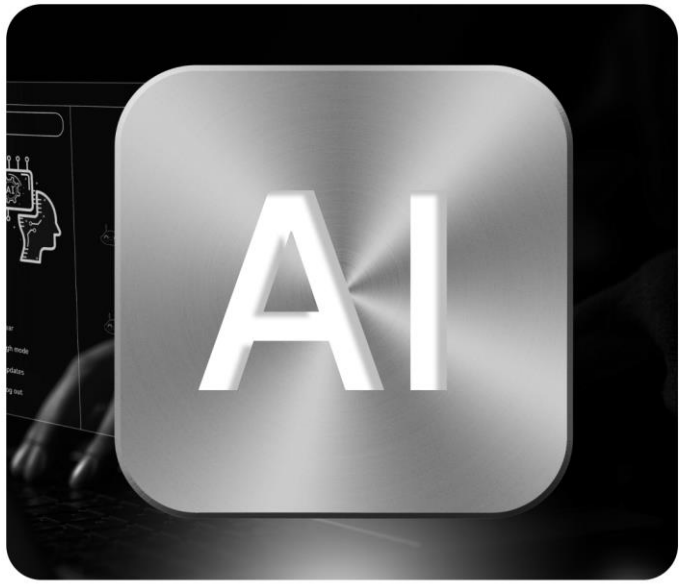
Spatial Analytics

The future of project controls

Topics



AI Reporting

Power BI plugin for Artificial Intellegence

Spatial Analytics

The future of project controls

Thank you

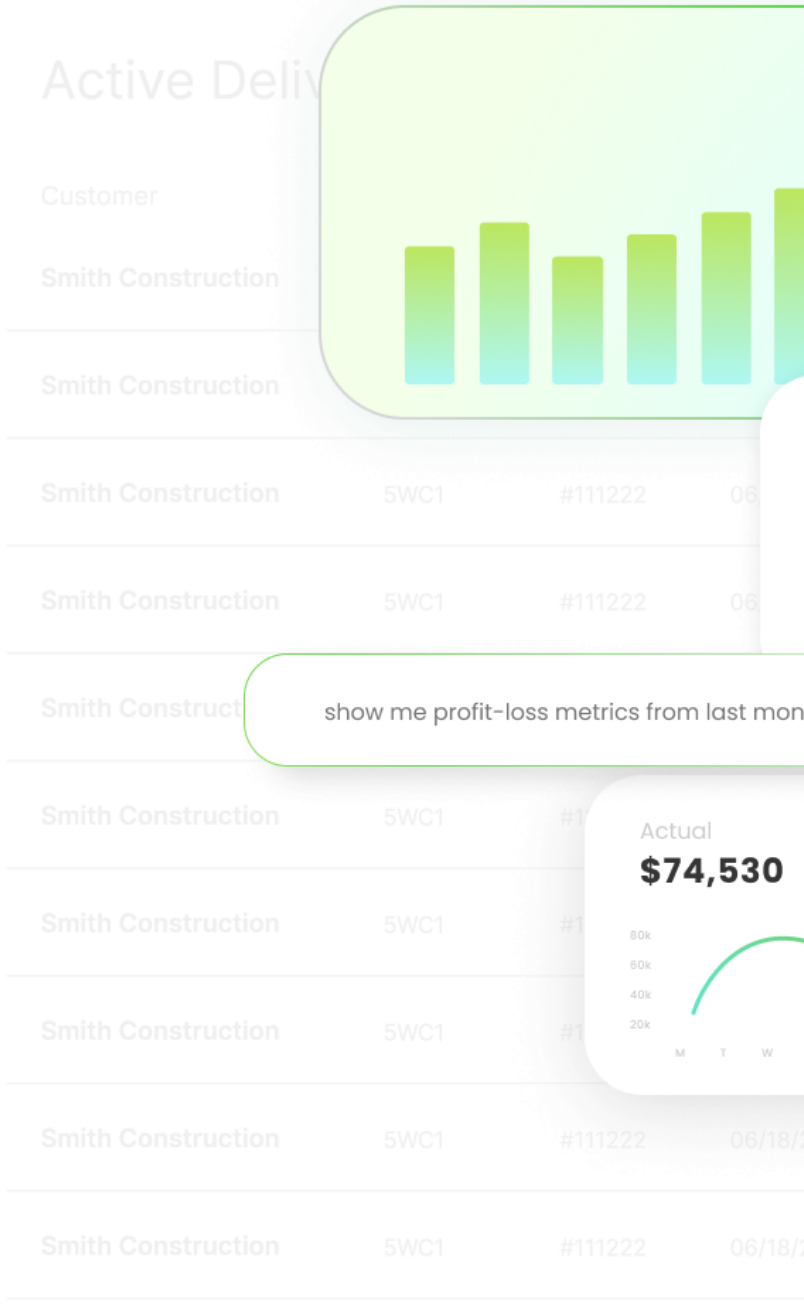
PROJECT CONTROL
SUMMIT

We are QUERYON

About Us

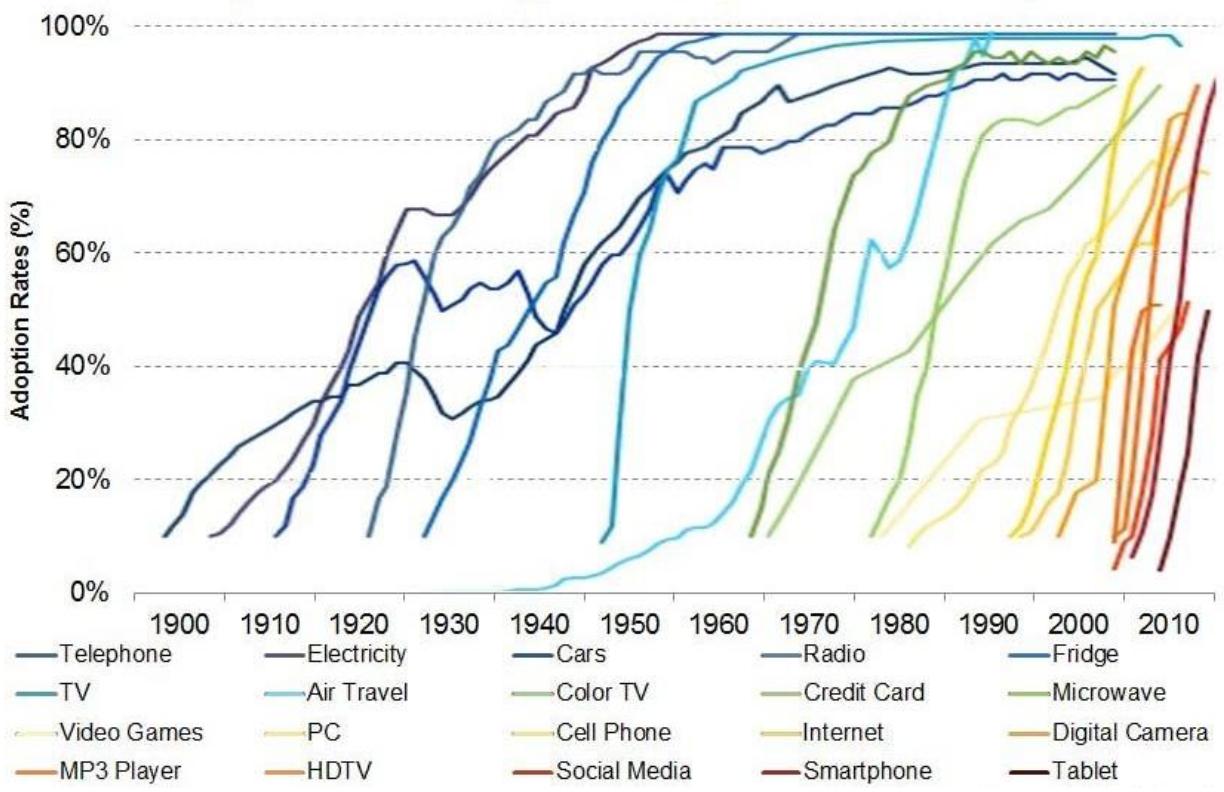
Queryon is a team of professional developers, business analysts, and project managers working collaboratively on challenging data problems. Queryon was incorporated in 2015 in Alaska.

Our approach is to deliver high quality consulting using best practice techniques in the industry. Queryon projects are complex.



Why care about new tech?

Tech Adoption Rate is Increasing



https://www.visualcapitalist.com/rising-speed-technological-adoption

Tech Adoption Curve

Everett Rogers' diffusion of innovations theory Bell Curve

Project Controls

The major near-team factors driving **project controls** technology space include the increasing need for real-time data analysis, democratizing data, the rise in demand for automation and integration of project management software, AI integration across all toolsets, and finally Augment Reality/Spatial Computing.

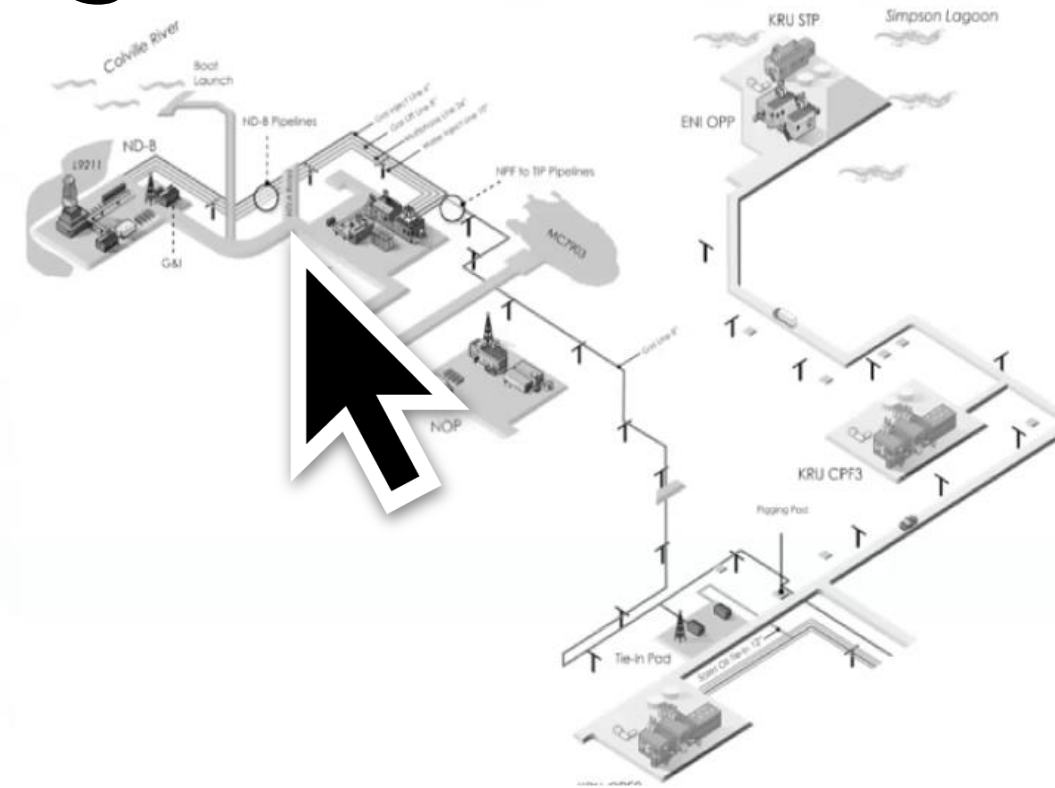
Real-Time Dashboards

Power BI Case Study

Interactive Field Reporting

Interactive mapping takes your dashboarding experience to Explore progress data and key performance indicators (KPIs) with just a click.

Example combines Manual Field Progress Data, P6 and Contruent (formerly PRISM).



QUERYON

All Projects View more

Multiple

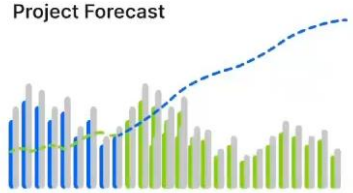
Date last updated 10/22/2024: 08:24:32

Progress Bar

22% Actual Progress

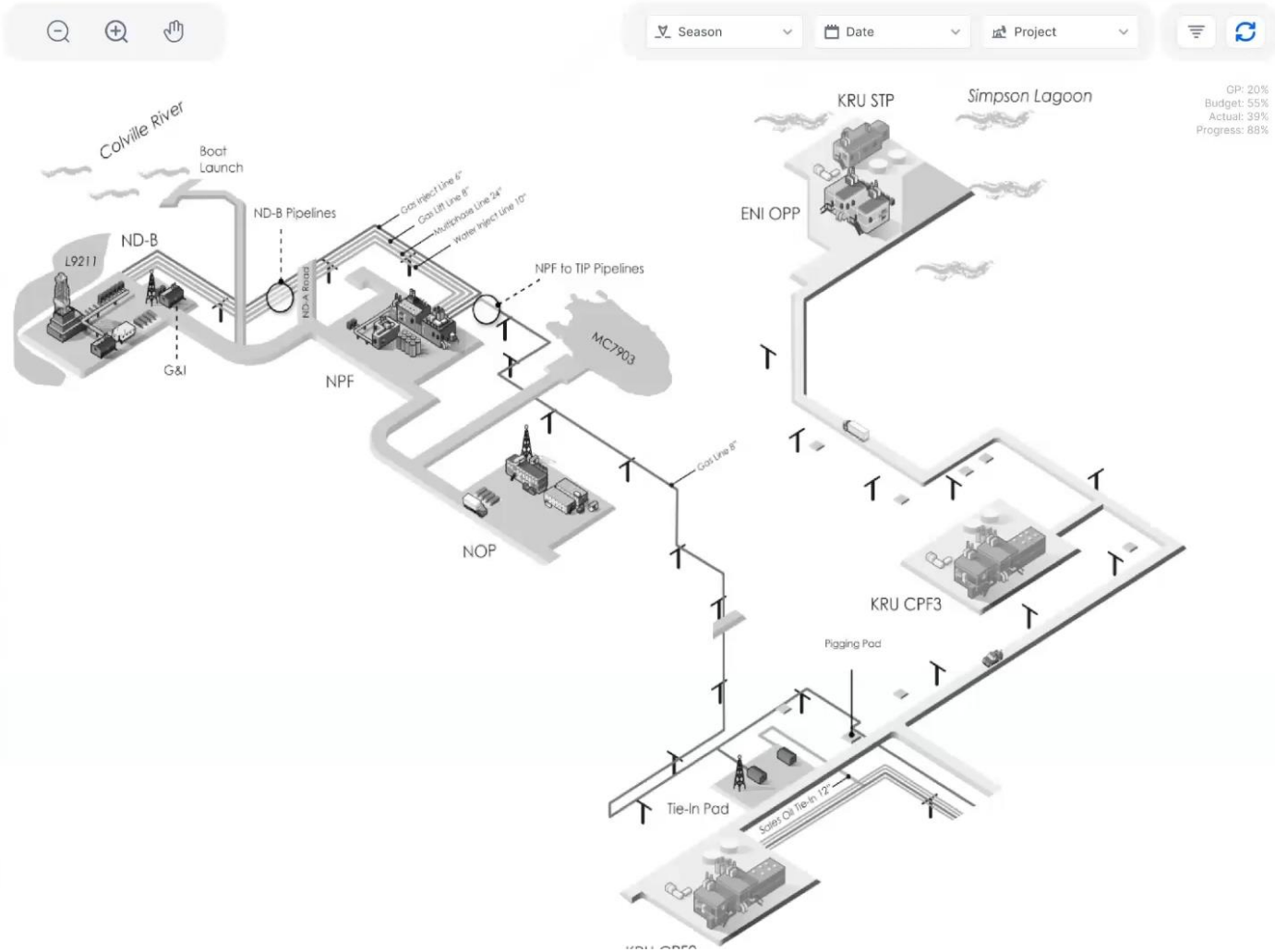
15% Planned Progress

Project Forecast

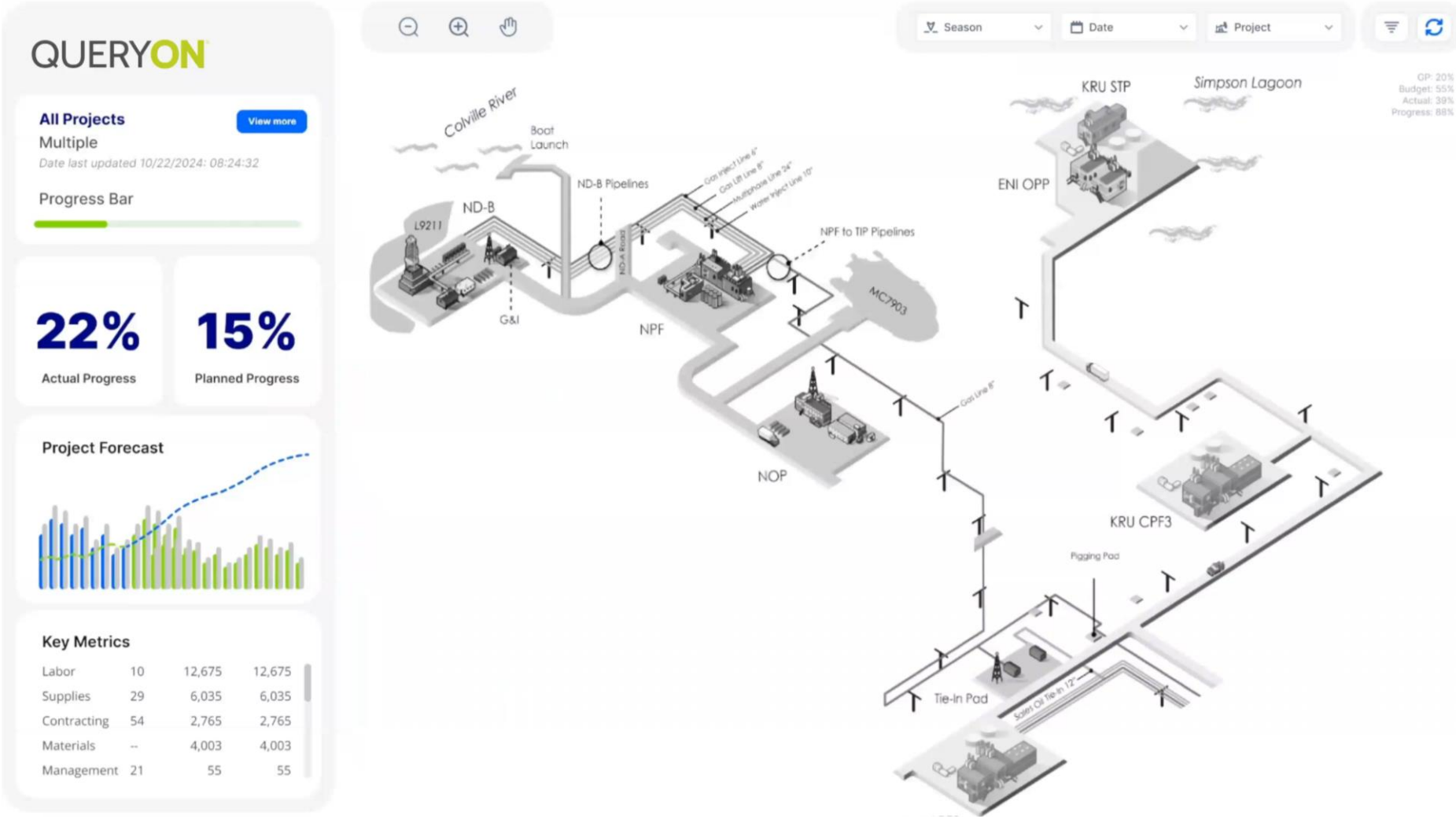


Key Metrics

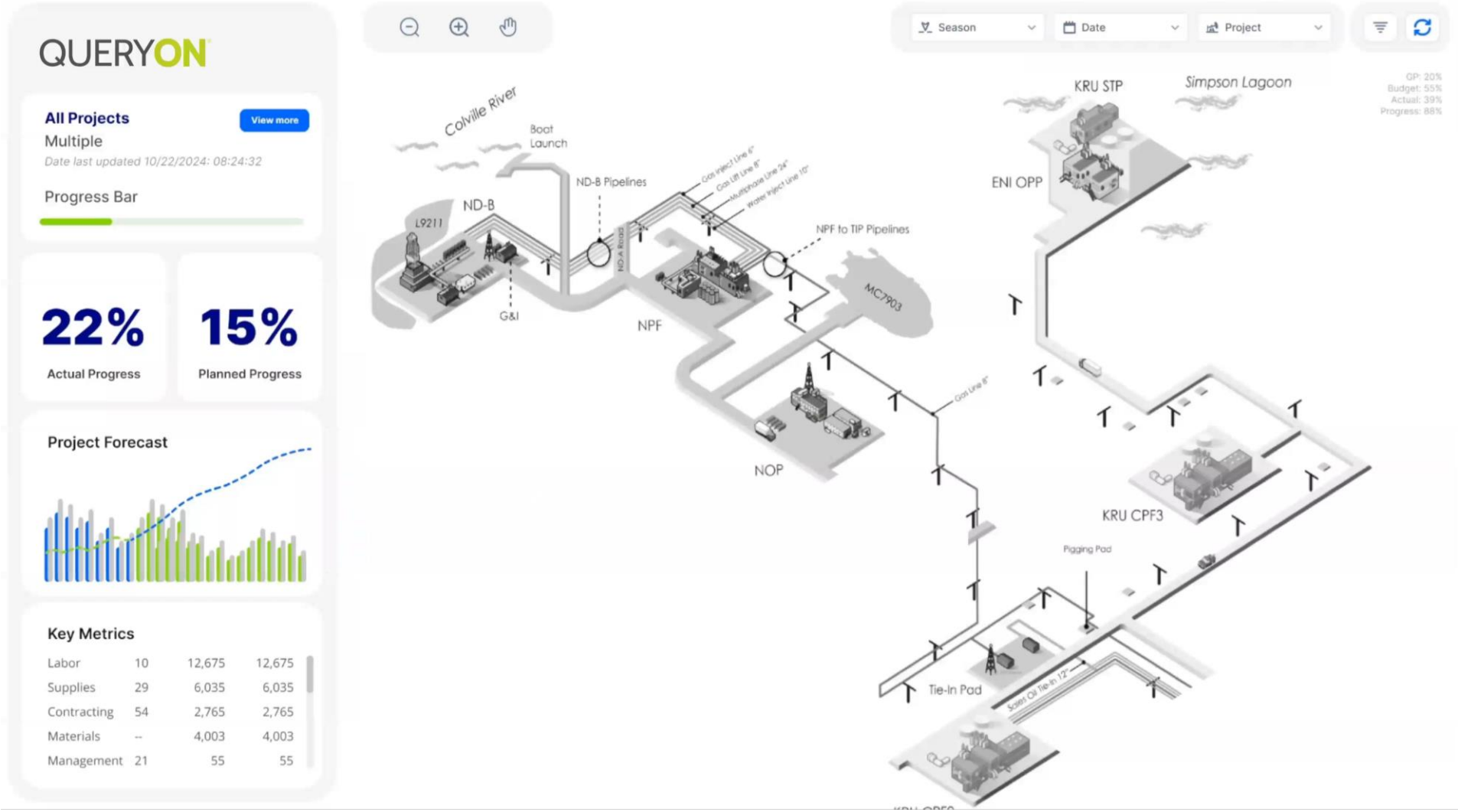
Labor	10	12,675	12,675
Supplies	29	6,035	6,035
Contracting	54	2,765	2,765
Materials	--	4,003	4,003
Management	21	55	55



Interactive Mapping



Project Drill Down



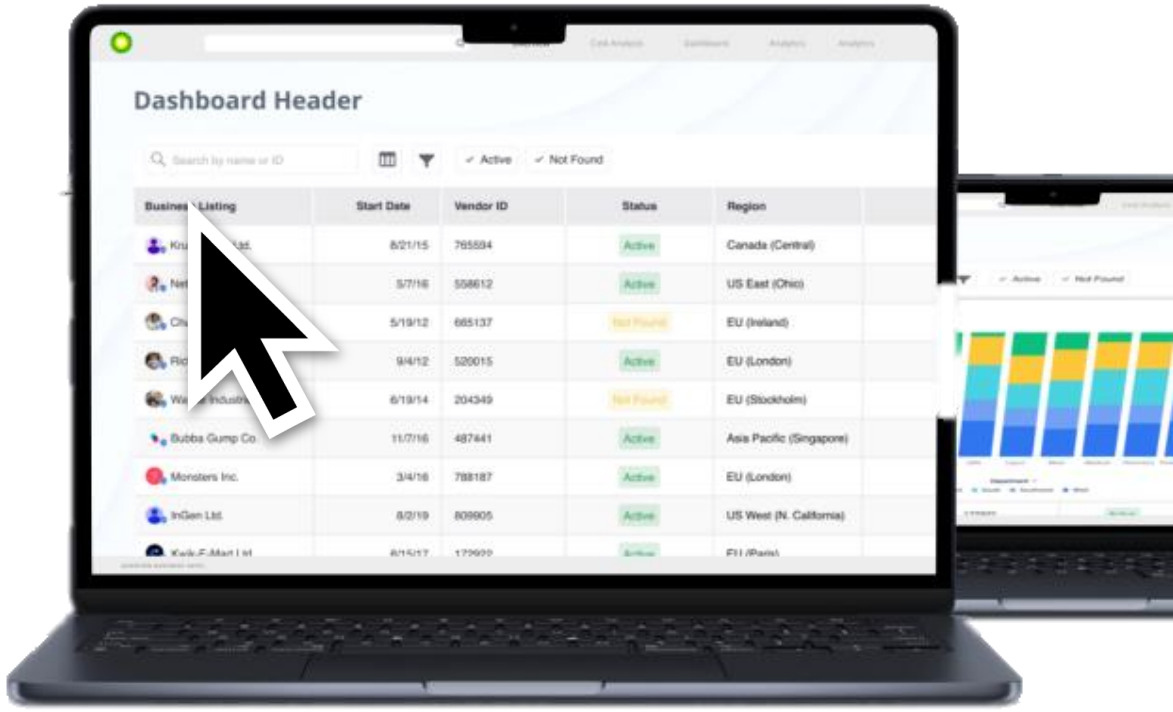
Project Filtering

Where's my Stuff

Supply Chain Exploration

Interactive multi-source real-time supply chain logistics.

Example combines Manual Vendor Data, SAP and other systems to create a real-time ISO based search. Deployed at multiple large-scale O&G sites.



Search

Home | Material Status | Purchase Orders | Incoterms

Material Status Report

6,377
Total PO Lines

5,912
Late PO Lines

PO Lines Due

Due In	PO Lines
0-30 Days	191
31-90 Days	178
91-180 Days	60

Materials vs Services POs

PO Type	PO Lines
Materials	6,108
Services	269

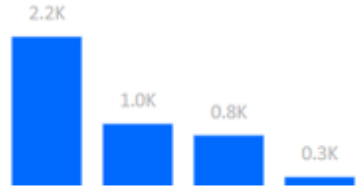
PO Lines by Incoterms

Incoterms 1	PO Lines
FCA	3,964
FOB	1,173
	924

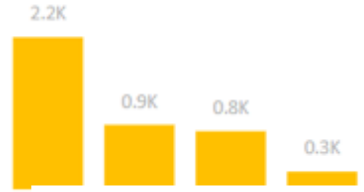
PO Lines By Material Group

Material Group	PO Lines
Piping.Hoses.Fittngs	1,923
Electrical Supplies	1,113
Instrum and Metering	1,076

PO Lines By Supplier



PO Lines Late by Supplier



Supplier Number	Supplier Name	Purchasing Document	Item	Material	Short Text	Order Quantity	Order Unit	Still to be delivered (qty)	Material Receipt Status	Document Date	De
20011361			1			1.00		0		Tuesday, April 16, 2024	Tu
20009817			1			1.00		0		Tuesday, April 16, 2024	W
20012787			1			1.00		0		Monday, April 15, 2024	M
20010151			1			1.00		0		Monday, April 15, 2024	M
20008300			1			1.00		0		Thursday, April 11, 2024	Th
20008374			1			1.00		0		Thursday, April 11, 2024	Tu
20009085			1			1.00		0		Wednesday, April 10, 2024	Tu
20009085			1			1.00		0		Tuesday, April 09, 2024	Tu

All in Power BI

QUERYON

All Projects View more

Multiple

Date last updated 10/22/2024: 08:24:32

Progress Bar

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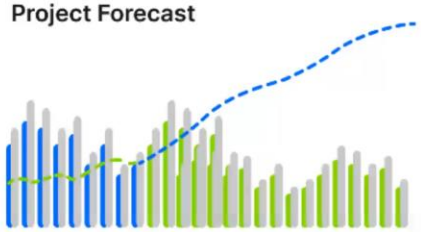

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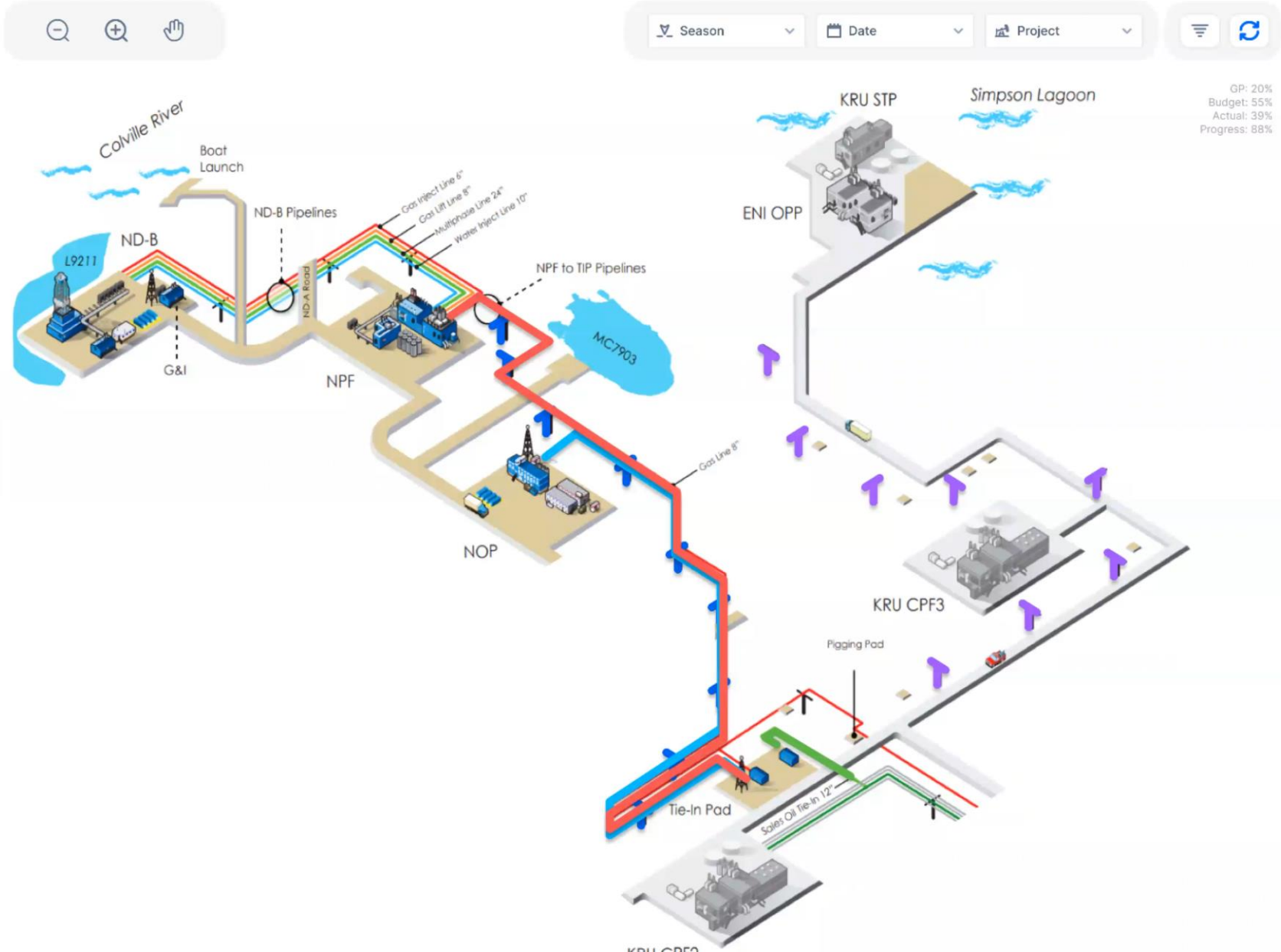
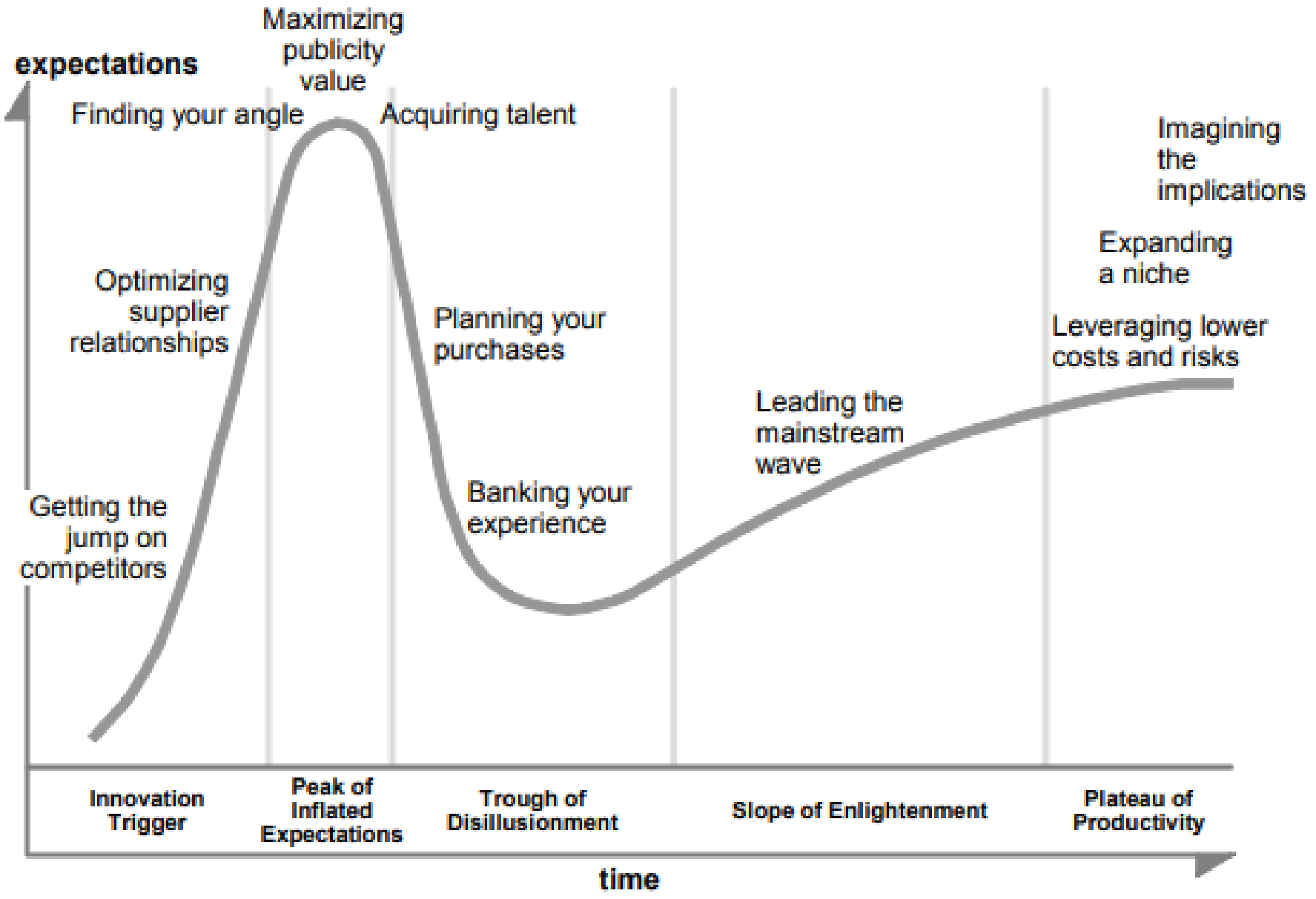


Artificial Intelligence

AI for Project Controls


expectations
Maximizing publicity value
Finding your angle
Acquiring talent
Imagining the implications
Expanding a niche
Optimizing supplier relationships
Planning your purchases
Leveraging lower costs and risks
Leading the mainstream wave
Getting the jump on competitors
Banking your experience
Innovation Trigger
Peak of Inflated Expectations
Trough of Disillusionment
Slope of Enlightenment
Plateau of Productivity
time

AI Lens

AI for Project Controls Reporting

AI serves as a game-changing ally for project managers and executives alike. By harnessing AI-driven solutions, decision-makers gain invaluable insights into large-scale projects, enabling them to optimize allocations, identify risks, and make decisions with confidence.

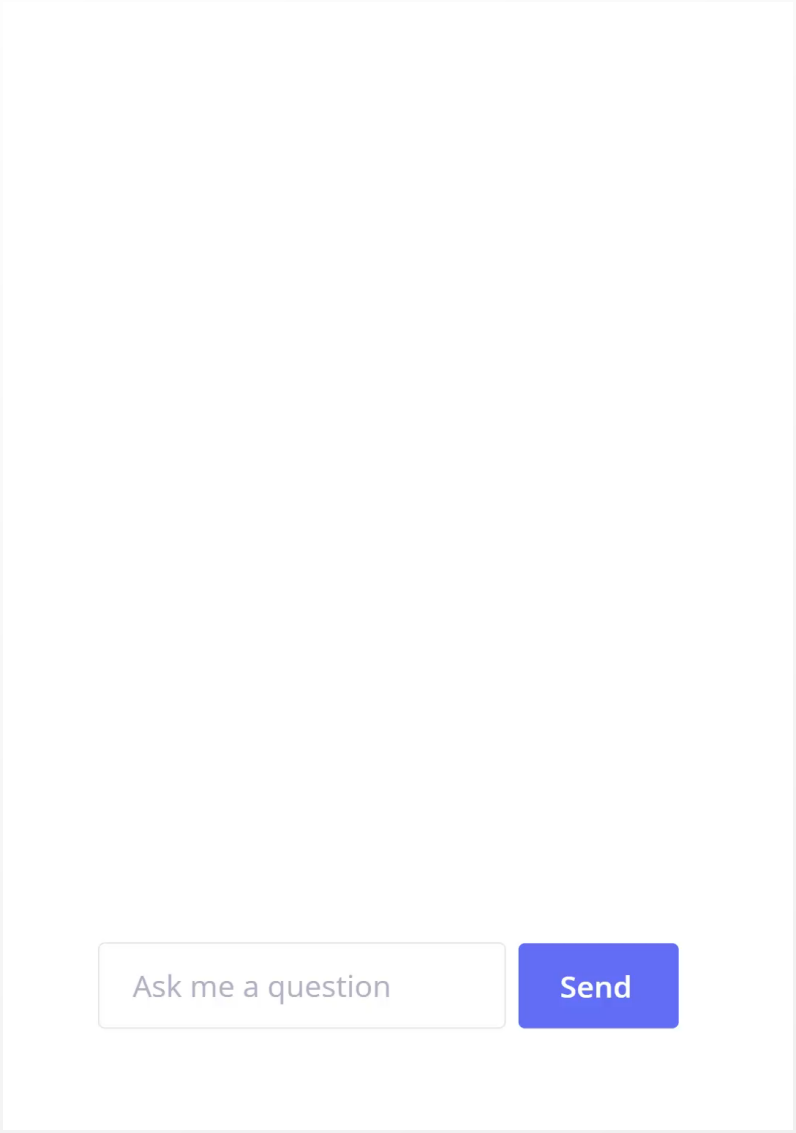
AI Lens

Supercharge your Power BI experience with AI Lens, the essential plugin that brings unparalleled insights to your data dashboard. Elevate your analytics game as AI Lens provides real-time, actionable feedback on your Power BI visuals.

GET IT ON Power BI

Free plan available

AI Lens



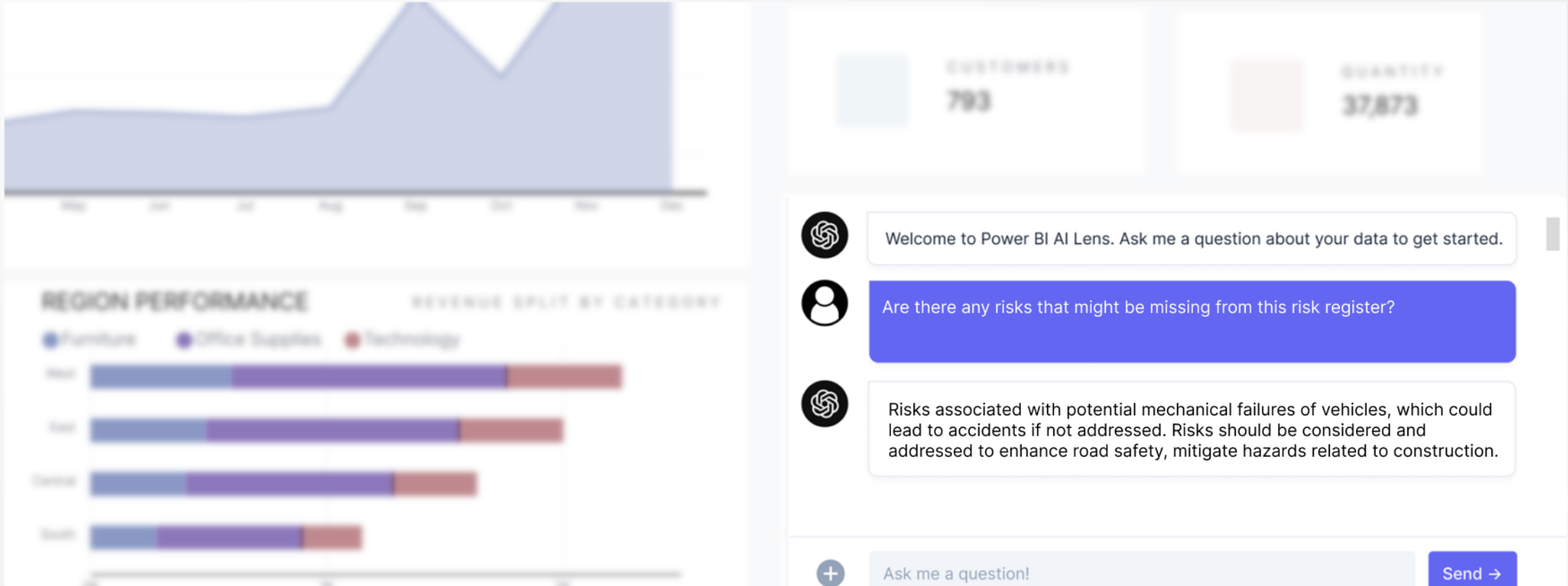
AI Integrated

Power BI Examples

You can simply ask your dataset questions, and our visual transforms those queries into clear, actionable insights right within Power BI. Making data-driven decisions has never been easier.

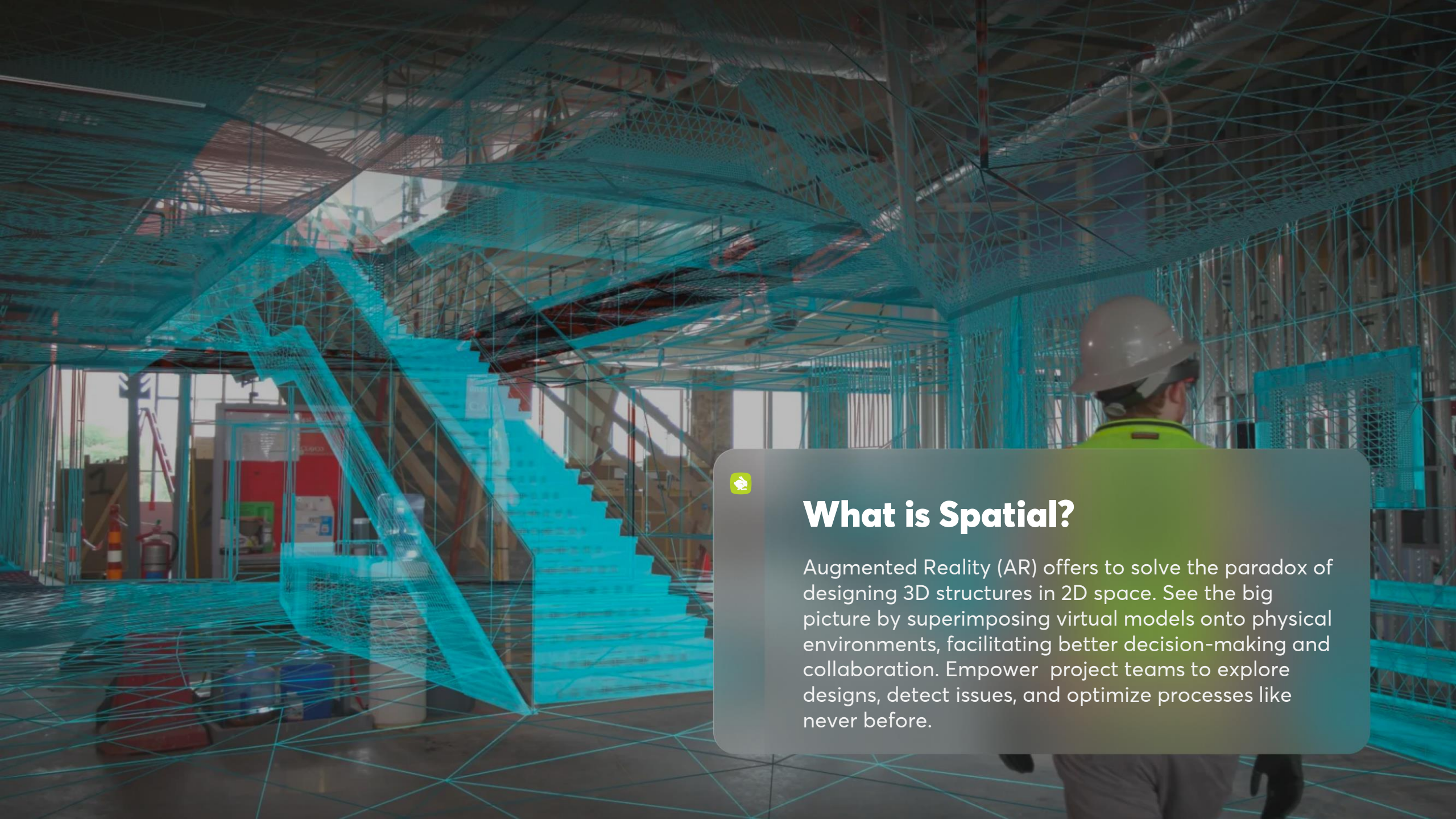
Seamless Integration

With AI Lens, infuse the power of AI right into your Power BI reports for a streamlined and intuitive data analysis experience.



Spatial Analytics

See your projects in 3D



What is Spatial?

Augmented Reality (AR) offers to solve the paradox of designing 3D structures in 2D space. See the big picture by superimposing virtual models onto physical environments, facilitating better decision-making and collaboration. Empower project teams to explore designs, detect issues, and optimize processes like never before.

QUERYON®

Spatial Analytics

QUERYON

Spatial

This technology integrates virtual elements into the real world, letting users see and manipulate 3D data models, making it easier to understand spatial relationships and project dynamics.

DETAILS

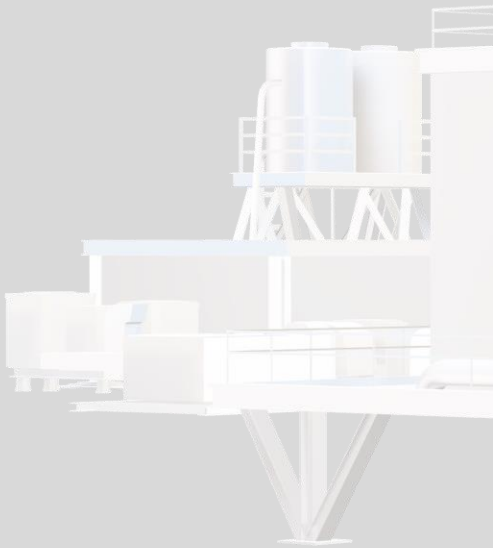
$2.6B
Project Budget

5Y
Timeline

QUERYON

The Big Picture

Spatial Analytics makes it easy to view interact and collaborate. It turns complex data into interactive visualizations that help data analysts, project managers, and stakeholders make informed de



Visualization of the construction systems/work (i.e., MEP, structural, etc.,)	Construction
Virtual tours for clients while on-site or in the office (AR walk-through)	Design
Design (Project) visualization at full scale onsite	Design
Clash detection	Pre-Construction
Visualization of underground utilities	Construction
Augmented Mock-ups	Construction
Constructability Reviews during design	Pre-Construction
Real-time visualization of conceptual projects	Conceptual Planning
Visualization of augmented drawings in the field	Construction
An understanding of how the desired project connects with its surroundings	Conceptual Planning
Virtual planning and sequencing	Pre-Construction
Locate building systems that need maintenance without destructive demolition or further survey work	Operation and Maintenance
Early identification of design clarification	Pre-Construction
Construction progress visualization and monitoring	Construction
Overlay of 3D models over 2D plans [Design (or project) visualization in the office over 2D plans]	Design
Visualizing layout and integration of prefab components in the shop	Construction

Front. Built Environ., 11 April 2022 Sec. Construction Management Volume 8 - 2022

BB&T
Vision Pro

Spatial Data

Takeaway Tool

DATA ANALYTICS GUIDE NO. 1

QUERYON

THE PERIODIC TABLE *of* DATA ISSUES

Queryon presents the Data Issues "Periodic Table" – a systematic framework designed to facilitate communication and collaboration among project managers, engineers, and stakeholders regarding potential roadblocks encountered during data analysis. Each element in this table represents a distinct type of data irregularity, offering a structured overview of potential challenges inherent in the dataset.

This innovative approach serves as a tool for meticulous documentation and analysis, enhancing the transparency and precision of our data refinement processes. By employing systematic categorization, we facilitate clear communication and collaboration between our team and clients, fostering a shared understanding of data imperfections.

The Data Issues "Periodic Table" underscores our commitment to scientific rigor in the pursuit of data accuracy and transparency. Through this methodical classification, we aim to streamline the identification and resolution of data challenges, ensuring a foundation for informed decision-making in data management.

1 H Hardware																	
2 Li Licensing	7 L Leak															35 Bt API Bottleneck	40 Md Missing Data
3 Ua User Access	8 B Breach															36 La Latency	41 Ed Excluded Data
4 Aa Admin Access	9 L Loss	12 Dq Data Quality	13 Da Data Access	16 Dl Data Lifecycle	19 Mm Metadata	22 Nf Normal Form	25 Dc Database choice	28 Im Integrity Mechanisms	32 Dd Data Dictionary	37 Dm Data Mismatch	42 Rp Requirement Pollution						
5 Ea Engineer Access	10 E Encryption		14 Dp Data Privacy	17 Dr Data Architecture	20 Dw Data Stewardship	23 Si Schema Inconsistence	26 S Structure	29 Ox Over Complexity	33 Ix Indexing	38 Dw API Downtime	43 Tp Transmission Pollution						
6 Do Data Ownership	11 A Authorization		15 Ds Data Security	18 Di Data Integration	21 Dg Data Integrity	24 Cc Cross cutting	27 Sc Scalability	31 D Documentation	34 Ma Malleability	39 Sd Schema Drift	44 Pp Processing Polution						
		45 Sg Skill Gap	46 Co Collaborate	47 Wk Workflow Bottleneck	48 Ks Knowledge Silos	49 Hp Human Data Pollution	50 Ac Accessbility	51 Ut User Training	52 Uf User Feedback	53 Uc User Clarity	54 Cr Change Resistance						
		55 Ui Broken UI	56 Cj Chart Junk	57 Ms Misleading Scale	58 Dm Data Mapping	59 Op Overplot	60 Cp Cherry Pick	61 Cx Context	62 Cl Clutter	63 Ct Chart Type	64 Cg Cognitive Bias						

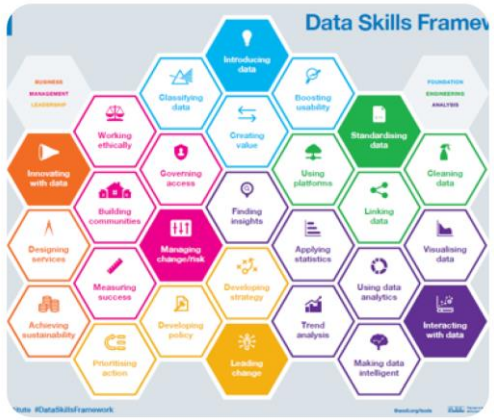
Key:

Number
Symbol
Name

Access · Security · Governance · Structure · Flow · Data · Personnel · Visual

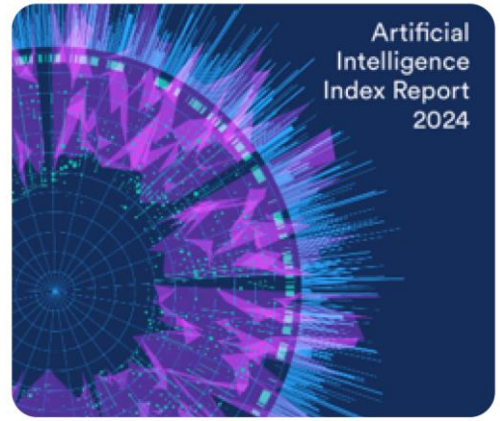
Additional Learnings

Construction Industry AR Study



Data Skills Framework

Harvard Business Review



Stanford AI Index Report 2024

Summary

Data Analytics is maturing – Invest in it

AI has arrived – Get ready for it

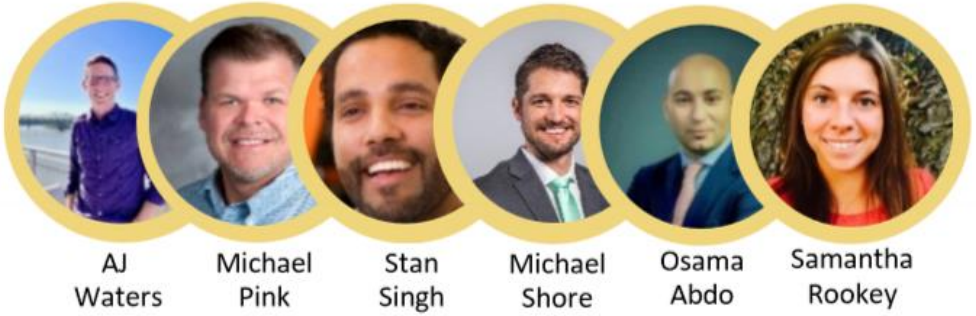
Spatial is Coming – Keep an eye on it

Change is Accelerating - Embrace It

Questions?

AI, Spatial Analytics, and Data Insights for Project Controls

Next Up



10:15 am to 11:15 am, Conference Hall

Panel Discussion: Project Controls Technology Advancements

Join this panel of industry leaders for a dynamic discussion on "Project Controls Technology Advancements," where you'll gain insights into the latest innovations revolutionizing project controls. Learn about the transformative impact of AI, machine learning, data analytics, and much more.

Kim Essendrup
CEO, RAIDLOG

10:15 am to 11:15 am
Yacht Room

Predictive Planning: How AI-Enabled RAID Logs Create Project Resilience

Join this session to gain practical knowledge on using RAID logs, enhanced by AI, for robust project management. Learn to identify and manage risks proactively, and leave equipped to implement your own RAID log with confidence. This is an opportunity to transform project challenges into success, backed by expert insights and essential resources.

PROJECT CONTROL
SUMMIT

Thank You For Joining This Session

Orion Matthews
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