

BLUE

SKY

EVOLUTION

Project Construction Quality Management

Insights & Analytics on Project Progress, Safety & Quality

Presenter:

Rene R. Ramirez, *Mentor*

rene@blueskyevo.com

+1(832)3388765

Blue Sky Evolution, LLC

Event:

IPLOCA

Novel Construction

Spring Session 2023

Rome, Italy

A few of our clients

AECOM || Aegion Corporation || All American Surveying || Allied Corrosion || Alpha Leak Detection & Pipeline Services || **AMEC Foster Wheeler** || **Anadarko Petroleum** || **Andeavor** || Applied Consulting Field Services || Arrow Surveying || As-Built Modeling Services || Ardurra || Arrow Surveying || Ascent Geomatics || Aspen Corrosion || Atlas Engineering || Atwell || **Audubon** || Avery Technical Resources || **Baker Hughes** || Bartlett & West || **Bechtel** || BL Companies || Blue Mountain || **Boardwalk Pipeline Partners** || Borton Lawson || Bowman Consulting || **BP** || **Brown and Root Industrial Services** || **Buckeye Partners, L.P.** || **Burns & McDonnell** || Burrow Global Services || C.H. Fenstermaker & Associates, Inc. || Cadd Data, Inc. || CAMS Trident || CAM Integrated Solutions || Campos EPC || Cardno Inc. || Carnegie Strategic Design Engineers, LLC || Caw Consultants || CCI Inc. || CEI Engineering Associates, Inc. || CEM Resources, Inc. || Centro Resources || **Centurion Pipeline** || **CH2M (USA, Mexico)** || Chenault Consulting, Inc. || **Cheniere Energy** || **Chesapeake Energy** || Chester Engineers || **Chevron** || Chippewa Resources || **Cimarex** || Cimarron Engineering, Ltd. || Civil Engineering Consultants || Civil & Environmental Consultants, Inc. || CobbFendley || Connect Engineer || **ConocoPhillips** || Consolidated Contractors Company || Contract Land Staff || Cornerstone Engineering Services || Corrosion Service || **CountryMark** || **CPP** || Crafton Tull || **Crestwood Midstream Partners LP** || **Crimson Pipeline** || Cross Texas Land Services || CSD Engineers LLC || D3 Survey and Mapping || Damian & Associates || Datapoint Surveying & Mapping || Dawood Engineering, Inc. || **DCP Midstream (Phillips 66)** || **Denbury Resources, Inc.** || Diversified Infrastructure Services, Inc. || **Devon Energy** || Downtown Design Services Inc. || Doyle & Wachtstetter, Inc. || The EADS Group || EDM Services || EFN Survey || EMC, Inc. || EN Engineering || Ener-Data || **Enable Midstream Partners, LLC.** || **Enbridge** || Encompass Energy Services, LLC || Energy Land & Infrastructure || **Energy Transfer** || Engineering Service || ENGlobal || EnSite USA || **Enterprise Products Partners L.P.** || **EPIC Midstream** || **Equitrans Midstream** || **Equinor (Statoil)** || Equinox Engineering Ltd. || **Equistar Chemicals** || Erickson Contract Surveying || Ericsson || **Excel Midstream** || exp Global Inc. || Farnsworth Group || Fisher Associates || **Fluor (UK, USA, Trinidad)** || Frontier Surveying Company || FSC, Inc. || Fugro Chance, Inc. || G2 Partners, LLC || GAI Consultants || Ganem & Kelly Surveying, Inc. || Gateway Services Group || Geophysical Data Management, Inc. || GeoTerra Integrated Resource System Ltd || Golden Field Service || **Golder Associates** || **Gulf Interstate Engineering** || Gullett || Halff Associates, Inc. || Hanson Survey || Halker Consulting || Herbert, Rowland, & Grubic, Inc. || **Hiland Partners (Kinder Morgan)** || Holland Engineering || Howland Engineering & Surveying Co. || Hunt, Guillot & Associates Pipeline Services, LLC || Ingenieria Dennis || Integrated Geomatics || Integrity EPC || Integrated Pipeline Services, Inc. || Integrity Positions || **Jacobs Engineering Group, Inc.** || JN Services || JHA Companies || John Chance Land Surveys, Inc. || Johnston-Vermette || JTAM Engineering || **KBR (USA, UK, Trinidad)** || Kestrel Engineering, Inc. || **Kinder Morgan** || Kleinfelder || KLJ || L&S Surveying || Lake Superior Consulting || Lamb-Star Engineering || Landmark Surveying & Engineering || Landmark Survey and Mapping || Larson Design Group || Legacy Integrity || Lauren Services || Link Field Services || LJA || **Lotus Midstream** || LT Mapping Services, Inc. || LW Survey || **LyondellBasell Industries** || Lythix || M&H Energy Services || **Markwest (Marathon Petroleum)** || MATCOR, Inc. || Maverick Engineering || McClure Engineering || McElhanney Geomatics Engineering || Merestone Surveying, LLC || Meridian Surveying and Mapping || Meridian Surveys || Messinger & Associates || **Michael Baker Jr., Inc.** || **MidAmerican Energy** || MKEC Engineering || Morris P. Herbert, Inc. || **Mott MacDonald** || **Mountain Valley Pipeline, LLC** || National Pipeline Services, LLC || Nexus Integrity Management || **Northern Natural Gas** || Novara GeoSolutions || NTB Associates, Inc. || Open Range Field Services, LLC || Opus Stewart Weir || **Oxy** || Pelican Energy Partners || PERC Engineering || **Percheron, LLC** || Petersen Engineering, Inc. || PetroFac || Petro IT || Pipeline Land Services || Pipeline Project Services || **Plains All American Pipeline** || Plantation Pipeline Company || Point Engineering || Prime Energy Services || Primoris Engineering || Project Consulting Services || Protech EIS || QPSE || R Squared || Raba Kistner Infrastructure, Inc. || Rapid Response Project Limited || Rooney Engineering || **Rose Rock Midstream, L.P.** || Russell Corrosion || **S&B** || Samuel Engineering, Inc. || **Scout Energy** || **SemGroup Corp** || setld || SGC Engineering || Shafer, Kline, & Warren, Inc. || **SNC Lavalin (Canada, USA, Mexico)** || Solaris Management Consultants || || Southern Design Cadworks || Spartan Engineering || Spec Services || **Spectra Energy (Enbridge)** || **Stantec** || Strike, LLC || Structural Integrity || STV, Inc. || **Summit Midstream** || **Sunoco, Inc. (Enbridge)** || **Superior Appalachian Pipeline** || Survey and Mapping, LLC (SAM) || Tablerock Survey || **Tallgrass Energy** || **TatweerPetroleum** || T. Baker Smith, Inc. || T.G. Mercer || Technical Design Services || Territorial Landworks, Inc. || Thrasher Engineering || Three Streams Engineering Ltd. || TIMS Group || Titan Corrosion || TMI Solutions, LLC || Topographic || Troy Construction || **TC Energy (TransCanada)** || Transglobal Services, LLC || **Trans Adriatic Pipeline (TAP)** || Trestles, LLC || **TRC Solutions** || Trico Survey & Mapping || Total Infrastructure Management Solutions (TIMS) || Tucker Energy Solutions || Uintah || Universal Geomatic Solutions || UniversalPegasus International || Universal Survey and Mapping || Upside Engineering || **Valero Energy** || Vanasse HangenBrustlin, Inc. || Verbec || Virtual GIS || Wayne Acree, P.L.S., Inc. || Weisser Engineering & Surveying || West Company of Midland, LLC || Westwood || Whiteley Infrastructure Group || William H. Smith & Associates || **Williams** || Wilson & Company, Inc. || **Wood.** || **Worley (Australia, Thailand, USA, UK, Oman, Canada)** || Workrise || **WSP Canada, Inc.** || **Xcel Energy** || **Xcl Midstream** || Zion Engineering

Who is Blue Sky?

- Software company
- 25 years refining the new construction data pipeline
- Autodesk Partner
- Esri Partner
- Microsoft Developer Network
- Oracle Technology Network
- AWS Partner



BLUE

SKY

EVOLUTION

What do the Operators need?

- Operate safely, reliably & profitably
- Prevent work stops in construction
- TVC Compliance
- Digital twin/ Spatial Documents
- Analytics for planning
- SPEED



BLUE

SKY

EVOLUTION

What are the obstacles to Speed & Efficiency



BLUE

SKY

EVOLUTION

Obstacles /Solution- Stack

Notifications

Document Reviews

Collection Standards

Spatial / Tabular Reports

Dashboard Analytics



Security
Layers

Mapping
Layers

Analytics

Notifications

Document
Management

Barcoding & Material
Management



Inspection / Field Data
Collection



As-Built Survey Collection



Regulatory Audit Support



UPDM/PODS Compliant
Delivery



BLUE

SKY

EVOLUTION

Is Paper the biggest obstacle to Quality Management?

- Improve communication
- Improve Safety
- Help prevent Stop Work Orders
- Improve overall asset quality



BLUE

SKY

EVOLUTION

Solution: What is Orbital: Ground Force?

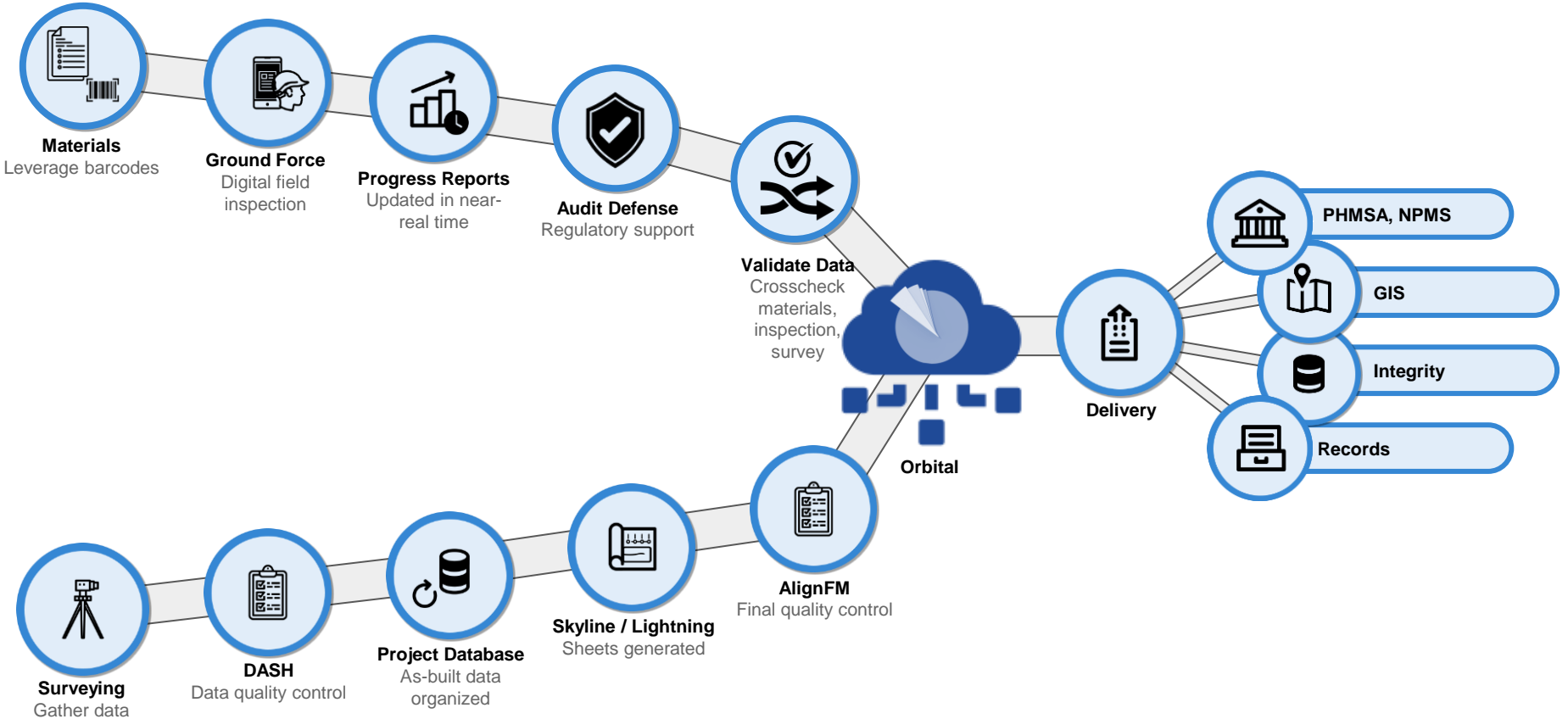
- Orbital is a cloud-based quality management platform.
 - Manages project data from many sources
 - Powerful project management tools
 - Includes maps, reports, analytics and automation tools.
 - Includes API for linking data to/from other applications
- Ground Force is an extension for field data collection.
 - Digitized forms designed for inspection
 - Automatically feeds Orbital reports
 - Easy to learn and use
 - Can be used by any field service provider
 - Utilizes iPads replicating paper based forms

BLUE

SKY

EVOLUTION

Pipeline Data Quality Management



Solution: Migrate to Digital & Auto-Mapped



Project Completion **11.3%**

All active activities completion progress

Total calculated cost

Status Reports Cost Reports Schedule **Activity Map** Forms Personnel History Log

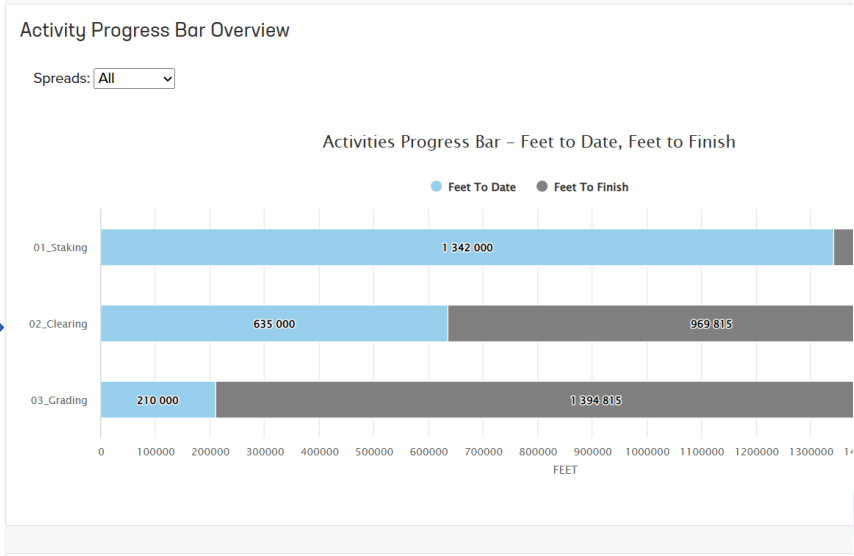
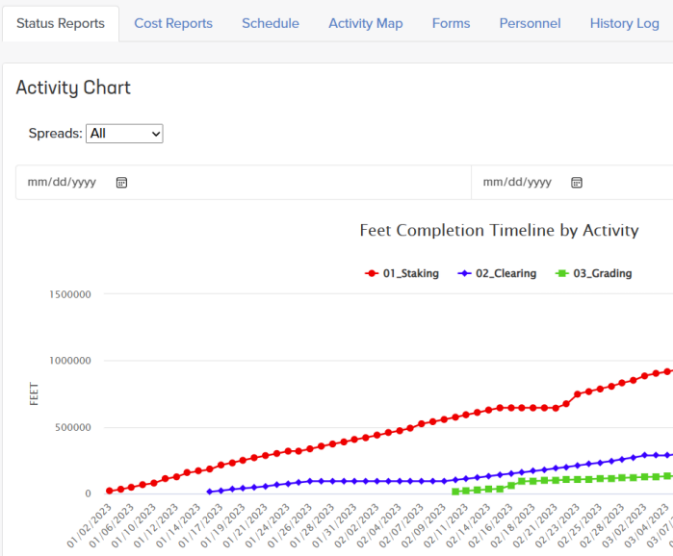
Activity Map

Stations Completed

Column	Value
Begin_Sta	902400
End_Sta	917000
View	DA-01-80-Staking-Daily-Report
Download	DA-01-80-Staking-Daily-Report

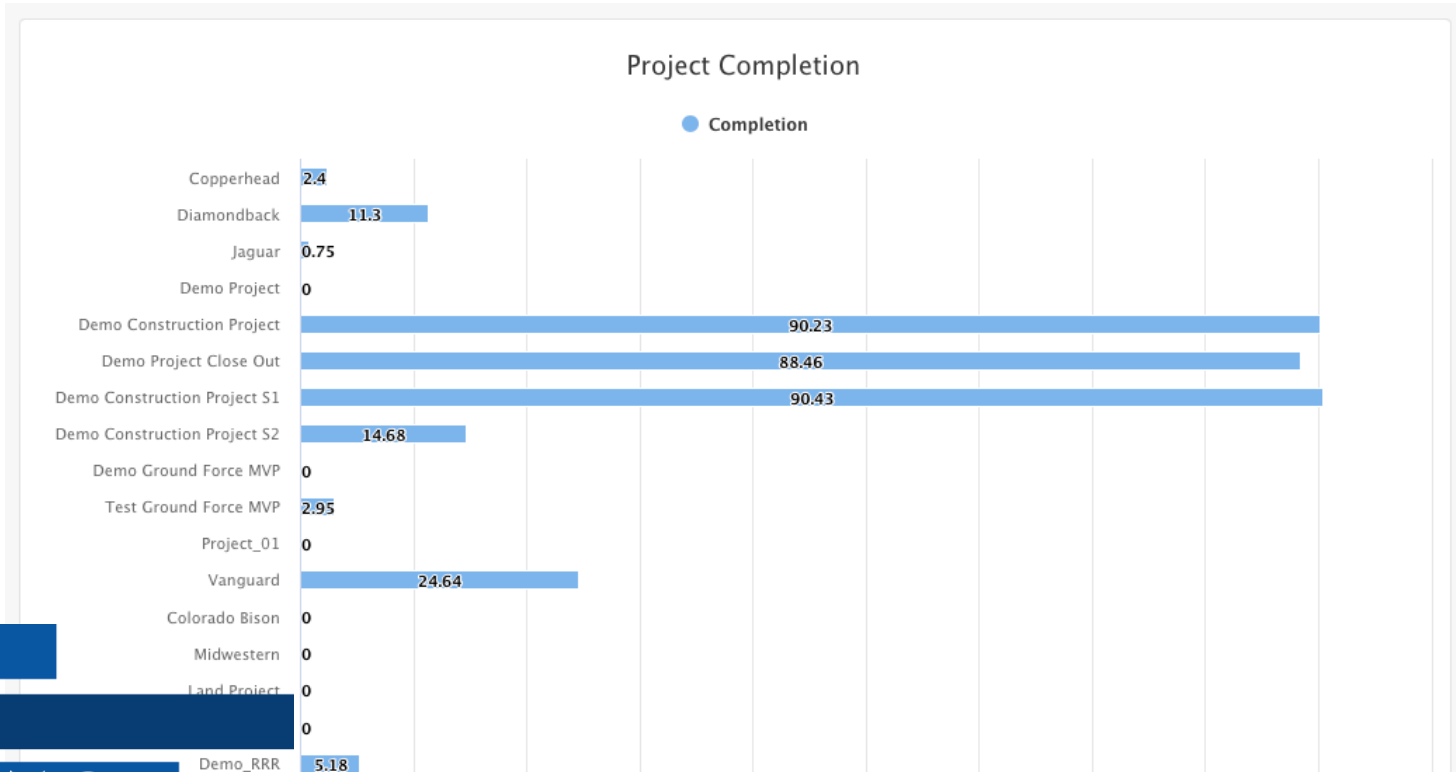
BLUE
SKY
EVOLUTION

Solution: Automatic Project Progress Updates



BLUE
SKY
EVOLUTION

Bonus: Display status for all projects



BLUE

SKY

EVOLUTION

Last Question:

How are you going to improve our world?

BLUE

SKY

EVOLUTION