



C2 GROUP

2023 OVERVIEW

UAS DATA COLLECTION & INFRASTRUCTURE INSPECTION SOLUTIONS POWERED BY A PROGRAMMATIC LENS



WBENC



SBA WOSB
Woman Owned Small Business



GRADE A
CERTIFIED



OUR STORY

As a woman-owned engineering and program management firm established in 2016, we've built our company culture on developing innovative solutions that provide comprehensive and cost-effective solutions to our client partners.

With extensive experience in program management and new-to-market implementation solutions, our diverse team provides added value to our client partners with a hands-on approach from the top down that supports the streamlining of project deliverables, inclusive solution-based feedback, and the fostering of long-term trusted client partnerships.

Our foundation of immersive collaboration allows us to self-perform specialized, scalable services with the agility unique to a small business while providing a trusted avenue for our clients to meet their support needs in all aspects of this dynamic and critical space.

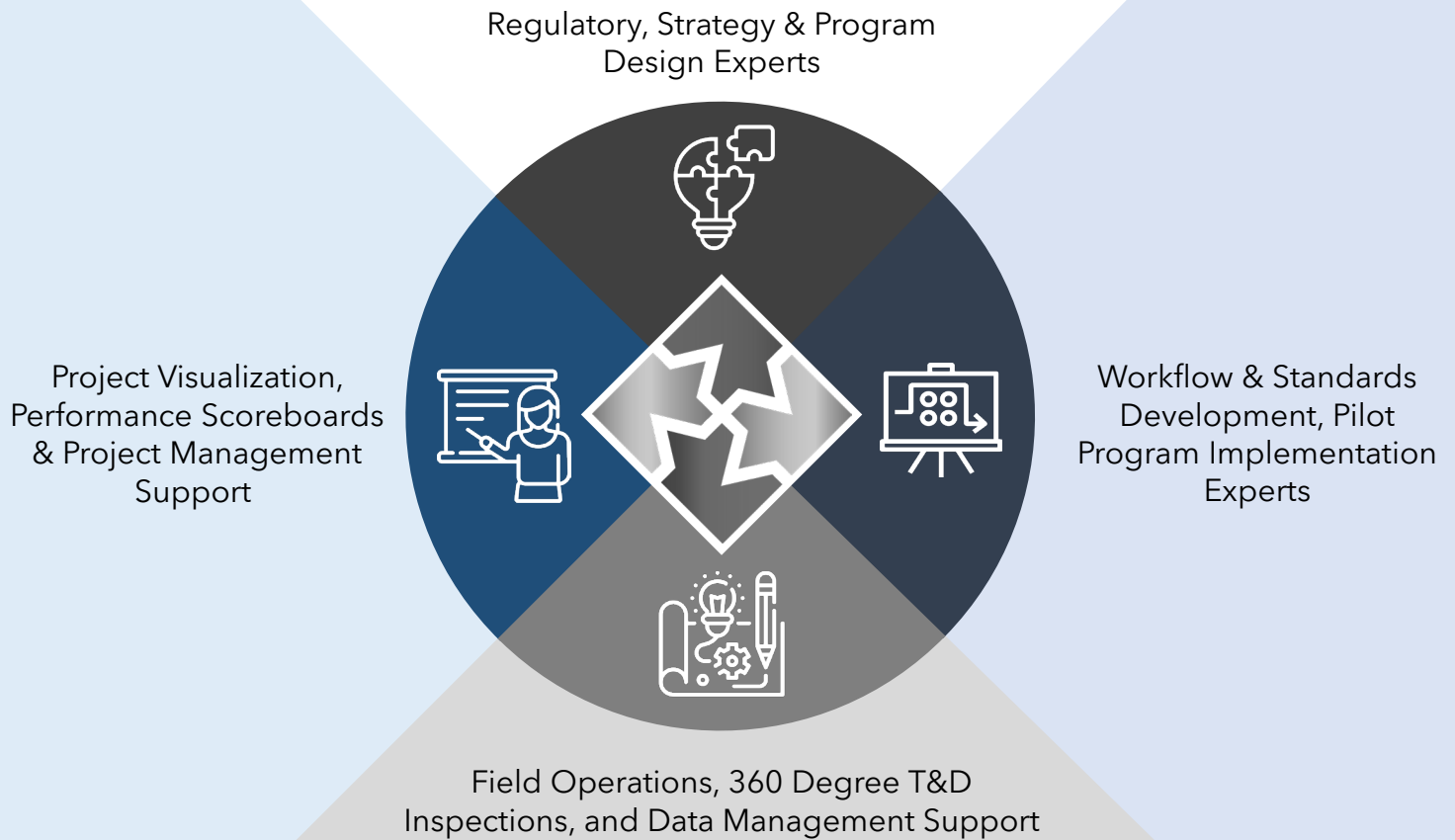
Continuity in strategy, communication, and implementation define not only the success of the programs we support but also the culture that has led us to become industry-trusted UAS data collection and inspection industry experts.

*"Be a yardstick of quality. Some people aren't used to an environment where excellence is expected."
- Steve Jobs*

OUR VALUES IMMERSIVE INNOVATION • CREATIVE COLLABORATION • DIVERSITY & INCLUSION
LEAD WITH INTEGRITY • TRANSPARENT COMMUNICATION • COMMITMENT TO CLIENT PARTNERSHIP



UAS & INFRASTRUCTURE INSPECTION CORE COMPETENCIES



UAS & INSPECTION SOLUTIONS POWERED BY A PROGRAMMATIC FOUNDATION

Since 2016, our industry-trusted team of utility infrastructure experts has led large-scale utility UAS & infrastructure inspection initiatives providing scalable solutions throughout each phase of critical programs. Whether you need single or multi-phase support, we bring the expertise to provide curated solutions to help you reach your inspection, asset management, regulatory, compliance, and safety goals. Tap into our UAS and inspection toolkits and field-tested best practices to accelerate your program's success.

PROGRAM & IMPLEMENTATION DESIGN

- Program Strategy, Design Support & Development
- Facilitation of the Lines of Business & Relevant Stakeholders for Programmatic Alignment Process Development or Integration into Existing Workflows
- Standards Development
- Process Flow Analysis, Gap Assessment, & Mapping
- Program Analysis & Planning
- Cross-Functional Workshops
- In-House Data Architects & Data Management
- Program Reporting & Scorecard Development
- Vendor Management & RFP Development
- Onboarding & Training Support

IMPLEMENTATION SUPPORT

- UAV Field Operations
- 360 Degree Field T&D Inspections
- In-House T&D Inspectors (Field & Desktop)
- Emergency Response Mobilization
- Remote Asset Access Expertise
- Program & Project Management
- Federal, State, and Local Permitting
- Video Production
- Program Health Assessment
- Reporting & Program Analytics



OUR INFRASTRUCTURE INSPECTION JOURNEY

When we launched our UAS Data Collection & Infrastructure Inspection division in 2018, we knew the road ahead would give us a unique opportunity to help our client partners navigate critical inspection and wildfire mitigation initiatives in an unparalleled capacity by rethinking large-scale program implementation with mobilization agility, data management workflow alignment, and program health visualization.

Our cross-functional programmatic approach brings with us field-tested multi-program key learnings and best practices that support efficiencies, cost-effective solutions, and continuity with field execution, data management, and inspection support. With solutions that range from field operations and inspection support to serving as independent evaluators supporting wildfire mitigation efforts, our map and timeline provide a high-level glimpse into our own infrastructure support journey and the depth of experience our high-energy team brings into our partnerships.



UAS DATA COLLECTION & INSPECTION EXPERIENCE AT-A-GLANCE



City of Santa Rosa Resilient Rebuilding Program

Fire Recovery Area Mapping of 1,100+ Acres for 2,600 Parcels

Scope of Work Highlights

- Existing Grading Plans, Storm Drain Plans, and Improvement Plan Digitization and Georeferencing into AutoCAD and GIS.
- Parcel and GIS Online Web Portal Development to expedite building permits for homeowners
- Video Documentary of the Community & Project
- Artificial Intelligence (AI) Analysis to Identify and Locate Dead Trees for City support to obtain FEMA Funding for tree removals.



San Pasqual Band of Mission Indians

Reclaimed Water Pipeline Relocation

Scope of Work Highlights

- 6 Miles of Ultra-High Resolution Orthophotography (Ortho-mosaic) Mapping
- 6 Miles of Utility Mark-out & Subsurface Utility Locating with Ground Penetrating Radar (GPR) & Electromagnetic Radio Detection (RD) to identify all potential utility conflicts
- Design of New Reclaim Waterline Alignment
- Construction Management Support for the life of the project



Soboba Band of Luiseño Indians

Arterial Tribal Roadway As-builts

Scope of Work Highlights

- 7 Miles of Utility locate & Mark-out (GPR/RD) of Tribal Roadways including Water Lines and Appurtenances, Electrical and Communication Lines, and Storm Drain.
- Ultra-High Resolution Orthophotography (Ortho-mosaic) Mapping of tribal roadway system
- As-builts in AutoCAD and GIS for located utilities and aerial mapping.

2016



SDG&E Fire Risk Mitigation (FiRM)

Distribution Wood to Steel Replacement Program

Scope of Work Highlights

- Developed LiDAR & Drone program to support cross-functional alignments in efficiencies and cost analysis
- Standards development for contractor accountability & programmatic efficiency
- LiDAR Data Capture and Processing
- GIS Distribution Asset Location Verification using LiDAR Data for GIS System Quality Assurance



2017

2018

PG&E Wildfire Safety Inspection Program (WSIP)

Transmission Asset Aerial Data Capture & Inspections for Structures in High Fire Threat Districts

Scope of Work Highlights

- Red Team/Blue Technology Teams
 - Technical Advisory for Data Capture Technology
 - Developed all rapid testing protocols and sampling methods for technical solutions
- Safety Program Support & Development

Field Operations Work Highlights

- 12 months of Flight Operations
- Federal, State, and Local Permitting
- Quality Control (QC) process and workflow development
- Post-Fire Investigation Team
- Back Country Rescue Team
- UTV & Snowmobile Trained Teams dedicated to rough terrain & difficult access structures

Program Management Support

- Aerial Data Standards, Shot Sheet, & Data Collection Workflow Development
- Quality Assurance (QA) process and workflow development
- Technical advisory support for data integration and compatibility, dashboards and reporting.

Imagery Quality Assurance (QA)

- Verification of Imagery Quality in conformance to aerial standards, image clarity of all equipment, and conformance to shot sheet requirements.
- Asset structure location and type validation for GIS corrections.
- Tracking and reporting of completed structures including re-flights.



UAS DATA COLLECTION & INSPECTION EXPERIENCE AT-A-GLANCE



PG&E Wildfire Safety Inspection Program (WSIP)

Continuation of 2018 Support

Desktop Transmission Inspections

- Review Aerial Imagery for Wildfire Risk in compliance with GO95 requirements, standards, and handbooks.
- Desktop remote inspections of towers and poles with 60/70 kV, 115 kV, 123 kV and 500 kV voltages and included the review of wood, light duty steel, fiberglass, concrete, hybrid, lattice, and tubular steel structures, associated equipment, hardware, and foundations.



Burns & McDonnell

SCE Charge Ready Survey, Mapping & Design

Field Operations Work Highlights

- Site Survey (LiDAR & Drone Photogrammetry)
- Utility Mark out & Subsurface Utility Locating with Ground Penetrating Radar (GPR) & Electromagnetic Radio Detection (RD)

Drafting & Design Support Work Highlights

- Develop Civil and Electrical Base Maps
- EV Charging Civil & Electrical Site Design



BIA / San Carlos Irrigation Project

Pinal County 69kV Pole Relocation Survey

Field Operations Work Highlights

- Survey Control
- Corridor Mapping (LiDAR & Drone Photogrammetry)

Drafting & Design Support Work Highlights

- AutoCAD Civil3D Surface & Contour Creation, and Base Map Drafting



Liberty Utilities - Lake Tahoe Region

Echo Lake Tap Line Rebuild

Field Operations Work Highlights

- As-Built Pole Data Capture (LiDAR & Drone Imagery)
- Video & Still Image Documentation of Construction Progress
- Promotional Video Production to highlight post-fire rebuild



2019

Zayo Communications

Pinal County, AZ Fiber Optic Project for Underserved Arizona Communities

Field Operations Work Highlights

- Distribution Pole Data Capture (LiDAR & Aerial Imagery), including Public & Private Agency Coordination for Field Operations in Sensitive & Restricted Areas
- Corridor Mapping (LiDAR & Drone Photogrammetry), including obtaining COAs for Operations at Airports & Runways
- In-house Data Classification, Processing, and QA

Permitting Support Work Highlights

- Layout & Logistics Planning and Strand Map Development in AutoCAD and GIS
- Federal Permitting including Arizona State Lands, Bureau of Indian Affairs (BIA), Bureau of Land Management (BLM), Bureau of Reclamation, US Forestry Service (USFS), and Arizona State Parks.

2020



PG&E Aerial Inspection Program (AIR+)

Transmission Asset Inspections for Structures in High Fire Threat Districts

Program Management Support

- Tracking system and PowerBi dashboard development for Transmission and Substation Inspection progress reporting and Scheduling
- Data architect tracking system for inspection documentation in alignment with inspection processes and create associate handbooks.

Imagery Quality Assurance (QA)

- Verification of Imagery Quality in conformance to aerial standards, image clarity of all equipment, and conformance to shot sheet requirements.
- Asset structure location and type validation for GIS corrections and process mapping corrections.
- Tracking and reporting of completed structures including re-flights.

2021

Desktop Transmission Inspections

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- Desktop remote inspections of towers and poles with 60/70 kV, 115 kV, 123 kV and 500 kV voltages and included the review of wood, light duty steel, fiberglass, concrete, hybrid, lattice, and tubular steel structures, associated equipment, hardware, and foundations.



UAS DATA COLLECTION & INSPECTION EXPERIENCE AT-A-GLANCE



2021

PG&E Aerial Inspection Program (AIR+)

Continuation of 2020 Scope of Work for:

- **Program Management Support**
- **Imagery Quality Assurance (QA)**
- **Desktop Transmission Inspections**

SCE Aerial Inspection Program

Transmission & Distribution Aerial Inspection Program for High Fire Risk Areas

Field Flight Operations Work Highlights

- Approximately 8,000 flights per month
- Transmission Inspection Automation Testing
- CONOPS Development for Automated & Standard Flight Operations
- Public Agency Demonstration Flights
- Standby & Emergency Operations Support
- Avian Exposure Test Flights with Internal SCE Environmental Services Teams (provide data for safe exposure limits for nesting season)

Data Management and Quality Work Highlights

- GIS development, dispatch, and planning of field operations through created and hosted collector maps for assignments and collected structure data.
- Internal QA/QC Team for Image Quality Reviews, structure information audits and validation for conformance with SCE standards for structure imagery and data delivery.
- Structure database management including validation of collected and reported data, PowerBi Dashboards for tracking and report.



PG&E Aviation Services

BVLOS (Beyond Visual Line of Sight) Proof of Concept Testing

Field Operations Work Highlights

- Successful BVLOS Operations at 5.2 miles with nearly 1,700' elevation change in high-altitude environment.
- Operations conducted under SGI Waiver



SCE Big Creek

Penstock Survey 2 & 2A

Field Operations Work Highlights

- LiDAR & High Resolution Orthophoto of Penstocks 2 & 2A
- 4K Detailed Video Inspection with Zoom, Wide, and Thermal Video Composite for In Situ Documentation



2022



Barona Band of Mission Indians

Water Main & Sewer Line Conversion Survey & Mapping

Field Operations Work Highlights

- Over 9 Miles of LiDAR & High-Resolution Orthophoto of watermain corridor for design & construction of new watermain plus 189 acres of mapping tribal land for septic to sewer conversion
- Utility survey, Drafting, and Topo creation at 1' contours

SCE Aerial Inspection Program

Continuation of 2021 Scope of Work for:

- **Field Flight Operations**
- **Data Management**
- **Quality Assurance**

Field Flight Operations Work Highlights

- Approximately 14,000 flights per month

Field Distribution Inspection Pilot Program (V360)

- Distribution Asset inspections with field teams comprised of Linemen / QEWS and Drone Part 107 Licensed Pilots for completing in-field inspections.
- Verification of Inspection software and systems processes for combined field inspections.



PG&E Aerial Inspection Program (AIR+)

Continuation of 2021 Scope of Work for:

- **Program Management Support**
- **Imagery Quality Assurance (QA)**
- **Desktop Transmission Inspections**



SUCCESS ISN'T ACCIDENTAL; IT'S WORKSHOPPED

Specialized experience matters, but the foundation of our successful partnerships is true collaboration and commitment to the program's overall success, regardless of the level of support we provide or what phase of implementation we kick off our partnership. Leverage our expertise as a sounding board with custom cross-functional workshops to help ensure a successful hand-off from strategy to implementation.

Whether it's workflow alignment, standards development, program health visibility, or alignment of internal and external partners for program continuity - we'll bring our program-wide experience from utility programs of all sizes. Workshopping with us through a programmatic lens helps break the siloed environment, avoid common industry missteps with UAV inspection initiatives, incorporate best practices, and leverage examples from our UAV and inspection toolkit to accelerate your program's success.

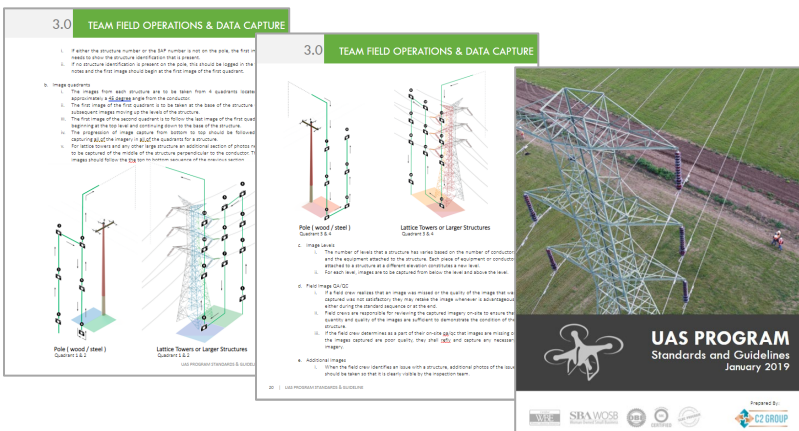
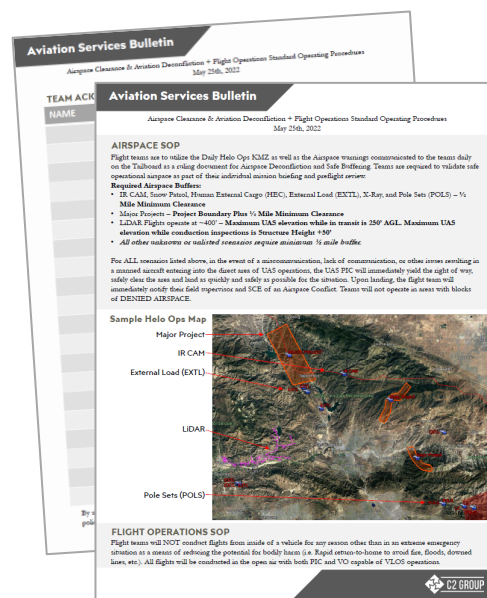
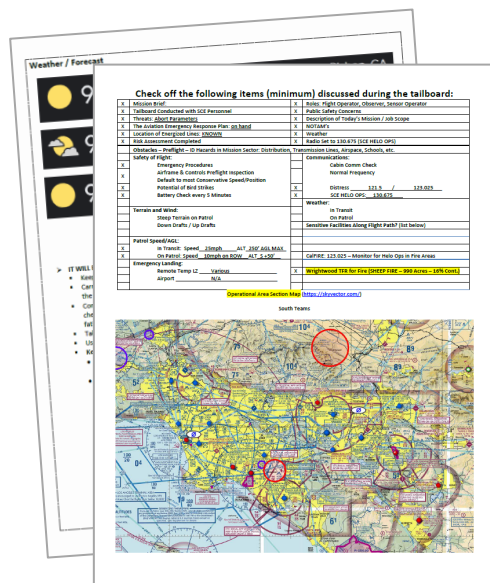


WORKSHOPS CURATED TO YOUR ORGANIZATIONAL NEEDS



Single and multi-session workshops available with customized final deliverables. Have a different need than the sampling below? No problem, we're here to help!

- New-to-Market Strategy Development
- Program Design & Implementation Support
- Workflow & Process Alignment
- Stop Gap Analysis
- Shot Sheet Standards Development
- Regulatory Compliance Support
- Data Management for Program Health Transparency
- Cross-Functional Training
- Internal & External Field Demonstrations
- Data Architecture Mapping
- Customizable Inspection Toolkit Development
- Contractor Onboarding for Program Continuity



UAS END-TO-END SUPPORT SOLUTIONS

UAS & FIELD INSPECTION SUPPORT BY THE NUMBERS*

**as of May 2022*



52
TEAMS



16K+
STRUCTURES
x MONTH



50+
STRUCTURES
x TEAM
DAILY



135K+
STRUCTURES
FLOWN
ANNUALLY



3.2M
IMAGES
CAPTURED
ANNUALLY



100K+
FIELD
HOURS
ANNUALLY



6.5K
LINE MILES
FLOWN
ANNUALLY

UAS & FIELD INSPECTION DIFFERENTIATORS



- Leading Scope Diverse Large-scale UAS Inspection Programs Since 2018
- High-Risk Assessment Expertise with Field & Remote inspection solutions



- 360 Degree Inspection with UAV Data Capture & Field Inspection
- Specializing in Remote Access & Diverse Terrain Data Capture



- In-house training Led by Journeymen Linemen & Utility Engineers
- Inspection Visualization & Reporting Support



- Established Field-Tested UAV & Inspection Workflows & Toolkits
- Cross-functional Expertise & Support for Efficiency & Quality Control

UAS & FIELD INSPECTION SUPPORT CORE COMPETENCIES

Program Development & Implementation

- UAV Inspection Program Strategy Support
- Development & Implementation (Process Development)
- Customized Shot Sheet & Standards Development
- Onboarding and Contractor Training Support
- Equipment, Payload, & RFP Support
- Program Health Assessments
- Process Flow Analysis & Gap Assessment
- Regulatory and Compliance Support
- In-House Inspectors & QA
- In-House Data Architects & Data Management
- Program Reporting & Contractor Scorecard Development
- Project Management & Document Control

Field Execution

- UAV/Drone Field Operations
- Infrastructure Inspection (onsite)
- 360 Degree Inspection- Ground & Aerial
- Aerial Photogrammetry
- Aerial (Drone) LiDAR Scanning
- Vegetation Clearance Assessments (Visual/LiDAR)
- Geographic Information Services (GIS)
- Aerial Topography Mapping (Surveyed)
- 3D Modeling (Solidworks, BIM, etc.)
- Engineering (Civil & Electrical)
- Survey Control & Quality Reference Points
- Emergency Response Mobilization
- Pilot Program Implementation Specialists



INFRASTRUCTURE INSPECTION & QA SUPPORT

INFRASTRUCTURE INSPECTION BY THE NUMBERS*

**as of May 2022*



337K+

TRANSMISSION & DISTRIBUTION STRUCTURES QA



38K+

TRANSMISSION STRUCTURES INSPECTED



25K+

TOTAL ASSET REPAIRS IDENTIFIED



26K+

TOTAL T&D ASSET REPAIR NOTIFICATIONS CREATED



23M

IMAGES FOR QA

INSPECTION AND COMPLIANCE DIFFERENTIATORS



- High-Risk Assessment Expertise with Field & Remote Inspection Solutions
- Utility Industry Experts with Scalable In-House Inspection Solutions



- Regulatory and Wildfire Mitigation Strategy & Compliance Support
- Wildfire Mitigation Planning Experience



- Program-wide Utility Inspection Expertise & Implementation Support
- Self-Reporting for Accountability & Transparency in Performance



- Established Field-Tested Inspection Workflows & Toolkits
- Scalable & Agile Solutions with Accelerated Onboarding Ability

DESKTOP INSPECTION & QA CORE COMPETENCIES

Infrastructure Desktop Inspections

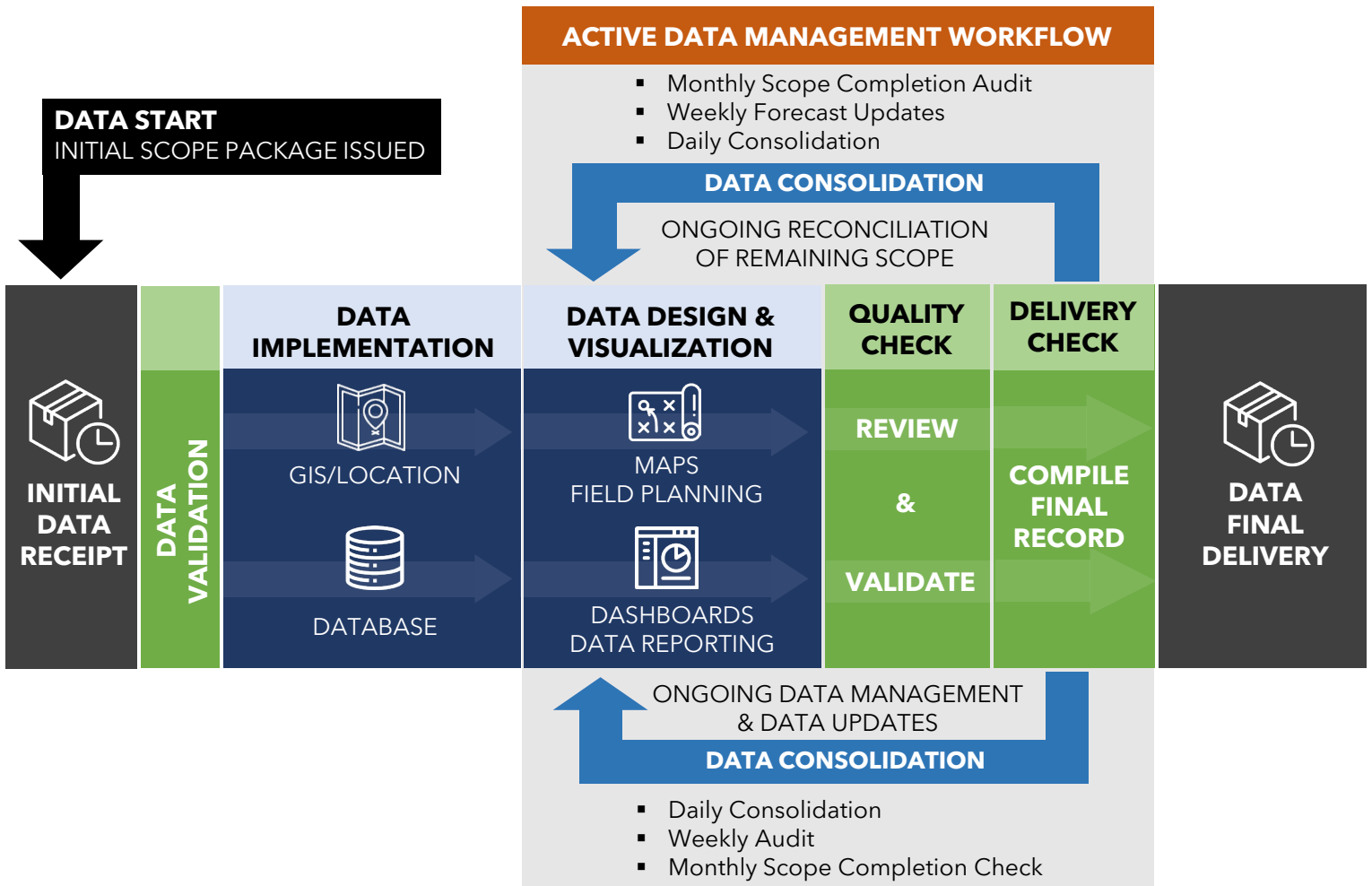
- Journeyman Lineman Inspectors & EE's
- 360 Degree Inspection - Ground & Aerial
- Vegetation Clearance Assessments
- Constructability Reviews
- Analysis and Review of All Structure Types (Transmission/Distribution)
- Priority Tags/Notifications Created from Identified Issues
- Onboarding and Contractor Training Support
- High-Risk Structure Assessments and Escalation Management

Quality Assurance

- Process Flow Analysis & Gap Assessment
- In-House Data Architects and Data Management
- In-House GIS Professionals (GISP)
- Image Quality Assessments, including (meta-data)
- Automated Image Indexing
- Validation of Applicable Entries and Inputs Submitted by Inspection Teams
- Re-flight Recommendation Based on QA of Field Data Capture
- GIS Asset Information Corrections/Updates Based on Most Current Data
- Customized Shot Sheet and Standards Development



C2'S DATA MANAGEMENT WORKFLOW



PARTIAL CLIENT PARTNER LIST



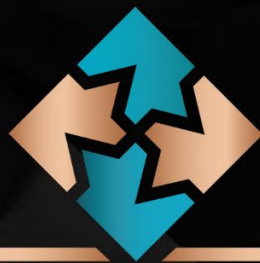
NAICS CODES

- 541360 Aerial surveying Services
- 541618 Other management consulting services
- 541330 Engineering Services
- 561990 Locating Underground Utility Lines Prior to Digging
- 541360 Geophysical Surveying & Mapping Services
- 541370 Surveying & Mapping (except Geophysical) Services
- 541990 All other professional, scientific, & technical services
- 237130 Construction Management, Power & Communication Transmission Line

DIVERSE BUSINESS CERTIFICATIONS

- DBE (CalTrans Firm ID 45762)
- SBA WOSB (Federal)
- WBENC (WBE1900834)
- SBE (CA-DGS #2010788)
- WBE (CPUC VON: 17000819)
- DUNS: 03-549-1367
- CA SUPPLIER ID: 0058809
- ISNetworld[®] MEMBER CONTRACTOR
- GRADE A CERTIFIED





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