

INDUSTRIAL



HVAC SHEET METAL & PIPING • COMMISSIONING • RETRO-COMMISSIONING
PLUMBING • BUILDING SERVICES • PROCESS PIPING • ENGINEERING
BIM/3-D MODELING • FABRICATION • BUILDING AUTOMATION SYSTEMS
INDUSTRIAL CONSTRUCTION & PIPING • ENERGY SERVICES • RIGGING



STANFORD UNIVERSITY CENTRAL UTILITY PLANT
ENGINEER ASSIST, BIM 3-D MODELING, PROCUREMENT, INSTALLATION, QA/QC





ACCO ENGINEERED SYSTEMS

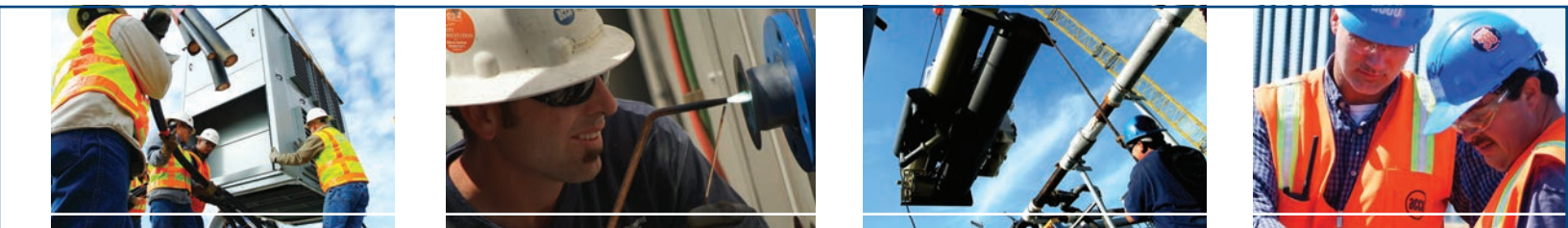
Founded in 1934, ACCO has grown to become the largest mechanical contractor in the Western United States, with more than 2,700 employees tackling the largest and most complex projects over the past 80 years.

Through an engineering orientation, and with our skilled union labor, we provide these services to the new construction and existing facility markets.

ACCO has developed a successful track record for Safety and Quality Systems while completing large projects on time and on budget. ACCO has successfully lead several large high profile mechanical piping projects such as the Stanford University Central Utility Plant.

ACCO'S MISSION

Our mission is to provide our customers with the most cost-effective mechanical systems for their facilities through the integration knowledge of engineering, construction, and service.



Safety Program Overview

Safety Strategy

Safety is not only important to our success, it is a value we hold in the highest regards, throughout our organization. Safety performance does not happen by luck or accident; we must have a strategy to accomplish our goals. Below are some of the key areas of our strategy to achieve safety excellence.

Tomorrow is the reward for being safe today

Performance

- Industry leading safety record (TRIR/EMR)

Leadership

- Management engaged in the safety program at all levels of the organization
- Site/Project cold eye reviews
- First line supervision leadership training

Key Safety Systems

- Pre-mobilization analysis with HSE and operations
- Site specific safety plans
- Daily site safety meetings
- Job specific safe execution plans
- Readiness reviews prior to execution
- Pre-Job Hazard Analysis process (JHA)
- Injury and Illness Prevention Program (IIPP)

Safety Sustaining and Accountability Processes

- Safety Audit/Observation Process with tracking and trending
- JHA tracking, grading, coaching, and feedback process
- Weekly safety performance report specific to site/project
- Cause analysis and effective corrective action of all incidents, including near misses

Safety Training (In addition to OSHA regulatory training)

- Comprehensive craft training, apprenticeship and mentor program
- Site specific new-to-site training process- "Day One Training and Orientation"
- Pre-Job Hazard Analysis/Hazard Recognition Training
- Innovative training tracking bar code system

Injury Management Program

- Prompt reporting/treatment of all first aid cases
- Medical provider with extensive experience managing and treating occupational injuries in the refinery industry with established treatment centers in Northern and Southern California



Quality Profile

At ACCO the Quality Systems process starts before the first person sets foot on the job. We believe quality control before, during, and after the construction process is extremely important in order to safeguard the value of the owner's investment. ACCO's Quality Systems personnel perform checks and tests throughout the construction process, providing the owner with the confidence that the project is being built according to specifications. ACCO takes great pride in our ability and transparency with owners inspection process and personnel.

The management of ACCO's Industrial group has a strong commitment to quality, which includes our current ASME/AWS Quality Program and Manual.

- ASME/API & AWS Quality Programs in place
- ASME Code Stamps "A", "PP", "U" for shop and field fabrication and assembly
- NBIC "R" Stamp for boiler/vessel repairs and alterations
- Site-specific quality plans are specifically authored for each project ensuring compliance with required specifications
- QC Inspectors are certified in accordance with ASNT TC 1a and/or AWS-QC1 for visual examinations
- ACCO has more than 100 approved welding procedures covering carbon, stainless and chrome steels



ACCO's Industrial Competitive Advantage

Dedicated Project Management from the Estimate to Turnover

At ACCO, when we accept a job we accept all the responsibility that goes with it. An ACCO Project Manager supervises the project from the initial contact through conceptual studies, engineering design, energy studies, sales, construction and commissioning. This responsibility continues through final acceptance as well as the warranty period. Your Project Manager's responsibility is to get your job done...on time and on budget. ACCO pioneered this single source of responsibility to ensure that we adhere strictly to all of the project requirements, quality demands and time schedules.

Scheduling

Keeping on schedule requires a large amount of up-to-date information. ACCO maintains a computerized database on all projects to allow project managers to have immediate access to up-to-date labor reports, equipment and materials status, and time and cost accounting.

Engineering Design Approach

Engineering is the foundation of outstanding mechanical systems. At ACCO, we thrive on transforming innovative ideas into practical and reliable systems. We lead with the right concepts to meet your needs, and bring the advantage of fabrication and installation know-how to capitalize on the best means and methods for cost-effective results.

No matter how exacting your project requirements may be, ACCO designs every detail to your specifications utilizing a laser scanner and scan registration.

- 80 Professional Design Engineers
- 25 Technical Designers
- 40 AutoCAD Design Stations

We can work with an engineer of your choice to develop and analyze your project, or you can utilize ACCO's in-house engineering resources to design your project in line with your quality and budget requirements. In both cases we guarantee price, performance, and schedule.

Highly Trained Labor Pool

With more than 2,000 field employees ACCO maintains one of the largest trained labor pools of union employees on the west coast. Many of ACCO's field employees have been with the company for more than 20 years and take great pride in the quality and complexity of the projects they complete.

Prefabrication

ACCO has multiple piping fabrication facilities located in strategic locations throughout California. These facilities can prefabricate the most complex piping systems with short notice, and have it delivered to the jobsite to meet the most demanding project schedules.

Industrial Piping Fabrication Facilities

ACCO has 3 facilities to draw upon to fabricate piping in a controlled environment.

Northern California

San Leandro

- 75,000 square foot fabrication facility located on 9 acres in San Leandro, CA
- Pipe, Structural Steel, Pipe Support, Skid Fabrication, and Vic Grooving capabilities
- Computer operated plasma cutters with capabilities of up to 48" diameter pipe
- Multiple overhead bridge cranes, indoor and outdoor
- Multiple dedicated welding bays
- Stainless Steel Orbital Welding capabilities

Sacramento

- 25,000 square foot fabrication facility located on 2 acres in Sacramento, CA
- Pipe, Structural Steel, Pipe Support, Skid Fabrication, and Vic Grooving capabilities
- Computer operated plasma cutters with capabilities of up to 24" diameter pipe
- Multiple overhead bridge cranes, indoor and outdoor
- Multiple dedicated welding bays
- Stainless Steel Orbital Welding capabilities

Southern California

Commerce

- 157,000 square foot fabrication facility located within easy access to major freeways
- Pipe, Structural Steel, Pipe Support, Skid Fabrication, and Vic Grooving capabilities
- Multiple weld bays and vessel fabrication areas
- Multiple overhead bridge cranes, indoor and outdoor
- Stainless Steel Orbital Welding capabilities



ACCO's Welding Capabilities

GMAW Welding Capabilities

Through a long working relationship with Miller Electric Company, ACCO Industrial has developed high pressure welding procedures utilizing the GMAW processes currently performed in its fabrication facilities for commercial construction. Miller's Regulated Metal Deposition (RMD) MIG welding process improves welding quality and productivity on carbon and stainless steel pipe. The RMD process is easy to learn and addresses the welder shortage by providing an easier process that gets more work done faster and at a higher quality level, whether welding in position or out of position.

- Precisely-controlled metal transfer provides uniform droplet deposition, making it easier for the welder to control the puddle.
- Easily bridges gaps up to 3/16-in. and creates more consistent root reinforcement on the inside of the pipe.
- RMD maintains a consistent arc length regardless of stick-out.
- The amount of the root pass metal deposited will be sufficient to supply the heat input requirements of the first Pulsed MIG or flux-cored fill pass, possibly eliminating the need for a TIG hot pass.
- Same wire and shielding gas can be used for the fill and cap passes using a next generation Pulsed MIG process called Pro-Pulse, which improves travel speeds and deposition rates while lowering heat input.
- Shielding gas comes out of the gun relatively undisturbed, pushing through the root opening and preventing sugaring on the back side of the weld. This allows certain 300 series stainless steels to be welded without a backing gas, which can improve productivity by as much as 400 percent.

Fluor Corporation and Kiewit have successfully implemented welding of austenitic stainless steel with no backing gas on 304/304L, 316/316L and 321 grade materials in critical service applications.

GTAW / TIG Welding

Gas Tungsten Arc Welding (GTAW), also known as TIG welding, is commonly used where weld integrity is critical. Using the GTAW process, we are capable of producing high quality welds in a wide variety of metals and alloys.

SMAW / STICK Welding

Commonly known as stick welding, shielded metal arc welding is a manual process that is very versatile. This process can be used with many electrode types and sizes, in all positions and in a wide variety of materials, which makes it one of the most versatile processes in the industry.

As specifications require, welding and fabrication processes can be performed manually or robotically. With our years of experience, we frequently create custom fixtures to ensure the highest accuracy of your weld. Our weld fitments are so precise; our fixtures often eliminate the need for machining operations.



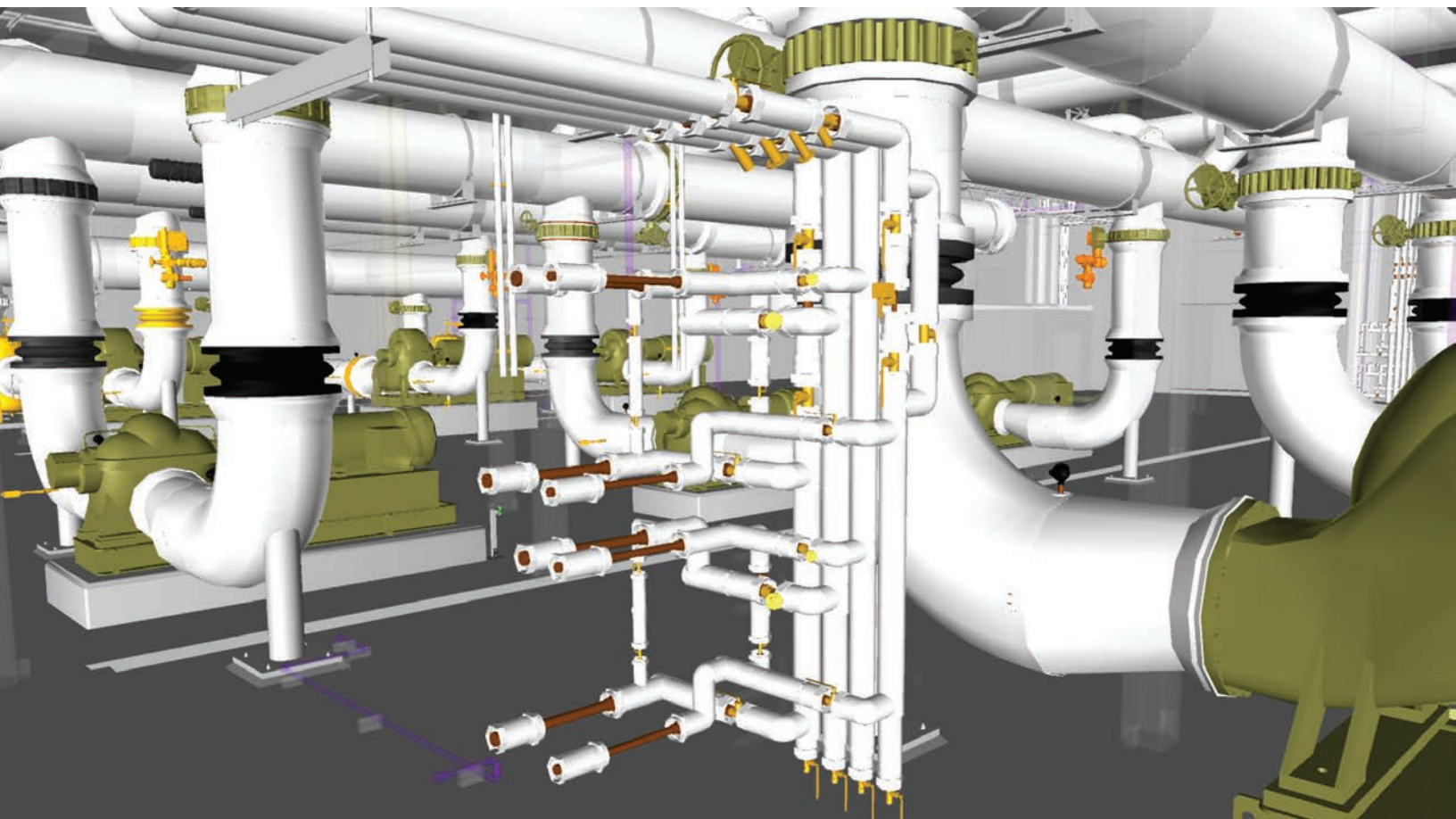
Building Information Modeling & Construction

ACCO Stands at the Forefront of Virtual Design and Construction

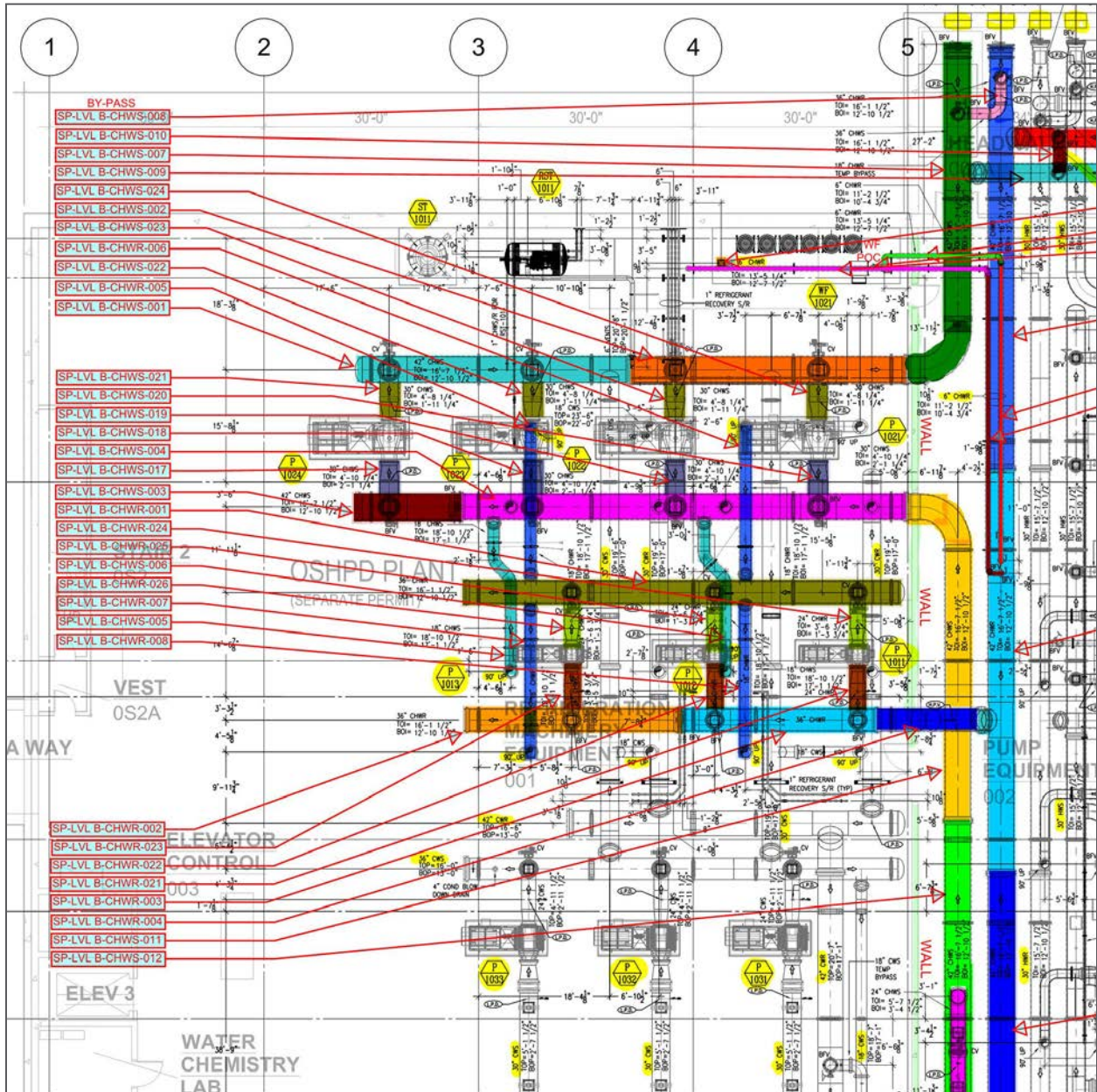
ACCO stands at the forefront of Virtual Design and Construction (VDC), using three-dimensional (3-D) CAD visualization software, HD laser scanning, models & ISO's for pre-construction trade coordination and piping fabrication. ACCO often leads the coordination process and works with the Customer, General Contractor, and Subcontractors to facilitate and manage coordination utilizing Navisworks software. ACCO has the capability to facilitate 3-D coordination meetings including creation and management of Clash Detection reports. Coordination meetings can be held in our ACCO offices, facilitated at a jobsite, or hosted electronically utilizing Web Conferencing.

ACCO has years of experience utilizing 3-D CAD software to accelerate our piping fabrication. ACCO uses Autodesk's CAD-MECH and CAD-DUCT, as well as Revit, and QuickPen PipeDesigner 3-D software, all of which use an AutoCAD drawing format. Applying Lean Construction principles, our 3-D capability permits significant prefabrication as well as "just-in-time" delivery.

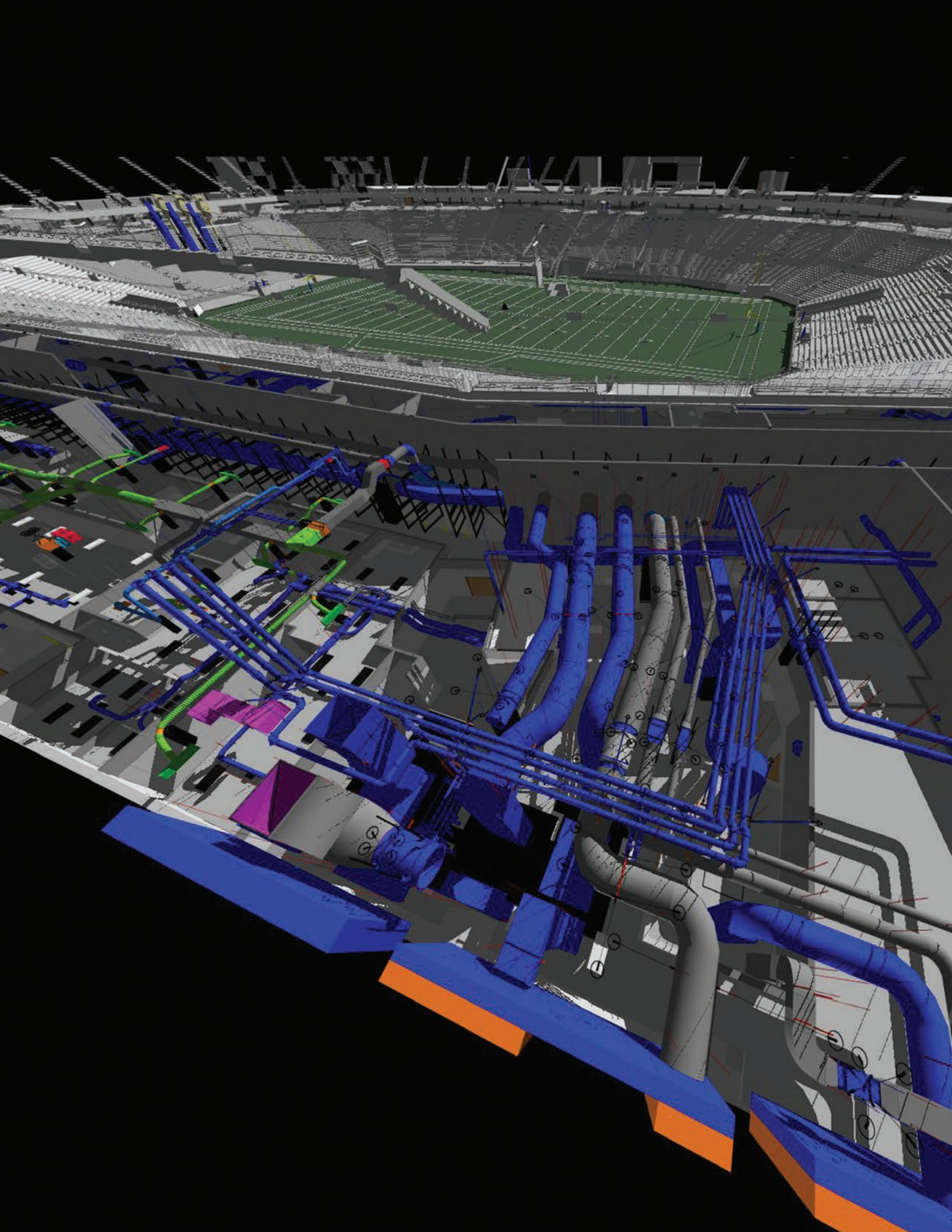
Our recent experience with challenging coordination projects includes Sports Stadiums, Hospitals, Large Utility Plants, and Bio-Tech laboratories with cGMP manufacturing facilities. ACCO brings knowledge and depth to any design and construction team providing a catalyst for successful implementation of Virtual Design and Construction.



Spool Animation - Piping Install Spool Key Map



PRE FABRICATED PIPING IS LOADED AND TRANSPORTED ON COORDINATED FLOATS AND SEQUENCED FOR FIELD INSTALLATION. ADDITIONAL LABOR AND EQUIPMENT COSTS ARE EASILY AVOIDABLE WITH PROPER 3-D MODELING AND ON TIME PIPING SPOOL SITE DELIVERIES.

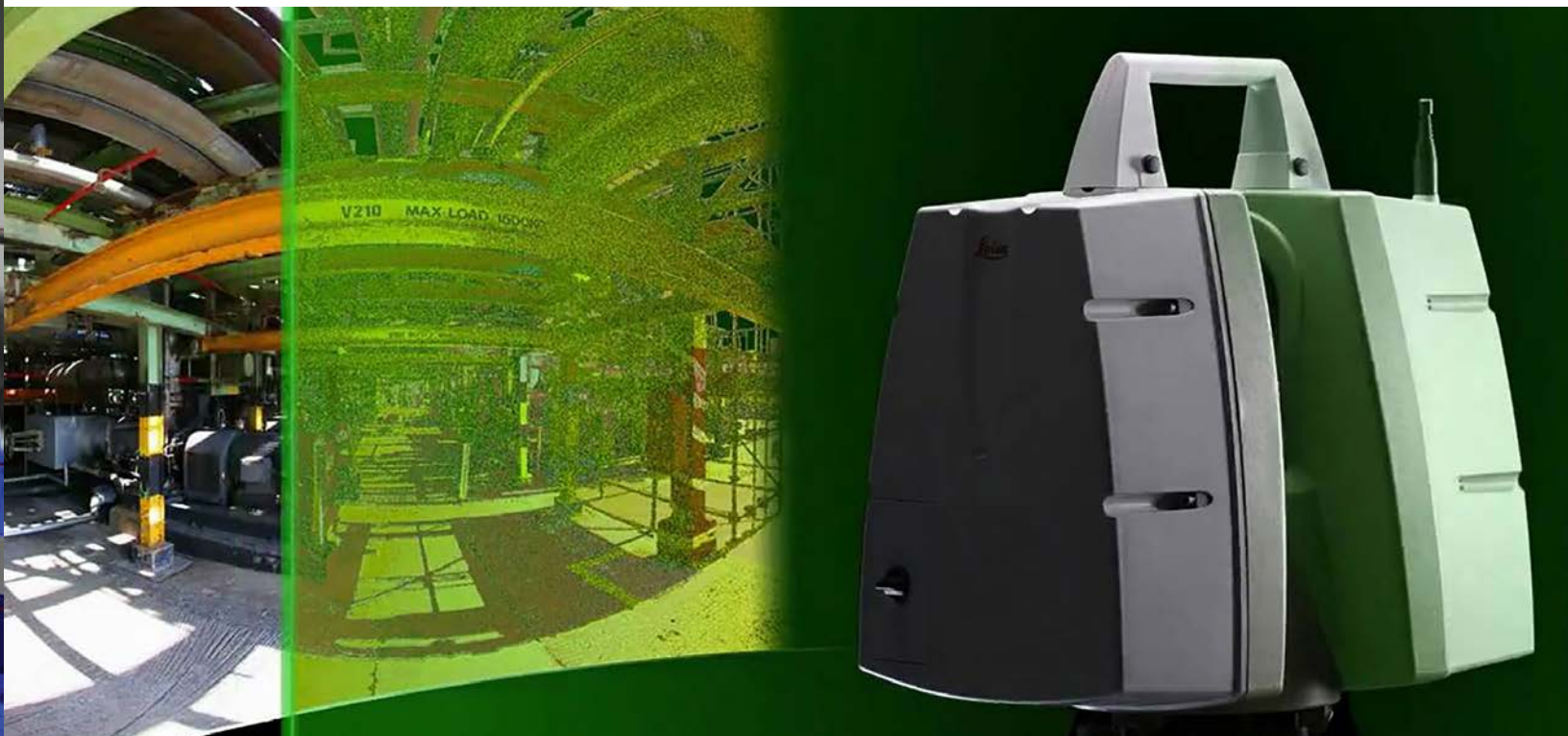


Scanning Capabilities

Scanning & Model/Field Verification for Design & Fabrication

ACCO utilizes HD laser scan data of existing piping systems to generate extremely accurate as-built conditions in a virtual environment. The speed and accuracy of laser scanning delivers a point cloud showing existing conditions accurate to the millimeter in minimal time. This scan data is then utilized by designers to produce a 3D model to field verify customer supplied isometrics, as well as routing of new piping systems. All modeling designers have extensive piping backgrounds (including field and installation experience), resulting in 3D models that effectively increase productivity and efficiency in design, fabrication, and installation. All orthographic (Plan and Elevation Details) and isometric drawings are legible and produced directly from the 3D model providing the client cost-effective planning, reduced field time, as well as more accurate and complete data throughout the project.

- Use of laser scanner (Data Collection)
- In-Depth knowledge of project and scan locations
- Scan registration
- Merge scan data into 3D software to create a comprehensive model
- Field verification from client supplied drawings
- Existing condition for routing of new piping systems
- Create 3D model using the latest 3D software
- Utilize Navisworks for clash detection and model review
- Use 3D model to create legible ortho and isometric drawings
- Breaking model into spools for fabrication and installation
- Complete model BOM (Bill of Materials)



ACCO LOCATIONS

Bakersfield

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Phone: (661) 631-1975

Boise

5220 N. Sawyer Ave. Suite A
Garden City, ID 83714
Phone: (208) 323-7789

Commerce Pipe/Service/AAP

6446 E Washington Blvd
Commerce, CA 90040
Phone: (323) 201-0931

Commerce Sheet Metal Shop

3421 Malt Ave.
Commerce, CA 90040
Phone: (800) 769-2226

Fresno

4980 E. University Ave. Suite 103
Fresno, CA 93727
Phone: (559) 251-2226

Glendale - Corp HQ

6265 San Fernando Road
Glendale, CA 91201
Phone: (818) 244-6571

Inland Empire

1808 Commerce Center West, Suite B
San Bernardino, CA 90248
Phone: (848) 244-6571

Las Vegas

2875 East Patrick Lane, Suite K
Las Vegas, CA 89120
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Orange County

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Petaluma

737 Southpoint Blvd., Suite G
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Redding

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Phone: (208) 323-7789

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