



ADF Engineering

PROBLEM SOLVED

Digitized Assets

What are Digitized Assets?

Asset digitization involves laser scanning your facility to document its as-built conditions, then turning the scanned data points into a 3D model and piping diagrams. These models are used to create accurate documentation of utilities, equipment, measurements, and more, all while helping avoid errors that may be caused from lack of documentation or using old drawings and hand measurements.

Practical Facility Applications

- Used by maintenance for faster access, planning, troubleshooting, and training new operators.
- Digitized information about equipment and piping components, such as valves, instruments, and other materials, is critical for maintenance work, tracking assets, and maintaining inventories.

Benefits of Digitization

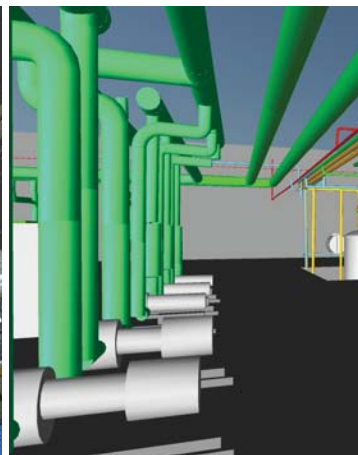
- Allows for quick and easy creation of facility documentation.
- Digitized assets can be used for visualization and collaboration for projects involving replacements, upgrades, or additions to existing piping networks.
- Engineering teams can access the 3D models remotely to gather more data without having to leave their office or conduct a costly site visit to gather data.
- Models can be used to collect information about distances and clearances from existing buildings, steel, power lines and other permanent entities in the vicinity to assist designers and contractors on improvement projects.
- Documents like flow diagrams and piping and instrumentation diagrams (P&ID's) can be created, accessed, shared, and modified throughout your facility's lifecycle.
- "Smart" P&ID's with a database are available to further assist with management of change process.



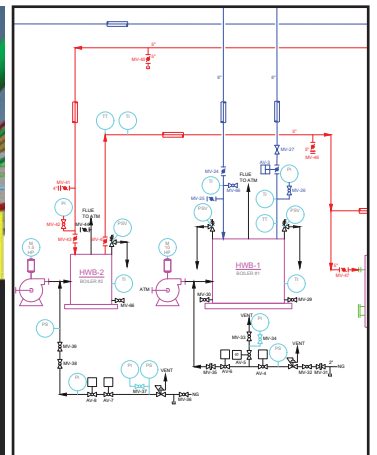
Original Site Conditions



Scan Data Point Cloud



3D Model



P&ID

Above is an example of how asset digitization works and the documentation it produces.



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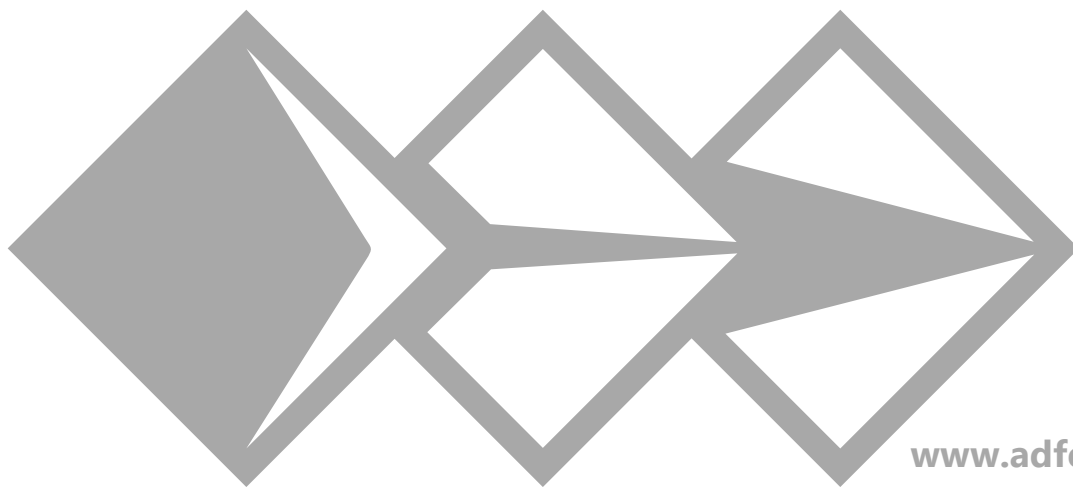
Additional Services

Process Engineering

- Process Flow Development Using “Smart” Flow Diagrams
- Mass and Energy Balances
- Process Scale-Up
- Process Modeling and Simulation
- Process Optimization and Debottlenecking
- “Intelligent” P&IDs
- Equipment Sizing and Specification
- Process Alternative Evaluations
- Process Control and Instrumentation
- Piping Design with 3D Piping Models
- Ventilation, Temperature, and Humidity Control
- Material Handling and Conveying
- CIP Capacity and System Design
- Start-Up Services
- Process Validation

Facility Engineering

- Master Planning and Feasibility Studies
- Utilities Design for:
 - Steam
 - Compressed Air
 - Process and Utility Water
 - Waste Water Treatment
 - Electrical Power
 - Emissions Control
- Equipment Layouts and 3D Modeling
- Structural Engineering:
 - Foundations and Equipment Supports
 - Buildings, Pipe Racks, and Towers
- Storage Bins, Tanks, Pressure Vessels Design
- HVAC and Environment Control
- Electrical, Instrumentation, Automation, and Controls
- 3D Laser Scanning and Modeling
- Experienced in OSHA, NFPA, FDA, IBC, and Food Safety Compliance



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