

Pipe Router, ASDs flagship product provides automatic cost-driven 3-D pipe routing for both FEED (Front End Engineering and Design) and EPC project phases. This expert system enables engineers to cost optimize their designs, and dramatically reduce the man-hours on a project. Rack design, equipment layout and MTOs can be fixed earlier providing a significant schedule reduction over the whole EPC phase of a project. This version has been developed to run within the Aveva PDMS product.

Feed Phase

Pipe Router can be used in the conceptual design mode, when equipment drawings and nozzle locations are not available. In this mode, Pipe Router would provide rule based nozzle placement and optimal nozzle orientation based on the equipment arrangement, providing MTO accuracy within 5%. In this phase, the Pipe Router allows users to evaluate more arrangements, and ultimately choose an optimal layout.

EPC Phase

The design progresses seamlessly to preliminary design, updating equipment and line data, as it becomes available. The program will automatically re-route piping. Finally, the completed routes are already within PDMS to kick-start your detailed design.

Functionalities and Features

- ✓ Calculates shortest path based on engineering constraints
- ✓ Reduces number of elbows
- ✓ Ensures supportability routes
- ✓ Batch Routing with ability to freeze routes
- ✓ 3D Interference free routing

Engineering Considerations

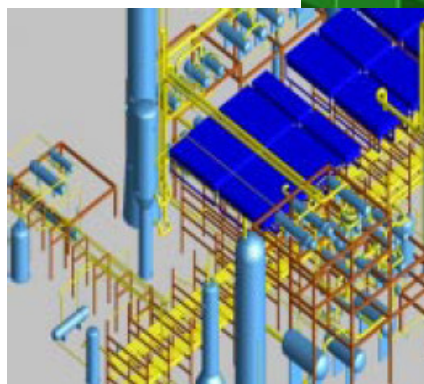
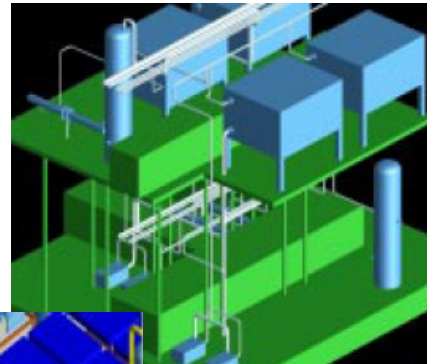
- ✓ Pipe stress check
- ✓ Supportability considerations
- ✓ Sloped piping

Deliverables

- ✓ 3-D pipe routes transferable to PDMS
- ✓ Accurate MTO

PDMS Interface

- ✓ Can translate piping components like elbows, tees, fittings, reducers and valves.
- ✓ Read in PDMS equipment Model and Piping Model



Process Application - this screenshot shows Pipe Router uses in the offshore platforms.

Conceptual

- Rule based nozzle location
- Primitives equipment shapes
- Batch and Online Routing
- Accurate MTO

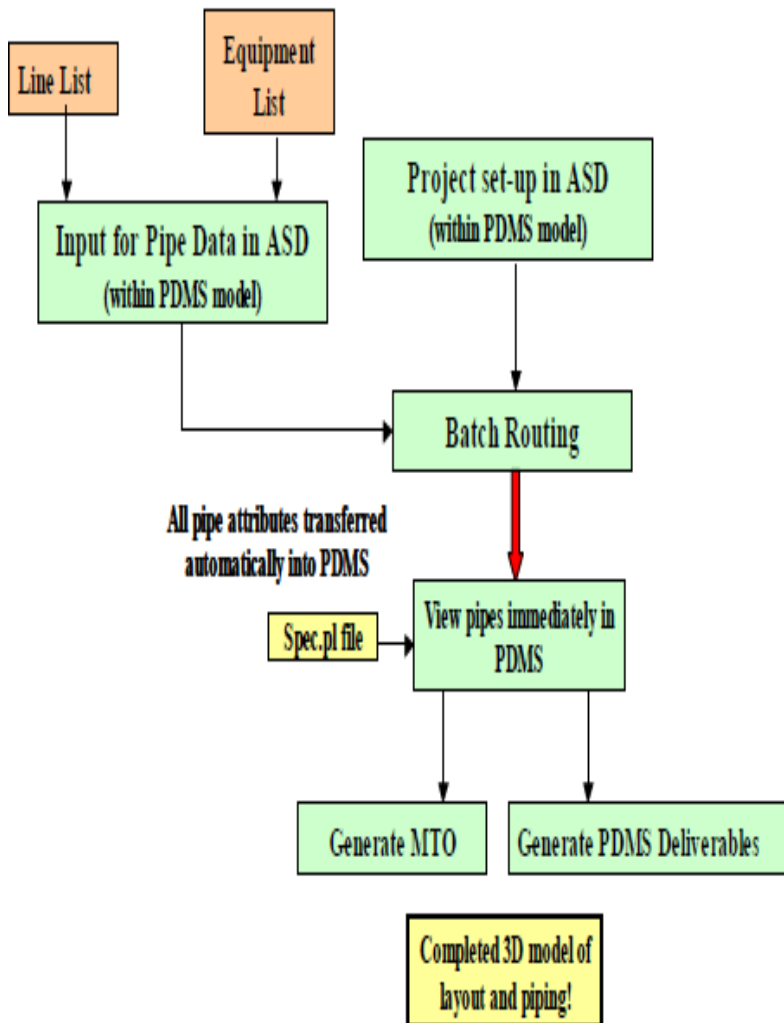
Preliminary

- Batch and online routing
- Refine routing since the nozzle locations are known
- Accurate MTO

Detailed

- Routes with piping components inserted into PDMS allowing the fast track start to detail design.

Work Process



Advanced Features:

- ✓ Inline components
- ✓ Vertical Pipe chases
- ✓ Seamless Integration with PDMS
- ✓ Freeze routes and connect them
- ✓ Forced rack applications

A Reputation for Delivering Solutions

ASD software solutions have been used in production with major customers for many years. With an ASD solution you are buying into an established company which is committed to developing and implementing strategic solutions to meet your engineering challenges.

Conclusion

ASD Pipe Router optimizes 3D pipe routings through knowledge-based design rules, cost reduction of pipe lengths and elbows, while maintaining engineering and process requirements. This tool automates the current work-process thereby reducing man-hours and provides greater quality in design.

ASD Pipe Router has been used in production on proposals and conceptual design of projects, globally. Clients have renewed and expanded their usage of these solutions as part of the successful projects. We invite you to see these case studies and see how these products can help you save on your next project.