

CASE STUDY: Hawk Engineering Group Transforms Industrial Facility Design Through Intelligent Engineering Workflows



Hawk Engineering Group is a leading Engineering, Procurement, and Construction (EPC) firm headquartered in Greenville, Texas. The company specializes in the design and construction of heavy industrial and manufacturing facilities, serving industries including oil & gas, petrochemical, mining, food & beverage, and power generation.

By bridging the gap between complex engineering concepts and operational facility execution, Hawk Engineering delivers large-scale projects that demand accuracy, efficiency, and seamless collaboration across multiple engineering disciplines.



International TechneGroup, Inc. (ITI) is a global leader in CAD data interoperability and digital engineering solutions. For more than 30 years, we've been helping the world's most innovative companies transform how they use, manage, and consolidate their engineering data.

ITI specializes in conversion, integration, validation and migration solutions for product data and related systems. Our customers recognize the value of having a trusted solution partner that provides more than just software. ITI solves complex product data interoperability problems so that the world's leading manufacturers can focus on making great products. In 2019, ITI became a wholly owned subsidiary of Wipro Limited and now operates within the Wipro Engineering business that provides customers with a platform to innovate and engineer the next generation of products and platforms at scale.

Business Outcome

Facing increasingly complex industrial projects, Hawk Engineering needed a scalable approach for integrating large vendor-supplied CAD models into

CADfix PPS

plant designs. By redesigning its model preparation workflow with ITI and CADfix PPS, Hawk improved engineering productivity, accelerated project delivery, eliminated system instability, and established a stronger foundation for future digital engineering initiatives.

Challenges

As industrial facilities become increasingly complex, engineering organizations must process larger volumes of supplier CAD data while maintaining aggressive project schedules. Traditional model preparation workflows create bottlenecks that impact engineering efficiency, delayed collaboration, and increased project risk.

Hawk Engineering's project teams routinely work with large vendor-supplied equipment models that must be incorporated into comprehensive plant layouts. As projects increased in complexity, engineers encountered several recurring issues:

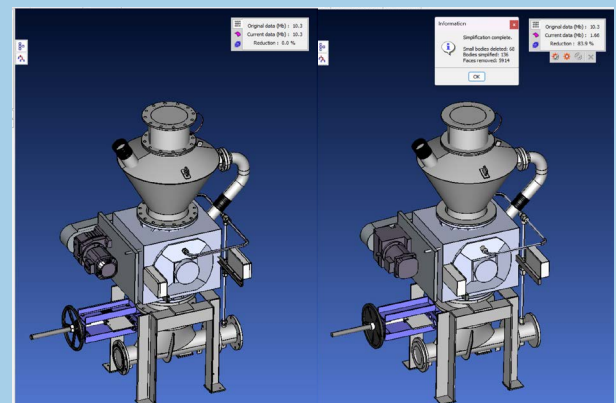
- Excessively large CAD file sizes
- Slow model loading and rendering performance
- CAD application instability and system crashes
- Time-consuming manual model cleanup and defeaturing
- Delays integrating vendor equipment into facility designs

Left unresolved, these challenges threatened engineering throughput, increased project delivery risk, and limited Hawk Engineering's ability to efficiently scale increasingly complex customer projects.

Workflow Transformation

To address these challenges, Hawk Engineering evaluated multiple approaches before implementing a standardized workflow for preparing and optimizing vendor-supplied engineering models.

Working with ITI, CADfix PPS became an integrated part of daily engineering operations, automating model simplification and enabling consistent data quality across projects.



before

after

83.9% REDUCTION

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Using CADfix PPS, Hawk Engineering is able to:

- Reduce engineering preparation effort while preserving design intent
- Improve model usability across multidisciplinary teams
- Increase engineering data quality and reduce downstream issues
- Improve application performance and engineer productivity
- Accelerate facility design cycles and project delivery

By automating what was previously a labor-intensive process, CADfix PPS allows engineering teams to focus on design execution rather than model preparation.

Operational Impact

The impact of CADfix PPS has been significant across Hawk Engineering's project portfolio.

85% reduction in model size → Faster collaboration and easier model sharing

5 hours saved per model → More engineering capacity available for design work

10x faster performance → Faster design reviews and decision making

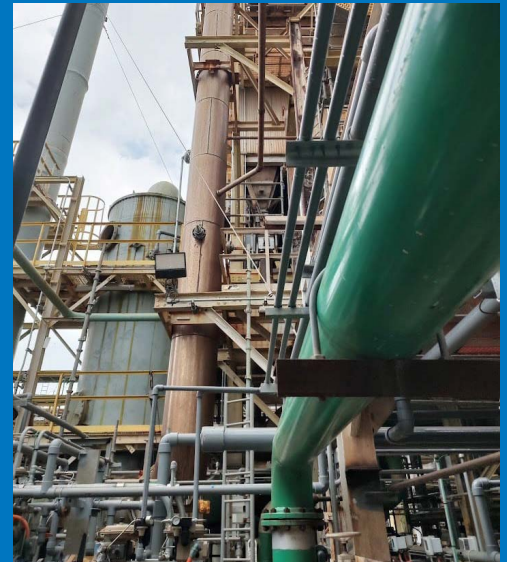
CAD crashes eliminate → Reduced project risk and improved engineering reliability

Through model simplification and optimization, Hawk Engineering has dramatically improved the efficiency of facility design projects while preserving the accuracy required for successful construction and operation.

Conclusion

For EPC organizations managing complex industrial facilities, the ability to efficiently process and integrate large vendor-supplied CAD models is critical to project success.

Hawk Engineering's transformation demonstrates how optimizing engineering data workflows can deliver measurable business value beyond technical performance improvements. Through its partnership with ITI, the company improved engineering efficiency, reduced project risk, accelerated facility delivery, and established a scalable platform for continued digital engineering innovation.



"I would rate this a 10 out of 10. It is a highly effective tool for optimizing project file sizes, as relying directly on CAD files typically results in excessively large and unmanageable project data."

- Nathan Nguyen, Principal Engineer, Hawk Engineering Group