

CADfix PPS Streamlines Large Equipment Model Simplification at HATCH

HATCH

HATCH is an industry-leading engineering, procurement, and construction management firm with over six decades of business and technical experience in the energy, mining and infrastructure sectors. With over 9,000 employees and a presence in over 150 countries, HATCH's mission is to affect a positive change for their clients, their employees and the communities they serve.

CADfix PPS

The CADfix PPS Plant and Process Simplification solution simplifies large complex CAD assemblies, reduces file size, and enables the seamless integration of equipment models into the plant layout, ultimately saving time and cost and helping companies get to commissioning faster.

About ITI

ITI is the global leader providing reliable interoperability, validation, and migration solutions for product data and related systems. Our customers recognize the value in 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. You need to keep your engineering initiatives moving forward.

Challenge

A survey of HATCH engineers indicated an average of 15 vendor files per project that required simplification. Including 4 revisions per file and an average model size of 125MB, this required up to 50 hours to simplify each file. This results in significant non-value-add labor cost for every project that impacts estimating timelines.

Need for Model Simplification

Plant and process designers need to integrate hundreds of large equipment models into the overall plant layout. These models are usually complex assemblies from multiple design systems and can be hundreds of megabytes or gigabytes in size. The senders of these models often want sensitive design information suppressed to protect their IP. The ability to remove unwanted parts and features and convert complex geometry into simpler representations can significantly reduce complexity and file size and enable seamless integration into the overall plant layout.

Solution

CADfix PPS quickly removes unwanted detail from large complex CAD models resulting in major file size reduction. The simplification can be an automated batch process or with user interaction. Typical CADfix simplification operations include:

- Removal of small parts based on size, shape, or similarity to selected items
- Removal of internal non-visible parts
- Simplification of complex parts to primitive boxes or cylinders
- Removal of holes, protrusions, and internal cavities
- Removal of design features such as fillets, rounds and, chamfers



"CADfix PPS is currently the best software for exchanging files back and forth with the vendors. It saves a lot of time reducing files. The simplification process runs in the background while designers can work on other more important things. And then once complete, it takes less than an hour to import the now usable file, adjust in the layout and review the tie point location."
- Mechanical Lead, HATCH.

Results

Over a sampling of 29 equipment models, ranging from 40Mb to 756Mb, CADfix PPS achieved an average file size reduction of 89%. HATCH estimates that CADfix PPS results in hundreds of hours of labor savings depending on the model's complexity. Based on current usage and labor savings, CADfix PPS will pay for itself within a year.

"The models we received from vendors were too heavy, and detailed and they were impossible to work with. We were spending too much time trying to decide what to do with the models. Overall, layout models just crashed once opened, and that was due to those pieces of equipment. The CAD models processed through CADfix look fantastic and give us the simplified files we need." - Piping Designer, HATCH.

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