COMPANY
CLAIR Engineers Pvt. Ltd.
LOCATION
Hyderabad, India
SOFTWARE
AUTODESK® INVENTOR®

CLAIR Engineers Pvt. Ltd. is a Hyderabad; India based company with core business in Air Pollution Control equipment.

"We are committed to provide high value-added products based on design, quality and the pursuit of excellence."

—**Srikanth Koneru**
Director
CLAIR Engineers Pvt. Ltd.

"We found Autodesk Inventor to be much more reliable and accurate in helping us manage parts, dimensions and item features for every product. In addition to the software's intuitive operability and easy-to-find commands, our design team has found that it has robust functionality across sheet metal operations that helped in designing industrial fans efficiently compared to our prior design and engineering approach."

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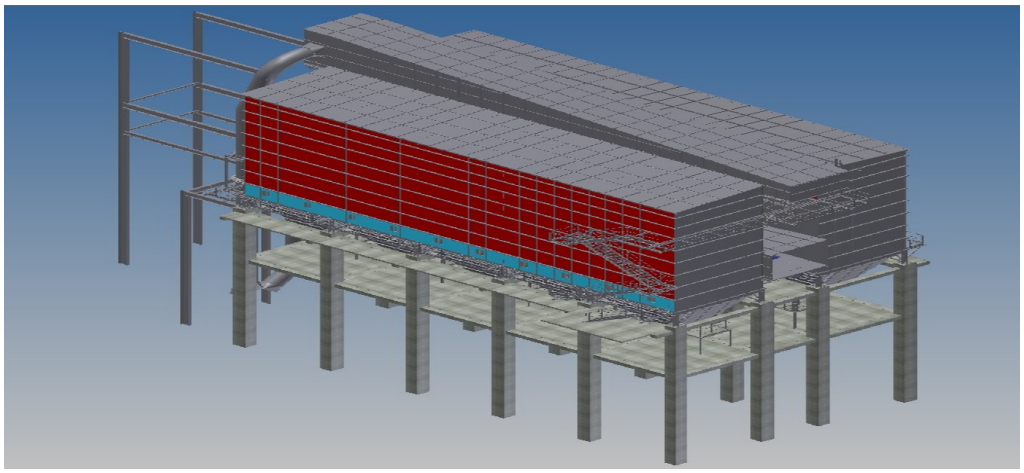

Image courtesy: CLAIR Engineers Pvt. Ltd.

CLAIR was established in 1992, the company employs fifty people, and is planning to expand to meet the growing international demand for its products. CLAIR products are sold in India and exported to Europe, US, Canada and Africa. It is expected that, in 2015, exports will account for nearly 50 percent of the company's total revenue. CLAIR has technical collaboration agreement with ARGUS FANS Inc., Canada, for all ranges of Industrial Fans and has its modern manufacturing facilities in Hyderabad. CLAIR-ARGUS high efficiency fans are designed and manufactured for easy installation, maintainability & long life.

"We are committed to provide high value-added products based on design, quality and the pursuit of excellence." says Srikanth Koneru, Director CLAIR

Key factors in the company's success includes its vibrant and creative staff, extensive industry experience, a willingness to continuously adapt to consumer demands and a strong focus on research and development.

Challenges:

Until a few years ago, CLAIR used 2D CAD system for the product design. As the company develops customized product based on the customer requirements, the challenges faced continued to grow making it apparent to manage complicated designs using 2D CAD.

While it is possible to handle a small quantity of orders using 2D software to draft product drawings, the downside of using 2D software becomes increasingly apparent as the workload grows, this methodology created many information islands. When process designers made changes, they could not use their experience efficiently or accurately, but had to enter data repeatedly. This not only significantly reduced productivity, but also led to errors. In an industry where the fast time-to-market is vital, low productivity was a serious concern, prompting the company to search for a solution that would reduce the delivery cycle.

The use of 2D CAD technology was also increasingly causing coordination problems with various departments. A lack of features in 2D tools resulted in unnecessary, time-consuming additional work, for example, found it difficult to visualize the interactions between components within subassemblies, or between components and associated maintenance tools. It was difficult to detect interferences or misalignments, and this created the potential for rework after physical parts were made.

While developing centrifugal fans CLAIR faced many challenges since all of its industrial fans are custom-made, contains complex shapes with numerous combinations for impellers, fan arrangement, drives, outer casings, etc.

Using Autodesk Inventor, CLAIR's team can customize machines quickly and easily by changing dimensions, and then check the impact of any design changes on the final layout in real time.

The limitations of 2D tools make it inadequate difficult to design industrial fans and blowers, especially with respect to overall product visualization, handling large assemblies and manufacturing assembly sequences.

Key Benefits:

After careful assessment, CLAIR adapted Autodesk Inventor for the designing of all new products. With Inventor, users were also able to import the company's legacy CAD drawings for future references. Inventor also enables CLIAR to readily validate products across various operational aspects, including manufacturing feasibility, ease of assembly, etc. A comprehensive 2D/3D CAD system, Autodesk Inventor makes it easy to perform assembly-level editing and optimizing designs. It significantly reduced the time required to complete product designs, with automatic drawing creation and BOM generation.

Solution:

The 3D capabilities of Autodesk Inventor are perfectly attuned to CLAIR's strategic vision. Autodesk Inventor showed clear benefits while designing industrial fans compared to previously used CAD systems, especially in the management of large assemblies, better visualization, creating complex shapes, component re-use, designing complex outer casings, etc.

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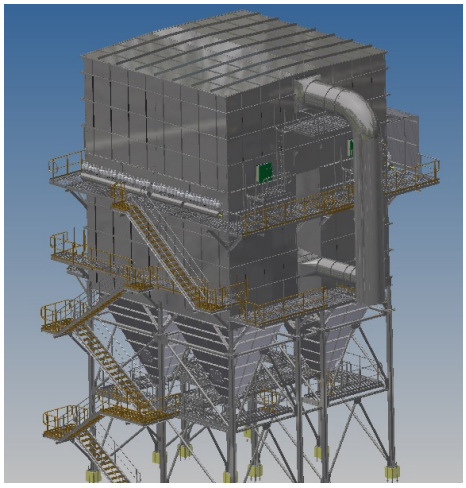
Results:

Using Autodesk Inventor, CLAIR's team can customize machines quickly and easily by changing dimensions, and then check the impact of any design changes on the final layout in real time. Component and part re-use has increased as a result of the modularization and standardization of all units designed using Autodesk Inventor, cutting product development time by approximately 25 percent.

"Autodesk Inventor helps us to have effective collaboration with our partner ARGUS FANS Inc., Canada for developing innovative industrial fans. We can tangibly visualize all developments, contexts of use, functionalities and technology that enable us to fulfill requirements of our customer. This helps us keep our position in the market." concludes Srikanth Koneru



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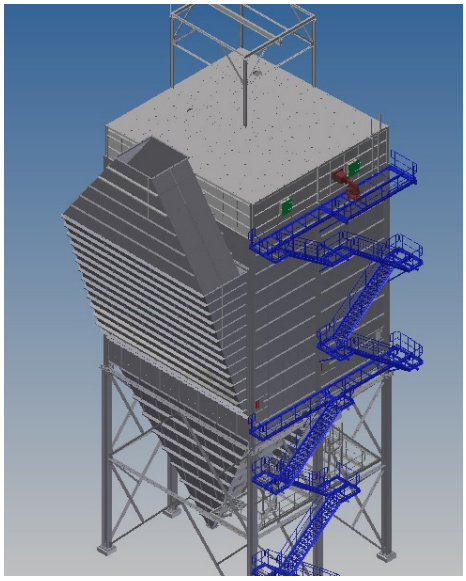

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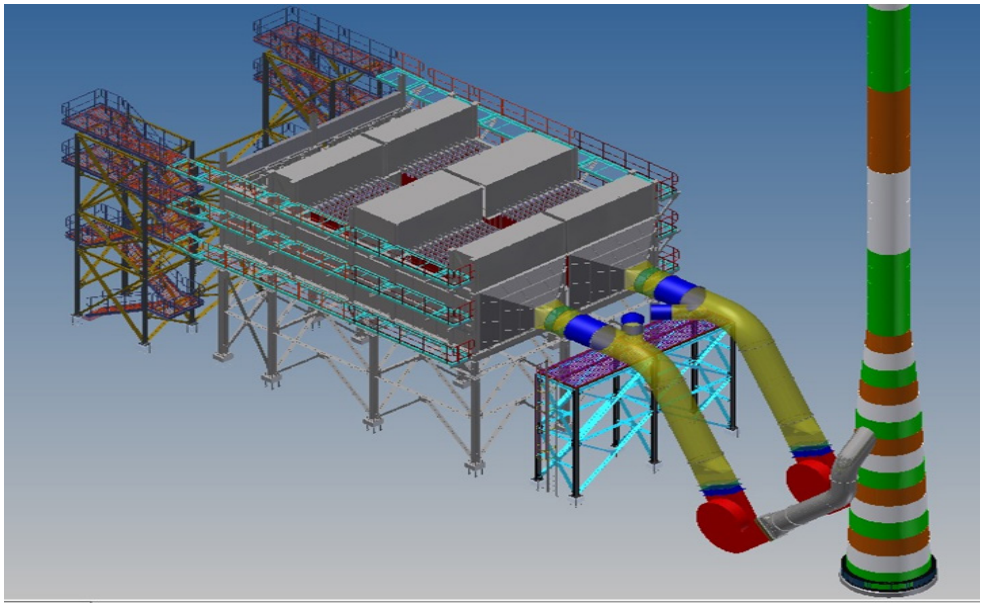

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