



CASE HISTORY

MITRAS COMPOSITES GETS ELECTRIC RESULTS SHAVING TIME AND COSTS FROM CUSTOMER PROJECTS WITH ACTIFY

Actify's Design Visualization Speeds Completion for Maker of Components

Mitras Composites and its sister businesses, Moorland Compounds and Moorland Coatings & Finishing comprise the group of companies under the Moorland Composites Ltd parent. These companies lead the market in design, raw materials, manufacturing, and painting and finishing of composite components. Mitras Composites supplies gas and electric meter boxes, doors and compression moulding to the automotive and component industries, while Moorland Compounds manufactures dough moulding compound for the group. Moorland Coatings and Finishing focuses on the preparation and painting of composites components in a wide range of textures, colours and finishes.

Mitras works closely with its clients to meet industry specifications and devise production-scale solutions, whether they are crash structures, body panels, bumpers, lighting covers, telephones or food trays.

Specialized Components Require Design Access In Collaboration With Customers

With expanding factory facilities that can be tailored to the needs of its customers, Mitras partners with a wide range of manufacturers of low volume cars, agricultural vehicles and engines. Mitras typically begins its involvement in a project

at the design stage, and can help the customer to utilise the company's expertise to speed time to production, optimise the performance of the product, and reduce piece-part costs.

For example, Mitras Composites has worked in close partnership with an engine manufacturer, to produce sumps, and engine covers. Mitras jointly developed the designs to meet the technical demands of the engine while maintaining cost-effective standards. The engine cover components are moulded from a high glass-content SMC. The mouldings are assembled with various fittings and are supplied ready to bolt onto the engine on the assembly line.

Mitras Composites also manufactures and supplies the majority of the UK's requirements of Gas and Electric meter boxes, and the gas and electricity industry is the core of its business. In addition to its UK-based customers, Mitras exports cabinets to larger overseas users of these products. Major customers include Transco and Jewson.

Early Design Review With Actify Spinfire Cuts Production Time In Half

While most of its clients are large-volume producers, the company also serves a significant number of customers requiring small production runs, such as resin transfer moulding. This method uses cheaper tooling and is cost-effective when production runs are 500-1000 units per

annum. For larger runs Mitras uses hot press compression moulding. This is the ideal solution for 1000+ piece-parts. Each of its clients requires Mitras to meet stringent requirements for quality, speed, and cost control.

When one of its major power customers came to Mitras last year, it wanted a completely new design of meter box, while cutting the design time in half. To support this ambitious goal, Mitras began working with their CAD files at a very early stage, working with the designs which were developed in CATIA V4 and V5.

Speed And Accuracy In The Costing Process Is Critical

Varinder Virdee, technical engineer for Mitras Composites explains, "One of the critical points in this project came very early on when we needed to do the costing. We had previously used a different package, SolidView Pro, as our viewer, but the software had not yet been updated to meet our needs. We considered adding a seat of CATIA, but determined that we would need to spend £20,000 to do so."

"Our reseller, Martyn Davies of Datranet recommended we look at SpinFire Pro. One of our critical issues was supporting a wide variety of CAD packages. A critical issue for us is to work closely with our toolmakers. This presents a substantial challenge because nine times out of ten the toolmakers we work with are using multiple CAD systems and they have to be able to see our drawings," Virdee explains.

"In costing, there is no substitute for speed and accuracy. At the costing stage, time is critical, and a fast

response at the outset can mean the difference between lagging and getting a jump-start on the entire project. Seeing the actual design, rather than a version that has gone through interchange formats can make a major difference," Virdee commented.

With SpinFire Pro, the software and the designs were so easily portable that Mitras could easily share viewable images regardless of where they originated. In the past Mitras had turned to interchange formats, but it was a very tedious process and they would often lose some of the data as well as cost them critical time.

Viewing Design Sections With Actify Spinfire Helps Identify Design Flaws And Reduces Design Costs

Actify SpinFire changed all that by enabling them to have complete access to the original designs. SpinFire enabled Mitras to look at individual sections of the design in order to get a clearer view.

"When we looked at the original designs in SpinFire Pro, we could take sections off and print to scale very quickly. That allowed us to identify potential design flaws that would impact production immediately. For example, in this product we had to modify the design due to an undercut condition where the parts came together. The CAD engineers hadn't noticed that, but with SpinFire we were able to catch it in an instant and came out as heroes," Virdee said.

"The costing was much more accurate as a result of seeing the actual design as well. We shaved thousands of pounds in costs off the



job by identifying a very small way to save on the raw materials we were using. Even a savings of 20 pence per unit off the production cost is very substantial given the large production runs we often have," Virdee said.

Mitras is now using SpinFire Pro as a standard tool to look at designs that it receives as part of the bidding and costing process. Both its clients and its toolmaking partners have given high marks to its viewing and markup capabilities.

As Varinder Virdee says, "SpinFire is a fantastic product and it has made a difference, especially in our costings."



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