



SANDHAR
Case Study

Photo courtesy of Sandhar

Challenge

Sandhar, one of the largest Tier 1 automotive suppliers in India, wanted to grow its global business, boost its innovation processes and ensure high customer satisfaction while lowering procurement and manufacturing costs.

Solution

The company adopted Dassault Systèmes' **3DEXPERIENCE** platform to centralize data for real-time data search, knowledge reuse, and to digitally manage their advanced product quality planning processes.

Benefits

Sandhar's design and engineering teams now collaborate more effectively. The platform also allows the company to respond faster to request for proposals and handle change management quickly and efficiently.

GROWTH THROUGH DIVERSIFICATION

As cars make the transition from a mechanical to a digital, connected mobility system, manufacturers find themselves looking beyond hardware and becoming software companies too. For many, this means fundamentally changing what products they make, and how they build them. But Indian automotive components manufacturer Sandhar is used to change. Since it was founded 32 years ago, the company has remained committed to diversifying its product portfolio, reacting quickly to customer needs and investing in the latest technologies to support its business operations.

"We have always embraced technology in whatever we do," said Arvind Joshi, former whole time director, CFO and company secretary at Sandhar. "We were one of the first companies to adopt smart manufacturing 4.0. We use technology across our shop floor and now want to move it up to board level."

Today, the company is focused on making progress in emerging automotive electronics, including parking assist sensors, auto parking and cameras, driver monitoring systems and smart locking, and it is using technology to drive these product innovations.

"Over the years, we have gained vast experience with sheet metal plastic injection molding, zinc die casting, aluminum die casting and magnesium die casting, and we have now moved into auto electronics," Joshi said. "We believe that diversification in terms of technology, geography, product, business processes and every other aspect of our operation is critical to creating a sustainable business."

A TECHNOLOGY-FIRST APPROACH

Leading automotive OEMs choose Sandhar because it has the capabilities to deliver a whole range of products to suit their exacting needs. "Sandhar differentiates itself from other players in the market because we offer our customers a full 'bouquet' of products," Joshi said.

But Sandhar's market differentiation goes far beyond its broad product portfolio. It has also transitioned from print to manufacture—where the OEMs designed the product and Sandhar made it—to design innovator.

Today, the company collaborates closely with its customers to handle all elements of product development to conceptualize, design, develop and manufacture the precise components they need. It also competes in the global arena to offer the best possible solutions for the best possible price. However, to do that, Sandhar recognized that it needed help to make certain processes more efficient.

"We're always under pressure to control our costs and we needed a platform that could handle our processes in an automated way and map them out to ensure consistency from request for quotations (RFQs) and product design and development, to advanced product quality planning (APQP)," said Sanjay Mairidatta, assistant vice president IT at Sandhar.

After assessing the leading solutions on the market, Sandhar found the answer in Dassault Systèmes' **3DEXPERIENCE**® platform, determining it the best fit for its business processes and future needs.

"The **3DEXPERIENCE** platform is part of our complete thought-process of using technology to our best advantage," said Dillip Naik, vice president of Sandhar's R&D Center.

Today, the platform allows the company to become more agile and deliver the best possible customer experience. "We don't worry about how much time it would take for us to develop a product for our customers," he said. "We simply tell them to give us an opportunity and we will deliver. The platform has shortened our product development lifecycle and helps us to continuously focus on our customers' needs."

DATA INTEGRITY DRIVES EFFECTIVE COLLABORATION

As an organization at the cutting edge of its industry, Sandhar needed a reliable, secure technology platform that would protect its intellectual property and confidential customer data.

"The platform has given us three-layered security, protecting not only customer data from the outside, but internal data through access control," Mairidatta said.

However, while data security was one of the key drivers for implementing the **3DEXPERIENCE** platform, Sandhar quickly realized the solution offered far greater potential to its business.

"One thing is collaborative design across our engineering units," Dilip Naik said. "Suppose one 3D model is here and a different unit in Bangalore needs that data. We now share each other's data and carry out combined engineering for each product rather than duplicate our engineering processes. If a team needs help from the R&D Center, we can assess their data and guide them."

Using the **3DEXPERIENCE** platform, Sandhar has succeeded in shortening its product development cycle from roughly one to two years, to just 90 days. In some cases, it can turn a product around in less than 30 days.



"The **3DEXPERIENCE** platform is part of our complete thought-process of using technology to our best advantage. It has done a great job for us in helping to protect our intellectual property rights, shorten our product development lifecycle and focus on delivering the best possible customer experience."

— Dillip Naik, Vice President R&D Center, Sandhar

RIGHT FIRST TIME

Sandhar manufactures components that are required to operate reliably time and time again. For example, its automotive locking system may appear to be a simple thing, but it has to work with the same precision as a wristwatch and operate without failure across multiple elements at the same time.

"There are so many components which go into locking systems," Joshi said. "Some of these products are assembly based, some of them are actual manufacturing. What is a key differentiator is how well you integrate them and make it all fool proof. With a locking system, you turn on the ignition and the number of times it works well is something you take for granted. We are so used to these efficiencies that we don't recognize the complications."

For Sandhar, the **3DEXPERIENCE** platform helps in terms of getting the design right the first time and being able to clearly see how the product is progressing through the manufacturing phase.

With ENOVIA® on the **3DEXPERIENCE** platform, Sandhar can manage projects efficiently and effectively. “We create, review and monitor each project, and keep a record of all progress,” Joshi said. “If there is any change management, a proper record is kept for that. We have certain deadlines that we are now able to monitor effectively in real time. If there is any delay, we can see it immediately and the program manager can take early action to avoid it. Information flows automatically through the platform and everybody is connected in real time.”

Today, business efficiencies are up, customer satisfaction is high and warranty claims are at an all-time low.

“Our quality defects have come down drastically,” Joshi said. “We are one of the few companies where warranty claims do not exceed more than 0.1% of our revenue, and that’s across all 40 of our manufacturing locations.”

DATA REUSE ACCELERATES PRODUCT DEVELOPMENT

Real-time data search and effective data reuse across Sandhar’s engineering units is speeding up product development and reducing unnecessary part duplication too.

In its main assembly, Sandhar uses a vast range of small parts including springs, screws and nuts. Many are similar and designers ended up inadvertently creating more parts without seeing if they already existed. “Whenever there was a new requirement, an engineer would create a fresh part design without knowing that a very similar part was already being used in a different unit,” Naik said. By centralizing its data on the **3DEXPERIENCE** platform, Sandhar has identified more than one thousand duplicate parts and consolidated them down to a few hundred.

Sandhar can now shift its focus to process optimization and move quickly to meet its customers’ needs. “With the platform, we are able to submit the samples and develop the products on time because complete visibility is there,” Maindiratta said. “Everybody involved in a project can see what is happening. When you work in a collaborative way, you become more efficient and you can pass on the benefits to the customer.”

CONFIDENCE TO GROW

The **3DEXPERIENCE** platform is ideally suited from a technical and functional standpoint to map to Sandhar’s design and APQP processes, explained Maindiratta. This is critical for ensuring the company works to its clients’ exact specifications and delivers products that meet their requirements, resulting in a high-quality end product. With digitally validated operations, the company can collaborate effectively and consistently with OEMs while increasing production, reducing costs and guaranteeing high product quality.

“Previously, it was a huge challenge for us to design a product as per customer demand and meet our design to cost ratio,” said Amit Kalra, senior general manager with responsibility for Sandhar’s design and product development. “Now, using the platform, it is easier for us to reuse part designs, create similar products and simplify manufacturing.”

As the company continues to grow its business, it is responding faster to customer needs and completing more RFQs than ever before.

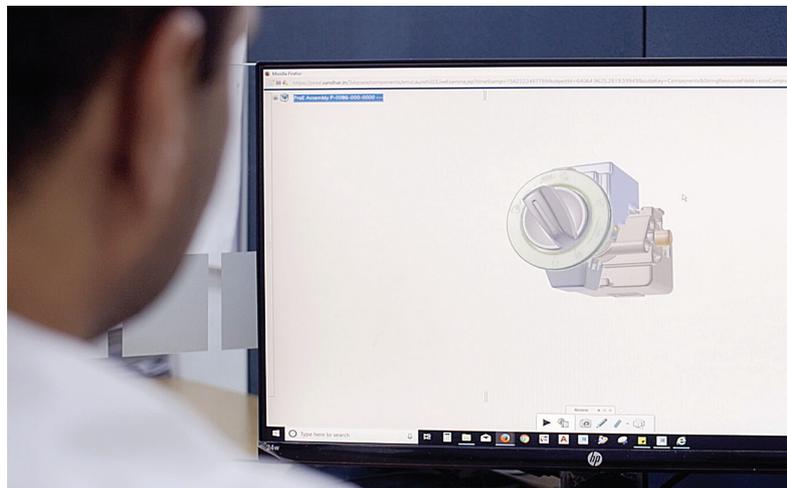
“Before, it took us around 2–10 weeks to complete an RFQ, now that’s been reduced to 10 days maximum and we’re thinking we can get it down to a week,” Kalra said.

Even as Sandhar speeds up its processes and continues to expand its operation, the **3DEXPERIENCE** platform allows engineers to work productively. With ENOVIA’s Program and Project Management capabilities, Sandhar can manage project timelines and make decisions based on real-time metrics.



“Now, we have a proper APQP process. Through that our timelines are being managed properly and we are working 10–15% more efficiently than before.”

– Yatendra Singh Chauhan,
Chief Operating Officer, Sandhar



Top image: Locking system.

Bottom image: 3D model of a locking system in the **3DEXPERIENCE** platform.

Focus on Sandhar

Founded in 1987, Sandhar is an Indian manufacturer of automotive components, serving OEMs around the world.

Products: Automotive locking and security systems, automotive vision systems, stampings, operators cabins and structural parts, zinc die casting, aluminum die casting, magnesium die casting, automotive optoelectronics, polymers, painting, plating and coating, commercial tooling, helmets, assemblies, fuel pumps, filters and wiper blades.

Revenue: 238 million EUR (2018)

Employees: 8,400+

Headquarters: Haryana, India

For more information
<https://sandhargroup.com/>

"After implementing the software, I would say our users take a more systematic approach," Yatendra Singh Chauhan, Sandhar's chief operating officer, said. "Before, there was a lot of ad-hoc decision-making and we had a more disorganized way of developing products and managing the lifecycle. Now, we have a proper APQP process and through that our timelines are being managed properly."

Chauhan has noticed a rise in productivity and efficiency since implementing the platform. "We are working 10–15% more efficiently than before," he said.

READY FOR CHANGE

As Sandhar looks to the future, it remains committed to using the latest technology to adapt quickly to the industry's needs. For example, as the Indian automotive industry readies itself for the move to BS6 emission norms in April 2020—an emission standard that will bring the market in line with the US and the EU—Sandhar is working fast to deliver the new components OEMs need.

"By April 2020, all Indian vehicles have to be BS6 compliant, so we are seeing huge demand for new products as old ones become obsolete, and we are working within very short timeframes," Chauhan said. "Over the past few months, our team has worked with the **3DEXPERIENCE** platform to share every development step with our customers. The platform has made it very easy to maintain our APQP and update our customers on a frequent basis."

The platform also facilitates Sandhar's ongoing global collaboration developments as, like other Tier1 suppliers in India, it is actively acquiring and partnering with companies as part of its growth plans and to increase its product portfolio. After such acquisitions, the collaboration between the entities becomes critical for integrating existing and developing new products. "We're now creating new components for electric vehicles and parts that are relevant for BS6-compliant vehicles," Joshi said. "It has opened up a huge amount of opportunity. We have entered into several joint ventures and collaborations with Korean and Taiwanese companies, as well as in Japan. The **3DEXPERIENCE** platform allows us to be nimble footed."

Building on its trusted relationship with Dassault Systèmes, Sandhar feels supported every step of the way as it expands its use of the platform and grows its business. "They feel like a true partner," Naik said. "We jointly implemented the solution and they guided us whenever we needed their help. It's more than a customer-supplier relationship. We consider them a part of our system."

Our **3DEXPERIENCE**® platform powers our brand applications, serving 11 industries, and provides a rich portfolio of industry solution experiences.

Dassault Systèmes, the **3DEXPERIENCE** Company, is a catalyst for human progress. We provide business and people with collaborative virtual environments to imagine sustainable innovations. By creating 'virtual experience twins' of the real world with our **3DEXPERIENCE** platform and applications, our customers push the boundaries of innovation, learning and production.

Dassault Systèmes' 20,000 employees are bringing value to more than 270,000 customers of all sizes, in all industries, in more than 140 countries. For more information, visit www.3ds.com.



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