

Automotive and transportation • Aerospace and defense

# Sansera Engineering

Global automotive and aerospace parts manufacturer uses Plant Simulation to optimize production efficiency

## Product

Tecnomatix

## Business challenges

Improve production efficiency of manufacturing lines and plants

Minimize investment on new production lines

Reduce costs and become more competitive for new customer acquisition

## Keys to success

Use the Plant Simulation solution in the Tecnomatix portfolio to model and simulate complex production scenarios

Take methodical approach in implementing simulation strategy

Have all stakeholders on board during the project's execution

## Results

Reduced manpower by 30 percent without any new investment

Achieved significant operating cost savings due to reducing labor hours

Improved effectiveness of planning and engineering team

## Siemens PLM Software solution enables Sansera Engineering to cut costs by reducing manpower by 30 percent

### Manufacturing world-class components

Sansera Engineering (Sansera) is a global engineering company that manufactures complex precision engineered components for automotive and aerospace original equipment manufacturers (OEMs). Sansera also builds its own computerized numerical control-special purpose machines (CNC-SPMS) and manufacturing lines, enabling its customers to benefit from the dual advantages of cost effectiveness and enhanced machining capabilities. Sansera's resources, together with its expert engineering team, possess the highest level of technical and professional competence to

produce complex products that meet their customers' quality standards. The company's portfolio encompasses components ranging from 15 grams to 12 kilograms and includes crucial products such as crank shaft assemblies, rocker arms, gear shifter forks, common rail and connecting rods.

Sansera has seven state-of-the-art manufacturing and machining plants in India that employ more than 5,000 employees and have year-over-year revenues of more than \$150 million. The company has been recognized and certified by various global bodies and has certifications such as International Organization for Standardization (ISO)/ Technical Specification (TS) 16949:2009 TUV Nord, ISO 14001:2004 Environmental Management Systems (EMS) and 18001:2007 Occupational Health and Safety



Sansera used Plant Simulation to successfully model and simulate complex production scenarios.

Assessment Series (OHSAS) TUV Nord. Sansera enjoys long-standing relationships with its customers, including automotive brands General Motors, Honda, Piaggio, Yamaha, Harley Davidson, Bosch, Nissan, Ducati, Bajaj, Hero Motors and Maruti Suzuki.

#### **Achieving optimum production efficiency**

Sansera supplies precision-engineered components, which are extremely complex and adhere to the highest standards of excellence, to leading international and domestic automotive and aerospace manufacturers and OEMs. High-precision engineering, forging, machining, assembly and supply requires the highest level of technical competence. Sansera has honed these skills by designing, developing and delivering products to some of the world's most demanding customers.

To enhance its production and manufacturing capabilities and remain relevant in the face of the continuous increase in product demand, Sansera wanted to optimize production efficiency across all of

its manufacturing lines and plants. The company also zeroed in on cost reduction and looked forward to acquiring new customers by being more competitive.

As part of an initiative to achieve these goals, Sansera used 2D layouts and a spreadsheet-based analysis method but was unhappy with the outcome for several reasons. First, the method did not consider enough details for accurate analysis and planning. For example, it did not accurately consider vital inputs such as time-related dynamics and interdependencies, and constraints of shared resources. Secondly, experimentation and analysis required intensive efforts and was time consuming, which limited the number of options for Sansera to consider. As a result of these inadequacies, Sansera's engineering team remained underutilized in terms of capability and effectiveness because team members were required to spend more time on repetitive calculation and evaluation tasks during every iteration than on engineering analysis and optimization.

*“The simulation tool has helped us to model a balanced production system, identify the bottlenecks and plan the manpower optimally. The first project was to optimize the manpower in a production line and our team were able to bring down the manpower by 30%.”*

Sujith S Nath  
Asst. Manager – Advanced Engineering

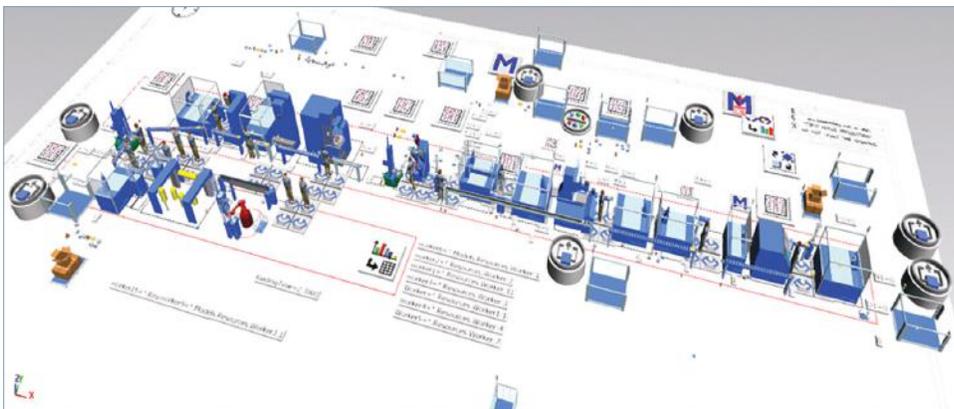
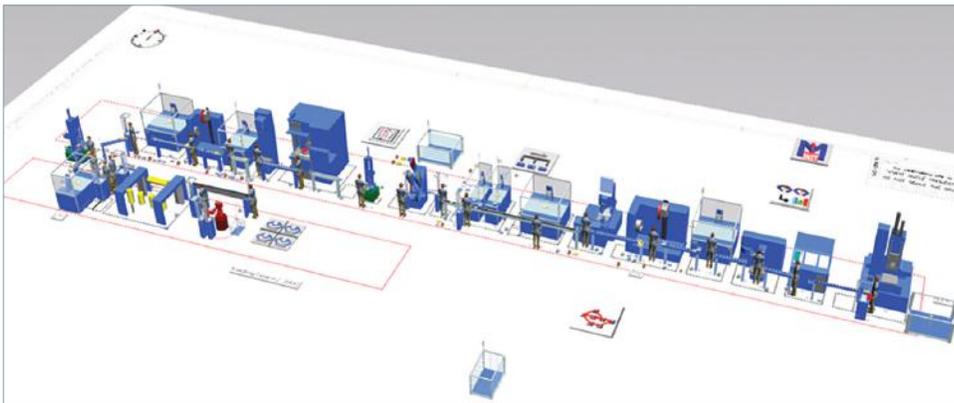
To streamline its production efficiency and optimize resource utilization to save costs and remain competitive, Sansera decided to use a production system simulation software to achieve these goals. Sansera drew up a set of criteria for the software, which included accurate modeling and simulation capabilities, ease of learning and use, strong technical support from the solution provider and integration capabilities within the broader solution. Sansera benchmarked multiple vendors' solutions before choosing the Plant Simulation solution in the Tecnomatix® portfolio from product lifecycle management (PLM) specialist Siemens PLM Software.

Sansera used Plant Simulation to successfully model and simulate complex production scenarios. Siemens provided timely support, helping Sansera adopt a systematic and orderly approach that enabled them to effectively implement and use Plant Simulation.

**Sansera reduces labor hours by 30 percent**

As a result of using Plant Simulation, Sansera achieved a 30 percent reduction in manpower hours in its first machining line project with no new investment. Sansera realized direct savings in operating costs as a result of the reduction in labor hours.

The fact the number of engineers who worked on simulation at Sansera increased from one to three within a year is testimony to the benefits reaped from Plant Simulation.



## Solutions/Services

Plant Simulation  
[www.siemens.com/tecnomatix](http://www.siemens.com/tecnomatix)

## Customer's primary business

Sansera Engineering is a global engineering company that manufactures precision engineered components for automotive and aerospace OEMs. Sansera also builds its own CNC-SPMS (computerized numerical control-special purpose machines) and manufacturing lines, enabling its customers to benefit from the dual advantages of cost effectiveness and enhanced machining capabilities  
[www.sanseraindia.com](http://www.sanseraindia.com)

## Customer location

Bengaluru  
India



After the first successful project, Sansera increased its use of Plant Simulation for analyzing and optimizing other existing machining lines as well as for validating new machining lines. The fact the number of engineers who worked on simulation at Sansera increased from one to three within a year is testimony to the benefits reaped from Plant Simulation.

Sansera is also interested in the energy analysis capabilities of Plant Simulation and has enlisted a pilot project for one of their existing machining lines. Once the pilot project is successful, Sansera wants to include energy analysis on a regular basis in their future simulation projects for new and existing machining lines.

*“Within a year we were able to achieve significant improvements in terms of cost savings on our existing lines as well as on the new ones prior to commissioning. Following this success we have decided to use the tool more effectively in the power utilization scenarios as well.”*

P. Mahadeva  
AGM and Head – Engineering

## Siemens PLM Software

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[www.siemens.com/plm](http://www.siemens.com/plm)

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