

# Designing of 3D Bend Hose – 3DExperience CATIA

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## Challenge

India-based Polyhose aims to become a preferred global player in supplying fluid conveyance systems to partners and growing in mobile and industrial fluid systems. They have specialized solutions for industries related to Life Sciences, Aerospace, and Defence for fluid conveyance systems, consolidating India's leadership position and accelerating global market growth.

Polyhose is a multinational, diversified industrial conglomerate focused on the design, development, manufacturing, and distribution of fluid conveyance products.

Polyhose designs fluid hoses for the global market. The design team at Polyhose uses AutoCAD for their design requirements. AutoCAD is mostly used for drafting software applications. Visualizing the 3D aspect of design using 2D design software is very difficult. It consumes a lot of time, and the probability of error is very high.

POLYHOSE, a leading manufacturer, faced several challenges during the design and drafting of their products using 2D design software. One of the main challenges was the limited capabilities of 2D software, which made it difficult to create complex designs and assemblies. This resulted in longer design times and increased errors during the manufacturing process.

## Solution

To overcome these challenges, POLYHOSE turned to the Dassault Systems' 3DEXPERIENCE platform and CATIA software. With CATIA's advanced 3D modeling and design capabilities, POLYHOSE was able to create more complex designs and assemblies with greater accuracy and efficiency. The Dassault Systems' 3DEXPERIENCE platform's collaborative features also allowed for better communication and collaboration between team members, reducing errors and improving the overall quality of the design.

The company started using Dassault Systemes 3DEXPERIENCE software solution with Mechanical Design, Surface Design, Weld Design, and Sheet Metal Design capabilities enabling their design team to perform design activities efficiently. Altem technologies provided the 3DEXPERIENCE solution to overcome many monotonous tasks associated with their design work. This software facilitates them to validate their design in a better way before mass production.

Overall, the 3DEXPERIENCE platform and CATIA software of Dassault Systems India Pvt Ltd provided POLYHOSE with a powerful set of tools for engineering teams working on complex projects. By using these tools, they were able to overcome the challenges they faced during the design and drafting process and produce high-quality designs that met the most demanding requirements.

As a partner of Dassault Systems India Pvt Ltd, Altem Technologies is providing technical support to Polyhose regularly with the help of the Dassault Bangalore team and helping them to run CATIA software smoothly and increase their productivity. Dassault Systems India has all the design and PLM solutions which the Polyhose team requires.

## Benefits

With the various CATIA commands being available, the design team has managed to save a significant amount of time to carry out the design work, enabling them to deliver their commitments on time without compromise. Polyhose has the benefit of saving time, increasing the efficiency of design engineers, and quick delivery of solutions by using the 3DEXPERIENCE software.



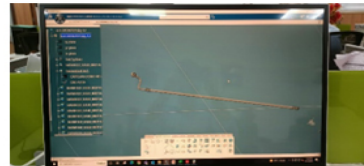
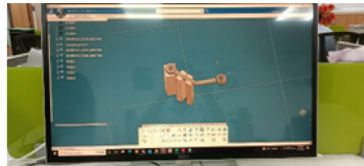
## Designing of Fixture using 3DEXPERIENCE Software

The fixture was designed to validate the 3D bends in the part. Before the introduction of Dassault Systems' 3DEXPERIENCE software, the Polyhose design team was developing the hoses with 3D bend-through drawings. Visualization & review of 3D bend through drawings is a very hard process. 3DEXPERIENCE solves the problem by providing an environment where design can be visualized.

## About Polyhose

POLYHOSE, now recognized as a world-class manufacturer of Thermoplastic, PTFE, Rubber Hydraulic, Industrial, Composite, Stainless Steel Flexible hoses, and Fluid Connectors has an annual capacity of 130 million meters. The Fluid conveyance products are manufactured using raw materials sourced from the most reliable leading global sources.

International and Domestic POLYHOSE brand customers benefit from our scale of economy and the ultimate blend of quality, value, and service. POLYHOSE looks forward to increasing its association with dynamic organizations in search of new developments in high-quality, value-rich hoses for Hydraulic, Industrial, Automotive, Aerospace, Life Science, and other niche applications.

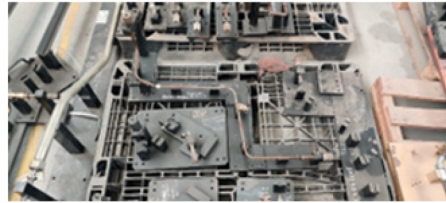


The CAD environment allows design engineers to create fixtures for the hoses. These fixtures can be used while validating the physical sample of the hose with 3D Bend. Using 3DEXPERIENCE Polyhose can save a lot of time in the design process.

## Taking the Design from Concept to Reality

Backed by the 3DEXPERIENCE platform, PolyHose is in the best position to accelerate the Product Development Lifecycle of its hose design and validation. "With our previous tools we got into a situation where it wasn't possible to model the 3D Bend in hose with the quality and precision we needed," Mr. Harish said.

## Physical Part Validation



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## About Altem Technologies Pvt. Ltd

Altem Technologies is a well-established 3D digital experience company that has been actively contributing to the industry for nearly 15 years. Initially rooted in PLM software and 3D Printing (representing Dassault Systemes

India Pvt Ltd and Stratasys India respectively), Altem has successfully transformed into a prominent provider of comprehensive 3D digital solutions. Altem's 3D Innovation platform offers an extensive array of products catering to various applications, including design, reverse engineering process, asset digitization, prototype manufacturing, life science, healthcare, culture and heritage, and consultancy services, among others. Altem with a diverse clientele spanning automotive, aerospace, manufacturing, healthcare, research academia, and more, Altem adeptly addresses the unique requirements of each industry through a combination of expertise and innovation. Our team comprises skilled professionals, including Scientists, Application Engineers, Designers, domain experts, and software specialists, all working collectively to deliver exceptional solutions to our valued customers.

Altem Technologies Pvt Ltd, besides being a major provider of 3D Scanning services in India, is also a leading provider of 3D Printing Services in India with 3D Printing technologies like FDM, Polyjet, DLP, Metal, etc. Altem offers a complete solution around 3D Digitization and Innovation and has emerged as a one-stop-shop for all 3D Printing, 3D Scanning, CAE, PLM, and Life Science needs, offering a wide spectrum of products for engineering and life sciences companies in India.

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