

Prefixa Inc.

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Prefixa is a XR Visualization & Simulation Lab specializing in image processing application development. We help our partners to see beyond their vision, boost their imagination and explore countless possibilities on how to present their projects using XR Technologies.

We understand the challenges and headaches that come with working on complex technologies. That is why we are assisting companies to enhance their customer experience, optimize their design process, and ensure the continuous improvement of their manufacturing process through 3D technologies.

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Contact Us

hello@prefixa.com
www.prefixa.com

1250 Borregas Av,
Sunnyvale, CA 94089

Content

In this document you will learn about the different 3D technologies available with a use case for the industrial space sector, and how 3D innovations can be used in communicating within your team in the different stages of the design and manufacturing processes, and in marketing communication with your prospects and clients.

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Introduction to 3D Visualization Solutions

What is a simple and memorable way to describe the impact of your technological innovation on the industry?

In order to understand this question, we need to know more about the problems faced by many in the manufacturing and design industry. One of them is having to explain and present of complex technologies to people who aren't specialists in the area. If your audience is familiar with the technology, it might not be so hard. However, if you're talking with someone who might not be an expert, explaining all the functionalities, features, and different parts of your product or innovation might just go way over their head.

Many companies use images and technical drawings to help with the challenges and frustrations they have in communicating with clients and within internal operations. And while solutions like these are always a good addition, 2-dimensional images often end up consuming more time during the design stage than first anticipated. CAD models used in the manufacturing process give a good idea of the dimensions and scale of the technology or product in question and they are often used as a way to reduce time and complexity during the design stage. However, these models can misrepresent the final manufactured product, lack functionality, and often require last-minute updates, making them hard to understand and not suitable for presentations.

With the development of Industry 4.0, and the increased use of digital twins, the connection between the extensive manufacturing process and visual 3D content is especially important. With [69%](#) of companies across industries adopting digital twins into their manufacturing, training, and design processes, the value of 3D tools is quickly increasing.



Not only for external communication with clients, but also for internal communication throughout the complex manufacturing and design process, 3D solutions are helping companies save time, resources, and money. In the aerospace sector Boeing improved the first-time quality of their parts and manufacturing systems 40% by using digital twins and simulation technology. In the automotive industry, Maserati combined data from digital and real models in their development process and reduced both the time and costs required by [30%](#).

Full fidelity 3D models allow engineers and manufacturing companies to transform their autonomous and CAD models into functional visuals that can be utilized widely, not just for communications between internal teams but also in creating real-world connections with clients.

These models show the functionality and purpose of the design in a way that is easy to understand and better engages your audience. Prefixa can help your client to truly understand your innovation, the problems it solves, and the way it solves them. A variety of 3D visualization options are ideal for different presentation visuals, websites, product portfolios, catalogs, trade shows, and marketing materials, having the ability to increase page-visiting times [21%](#) and increasing the probability of your client placing an order with [27%](#).

By engaging your audience with interactive visualizations, you create truly unique user experiences, allowing them to learn about your innovation from every angle and help them to make faster decisions during any stage of the development process.

Visual communication tools allow you to build strong relationships based on trust and informed feedback, making sure that everyone understands the true impact of your solution. Whether it be in your portfolio, website, presentation, or manufacturing material, the possibilities of these technologies when applied to your innovation are endless.

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Different 3D Visualization Technologies offer dozens of presentation options to choose from. But the question is,

While images and animated videos are integral elements of presentations, interactive 3D models offer a better UX with a higher level of engagement for presentations, websites, trade shows, and portfolios. Additionally, Augmented and Virtual Reality offers an unparalleled level of real-world connection for these same audiences. This effect is caused by a huge variety of elements and characteristics of current human connections.

There are different ways to showcase your technological solution by leveraging 3D technologies and connecting humans with technology. In the next segment of this document you will find a small summary of 4 different 3D tools with variations and examples on how they can be used in both internal and external communication.





1 Full Fidelity Visualizations

Rendered images showcase the most important features of the innovation before moving

Rendered 2D images eliminate the need for guesswork. Showing exactly how your product will look once finished and out of production. Renders allow you to present and market your product before production has even begun. Similarly to a photograph of a finished product, a high-level visualization can show the overall design by highlighting the most important parts of your project, such as dimensions and materials. Furthermore, these images can be done in the design phase of production and used to convince investors or the client of the work you're doing.



2 Rendered Video

Communicates the functionality of your technology in an easy-to-understand way

Similarly to 2D images, rendered video shows your solution before going through the production of the physical product. Rendered videos showcase your product from all angles, highlight its most important features, and comprehensively communicate the innovation, ensuring the product is exactly as it's supposed to be. For example, showing an assembly animation could help the manufactures evaluate and determine the level of complexity when defining the step by step at floor 0 during production.

3D videos are a great tool for both internal and external communication and assuring there are no misunderstandings between your team and your client. Being able to visualize your innovation in this way provides an opportunity for troubleshooting possible problems in the design and gathering feedback.



<https://vimeo.com/821455389/ec172d35db>



4 Interactive 3D Models

Allows your clients to view your solution from every angle online, engaging them more than animated videos, and ensuring it's the right solution for them

3D interactivity allows you to easily present your industrial product or technology with different design variations in the 3D file, in multiple scales, add text, animation, and customizations as well as, see it from different angles by rotating the model. This customizability and flexibility in viewing the 3D model ensures your audience understands the functionality of your innovation.

The biggest value for this type of technology is its immersive feeling and engaging user experience, which helps make the difference between your audience understanding your idea and it going way over their head. This increased engagement helps you to explain complex products in a way that is easy to understand.

Interactive 3D models are an ideal tool in different industrial spaces for educational and presentation purposes, investor meetings, internal and external communication, your website, optimizing the manufacturing process as well as, sales and marketing materials.

These interactive visualization tools close the gap between the real world experience with the product and the user. During years of working with engineers, we have seen them use

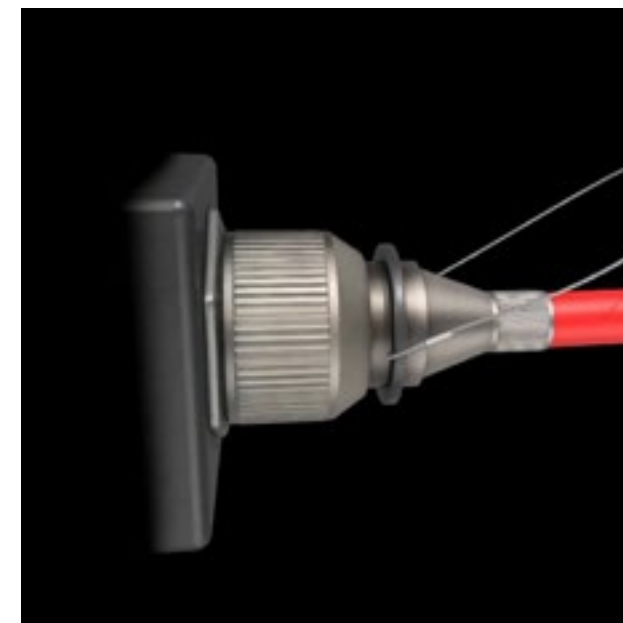
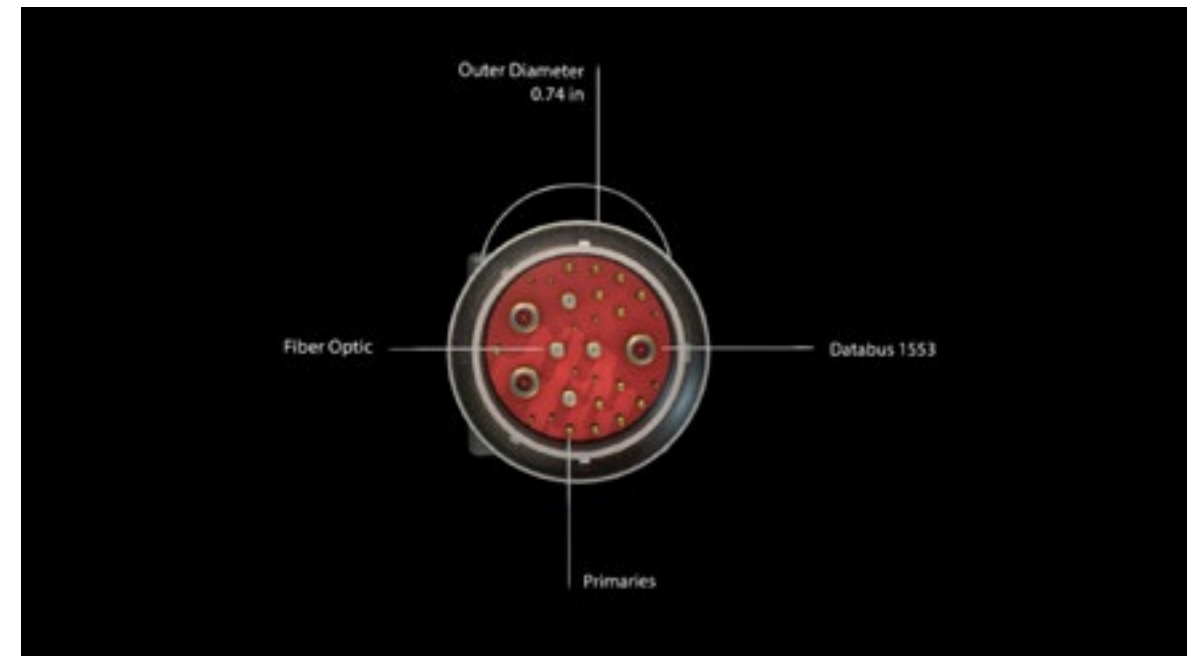
<https://vimeo.com/821458832/8e94dae46a>



5 3D With Animation and Technical Information

Adds functionality and information to an interactive 3D model for an additional level of engagement and understanding

Adding animation to the 3D model allows you to include movement into your product or machine. When embedded in your website, these 3D models with animation create a unique experience where your audience can see the model moving like in a video, pause it, and explore the visualization like a normal 3D model. Interactive 3D models with animation are also an excellent tool to showcase different angles of the product, display assemblies, maintenance processes, interactions, and moving parts.



<https://vimeo.com/821457048/411d1dd5d9>

Technical notes can enhance the interactive 3D model by including information into the 3D model. The data included in the interactive model of your product or technology can include information about the functionality, technical aspects, measurements, links to a website, or anything you can think of. This is a great tool when selling or presenting your technology online as clients can find all the information they need just by viewing the interactive 3D model.



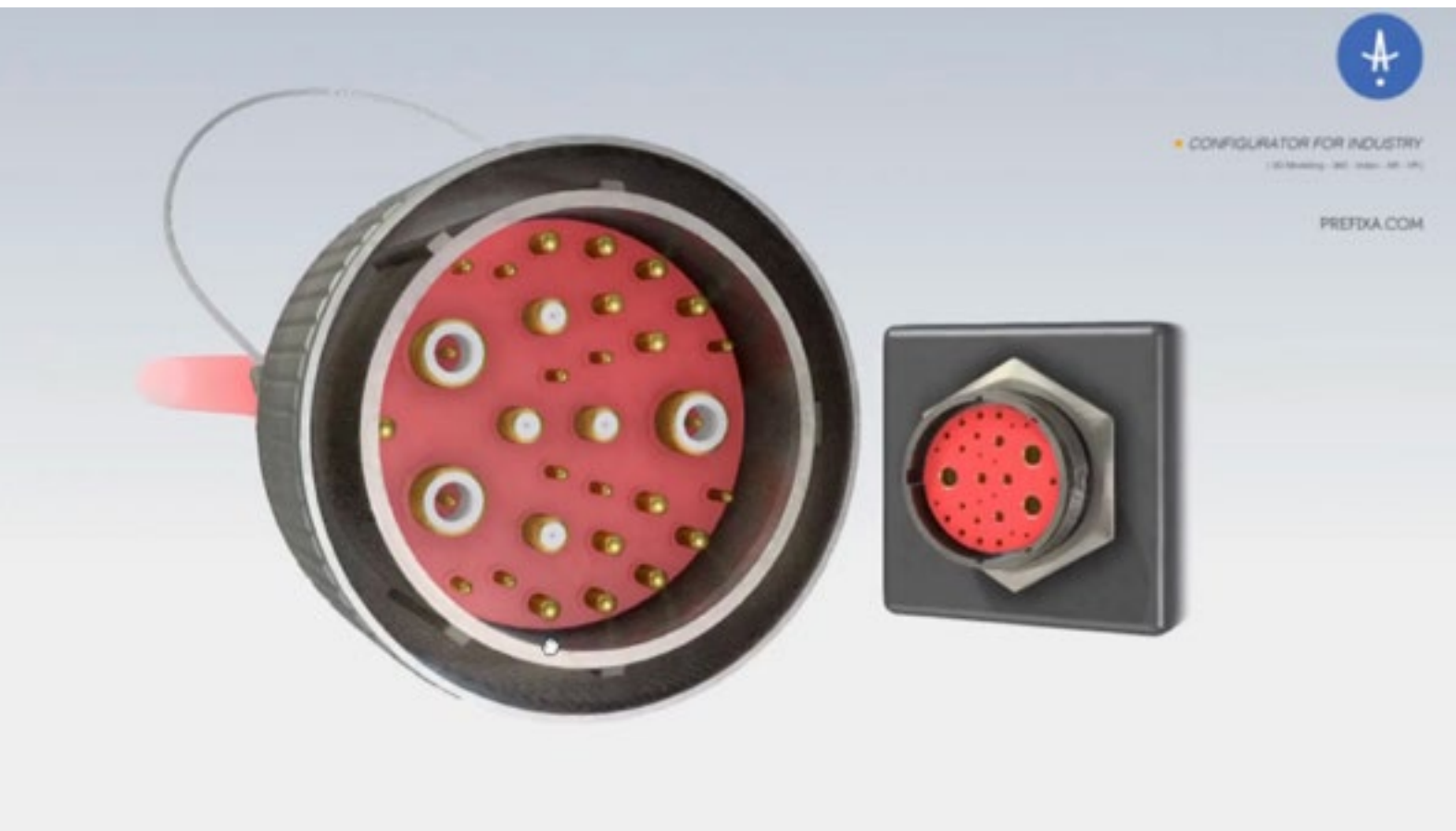
Interactive 3D With a Configurator

Showcases each option in a product family quickly, making them easy to compare

A configurator takes a 3D model, and allows you to add and include additional characteristics into a base model. Product families with different variations, customizations, and upgrades to existing models are easy to view with a 3D model with a configurator. Clients can easily explore product variations in the same family, or the different add-ons that are available, compare them and see what works the best for their needs.



<https://vimeo.com/821458200/b8c41e159d>



6 Learn or Outsource?

Now, the question arises. **What now?** When it comes to 3D visualization tools there are 2 options. You can learn to create 3D models and the visuals you need yourself. The other option is outsourcing. Depending on the needs of your company both options are something to consider.

Learning 3D modeling is a long road, with multiple different softwares and techniques to master. Most smaller and mid-size companies don't have the time or resources to do this themselves and they turn to outsourcing. 3D visualization companies like Prefixa are able to produce high-quality visualizations with fast turnaround, whenever you need.

3D tools bring your innovation to life even before you create your first prototype

Although each industry has its own specific needs, target audiences, and goals, the flexibility, and customizability of 3D visualization tools are an important asset to have for design, marketing, and sales teams. Different 3D solutions allow your team to leverage the different aspects of these tools to your advantage, and increase the communication between you and your client, create engagement and build stronger customer relationships with your target audience.

If you are curious to learn more about Interactive 3D solutions and what Prefixa can do for your technology or product, we are more than happy to discuss and brainstorm ideas, and find the best opportunities for you.

Send us a message to hello@prefixa.com or contact us through our website prefixa.com

Lets talk



Eeva Kavenius
Customer Success and
Marketing Specialist

Email me!

